Engineering Record

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A Change in Dress Only

THIS issue of the Engineering Record is the last to appear in the large-page size. Hereafter the dimensions will be 9 x 12 in. It is not without a feeling of regret that the publishers and their friends will witness the passing of the old format. There is something akin to the personal about the comings of a journal that for 40 years has brought the news of the engineering world, that has lived through and with great developments in technical design and construction, that by its optimism has been no small factor in encouraging improvements, that has steadfastly stood for high professional ideals. It will be somewhat of a shock to see this visitor in a new dress. Yet the dress is an incident only. The same point of view, the same principles will control its editorial policy. The same enthusiasm will pervade its staff, the same high ideals dominate it as a whole. And then, in addition, there will be advantages—greater ease in handling and filing. We commend the journal to you in its new size, and beg of you to remember that it is the same Engineering Record, even though it may look, for a time, unfamiliar.

The Part-Time Road Boss

THAT it is just as difficult to serve two masters in the highway field as in any other line of work is the argument advanced by the American Highway Association in a recent bulletin. The reference is to the local road boss who devotes part of his time to the highways and the remainder to farming or some other occupation. While this official occupies a relatively minor position, he is, nevertheless, an important factor in the upkeep of a state's highway system. It is unfair to him and to the roads over which he has charge to expect him to be a jack-of-all-trades. Let him be either a road builder or a farmer—not both. It is asking too much of human nature to expect that the job on the roads will not be neglected when crops need harvesting or there are customers waiting at the cross-roads store. It is not in road-building alone that the part-time official has proved unsatisfactory. The history of public-health work in this country is replete with examples of reduced efficiency due to part-time employment of health officers. No railroad company would think of paying for part of the time of a man to act as section boss and leaving him to use the remainder of his time in his trade. For the same reason a competent man should be put in charge of a large enough system of roads to keep him busy all the time, and he should be retained in office as long as his work is done efficiently and economically. The building and maintenance of roads is not a job which can be well done during a man's spare moments. It demands practical experience and judgment, and these qualities can be acquired only after persistent and continuous service. It is false economy to save the meager salary of a full-time road boss and later pay many times this amount for repairs which, under intelligent administration, would never be necessary.

Water in Concrete

"WE face a revolution in our knowledge of the factors that go to make concrete." Such was the statement made recently by a distinguished investigator after detailing his studies on the influence of different quantities of water on the strength of the concrete mixture. Because the importance of the water content was not appreciated many past investigations are now of little value. They laboriously studied the effect of changes in proportions and in the gradation of sand, while at the same time the varying water content was vitiating results. In this issue Nathan C. Johnson discusses the subject of water in concrete, not from the theoretical, but rather from the practical, standpoint. His article, of the greatest value in the warning it gives, will serve also as an introduction to the data soon to be published on the detailed investigations which justify the opening sentence of this editorial note. One feature of Mr. Johnson's article is sure to arouse considerable discussion—his recommendation that the lighter portions of the mix be wasted. Yet the recommendation, taking practice as we find it to-day, is sound. Moreover, the Engineering Record ventures the prediction that such a provision will before long become standard, or there will be such a radical change in our making of concrete that extensive and dangerous laitance bands will be impossible.

The Heartwood Clause

TWO MONTHS AGO this journal called attention to a certain false sense of security engendered by the lack of a heart specification in the Southern Pine Association's select structural grade of yellow-pine timber. The defect has been remedied, for the following heartwood clause has now been written into the specification: "Unless otherwise specified, select structural material shall show 85 per cent of heart, girth measurement, measured anywhere in the length of the piece. Any greater or less requirement as to heart shall be expressed in terms of per cent of girth measurement. Sap stain is not a defect in this grade." In the previous editorial an unintentional injustice was done the American Society for Testing Materials when it was stated that "the specifications of this organization (the A. S. T. M.) ignore the important difference between longleaf and the two other principal Southern pines." It should have been stated that the specifications of the society do contain heartwood requirements, but that its specifications cover bridge and trestle timbers only. On the other hand, the select structural grade of the Southern Pine Association has been widely sold for all important structural uses. It is hoped, for the benefit of engineers in every line of practice and for the architects, that the society will see fit to adopt a general specification for the highest grade structural timber. Such a specification would be sure to contain a heartwood grade. The action of the Southern Pine Association in adopting the heartwood clause marks a fitting culmination of a development in timber specifications that has been going on for some years.

A Race of Young Engineers

SANTA CLAUS has turned civil engineer. Time was when he belonged in the mechanical-engineering camp. Toy trains—spring propelled—and small stationary steam engines were the finest prizes in his bulky pack. Later, to keep up with the times, he electrified his railroads and added small motors to his stock. Now he seems to place greatest store by ingenious sets of building blocks and of light metal truss frames that lend themselves to the construction of marvelous bridges and windmills and buildings. Metal and wood have been favorite materials, but, as in the field of actual work, concrete now demands consideration. This year there were sets of metal molds for making small concrete, or rather mortar, blocks, accompanied by a stock of mixed sand and cement. All in all, we consider it quite a victory to have made Santa Claus neutral, instead of having him partial to mechanical and electrical engineering. Possibly the race of young engineers will divide more equally hereafter between those whose ambition it is to build bridges and those who want to pull throttles and become wireless operators. Heretofore the two latter callings have had a majority of prospective applicants.

Late-Season Contracts Costly

UNDULY high prices are usually the penalty for failure to prepare contract work in time for letting early in the season. This is particularly true in highway work. Iowa's experience in this regard was detailed in a recent bulletin of the Iowa Highway Commission. As many of the lettings were held late in the season, there was little competition, for most of the large contracting firms had as much work as they could complete by the end of the season. Many of the lettings were for small jobs,

probably a few items that had been overlooked in planning the season's work. Then, too, in order to economize on time, some of the lettings were advertised only a few days before bids were to be submitted and only local contractors received notice of them. On the other hand, boards of supervisors and county engineers who had prepared their plans during the winter and were ready to advertise their whole season's work at one time were able to get their work done at attractive figures. Some of the counties are paying dearly for their neglect of advance planning. Coming at a season when construction is terminated by cold weather, the Iowa advice is exceedingly timely. Engineers can save money by arranging now for work to be begun next spring.

Taxing Education

ATTENTION was called in this journal last week to the clause in the pending Post Office Appropriation Bill which would place a heavy tax on information by raising the postage rates on periodicals and putting them on a zone basis. Last Saturday's newspapers carried the information that while certain members of Congress are proposing to tax the distribution of information the same as we do groceries and discriminate against citizens, by reason of their residence, in their endeavor to obtain educational literature, the Postmaster General has written a letter indorsing a bill for purchase and ownership by the government of the telephone system of the District of Columbia. The author of the purchase measure proposes to buy the system with the "surplus" revenue ($7,000,000) expected next year. We do not believe that the intelligent people of this country will sanction the placing of barriers to the spread of education, particularly when some of the added revenue derived from the procedure is to be used for government-ownership experiments. If you are one of those who do not believe in charging the man in Texas more than the man in New Jersey for magazines he needs in order to keep up with his profession or business, say so to your representative in Congress—both in the House and in the Senate—and do it now.

Annual-Report Time

IT is now annual-report time. If you are a department head, what kind of a report are you going to issue, and when? Are you planning to fill page after page with inconsequential detail and dry statistics, or will you tell the story of the work done in 1916 and what you are planning for next year? Why not make a serious effort to interest the taxpayer? He will listen to what you have to say if you will only talk to him in terms that he can understand. Get out a copy of last year's report—that is, if one has appeared in print by this time—and examine it critically. Consider ways of improving it—of making it readable. Eliminate the paragraph telling how the picket fence around the pumping station was painted. Write a report that will reflect the energy and thought that you and your men have put into your work during the last twelve months. And then when you have finished it do not let it lie around for a year or more before distributing it. If there must be a delay in printing, prepare a condensed version and send it to the newspapers. Get public sentiment behind you. You will find that it will pay handsome dividends when you are trying to get approval for a bond issue to cover the cost of some public improvement.

A Sane View of New York's West Side Improvement

CONTRASTING with the numerous one-sided and hysterical criticisms that have broken into print since the proposed plans for the West Side improvement in New York City were made public last spring is the sane and reasonable discussion of the subject by R. A. C. Smith, Commissioner of Docks and Ferries. Addressing the principal trade organizations of the city, Mr. Smith holds that the commercial needs of the whole city far transcend in importance the issues that are being kept to the front—notably the aesthetic treatment of Riverside Park. As Mr. Smith sees it, the proper development of the city demands prompt relief from existing conditions.

And what are the possibilities for relief? On the one hand we have half a dozen railroads terminating on the New Jersey side of the North River. Each of these roads has its piers up and down the Manhattan side, and each brings over and takes back a flotilla of car floats daily, disgorging vast quantities of food and other local supplies to be hauled away through the streets in the morning, and absorbing equal quantities of other commodities trucked in through the streets in the afternoon. None of these roads reaches more than a few points on the waterfront, and none shows any inclination to join the others in an untried and tremendously expensive belt-line scheme.

On the other hand, one road, the New York Central, runs almost the whole length of Manhattan, reaching terminals and industries all the way, and, granted that its management is ready to make the most of its superior advantages, the line is almost indispensable to New York's daily needs in the way of food. But its facilities are sadly outgrown and it is ready and anxious to spend immediately a considerable sum of money to bring these facilities up to and beyond present needs. At the same time various nuisances incident to present conditions and methods of operation would be eliminated.

Mr. Smith divides into three groups, as follows, the numerous schemes that have been proposed to settle Manhattan's general problem: (1) Those which propose some form of through rail service along the marginal way, to be used by all of the railroads, including the New York Central; (2) those contemplating discontinuance of the through rail service of the New York Central to points south of Thirtieth Street and suggesting the development of joint inshore terminals or some form of store-door delivery, and (3) those giving a separate and independent treatment of the New York Central trackage. As to the first, Mr. Smith thinks, as does this journal, that a bird in the hand is worth two that may possibly be in the bush, and that it is folly to hold back one road ready to make improvements for six not at all ready. As to the second, he thinks the New York Central is legally established so that it could not be ousted, if desirable—and he does not think it desirable. The third class of solution is a compromise. The immediate benefits offered by the New York Central would be accepted, but the way would by no means be barred to whatever development the Jersey roads might join in at some later date.

Accepting as fair and reasonable the general idea of the New York Central scheme, and discounting the charges that the road is seeking a permanent monopoly of all Manhattan, and is in addition trying to bunco the city in the exchange of land, Mr. Smith is able to look past the minor inconveniences and losses inevitable during the construction period and see great social and aesthetic opportunities for the future. Regarding Riverside Park, which has become the center of the argument, he realizes that it is not feasible to press a button and have the tracks slip under the park without disturbing the ground surface; and that to create a larger and finer park the city will have to step in and spend some money after the New York Central has made this possible by removing the barrier of its tracks. To him the all-important thing is that the New York Central will remove that barrier.

As to the feared permanent disfigurement of the park by a barren, unnatural ridge, Mr. Smith does not share the fears. By the simple expedient of examining the model in Grand Central Station he has found that there will be little evidence of any ridge if the typical park plant life will grow on the 3 ft. of soil over the tunnel roof, while he calls an eminent landscape architect to witness that the vegetation on this 3-ft. made depth will have somewhat the advantage of that at present thriving on the rock-bound slopes. If further irregularity is desired at certain points for landscape effects, it can be had if the city will pay the extra cost of the roof.

It seems to this journal that Mr. Smith has presented a sane analysis of the situation. Without any inclination to deliver the city body and soul to the New York Central Railroad, he recognizes the dependence of the city for its daily needs on the West Side line. He also realizes that the line has been outgrown, and is glad to foster the company's readiness to bring it up to present needs at its own expense. The case is urgent—yet it has already dragged for years and could drag forever if everybody must be satisfied absolutely. Neither the radicals who wish to make the railroad pay everything and receive nothing, nor the idealists who imagine the proposed plans will hamper their Utopian schemes for the twenty-first century, nor the estimable ladies who think the shrubs of Riverside Park must be saved at any cost should be allowed to block this far-reaching improvement.

The Government's Scientific and Engineering Work

ON its executive side, our federal government, like Topsy, "just growed." As new needs developed, new departments were created, and when the nation's activities became still more varied, the scope of these departments was enlarged by creating within them new bureaus and offices. These were tucked away in whatever department appeared convenient, with little regard for administrative principles. Consequently, we find a most heterogeneous array of functions under the control of various Cabinet officers. In no respect, however, is the allocation of functions so curious as in the distribution of the scientific and engineering work of the government. We find it scattered, without reason—other than the accidental ones that were determining when the particular activity was initiated—through six of the departments. When the progress of our great corporations toward greater efficiency is remembered—a progress marked by consolidations of organizations alike in character—the persistence of our government in continuing its unscientific executive organization is a reflection on our civic management.

The segregation of all the scientific and engineering work of the government in one department, a Department of Public Works, has long been advocated. Some of the reasons—those hinging on the advantages of close association between men engaged in the same general pursuit and the elimination of duplication in organization and function—are obvious. But there is a further reason in the case of the government. If a scientific and engineering department were established, scientific and engineering ideals dominating its work would be likely eventually to impress the Congress, with an end result of substituting for present pork-barrel procedure sound engineering and business principles.

For years, the pork barrel has been a synonym for river and harbor and public building legislation. Two years ago the Reclamation Service was put—as to its appropriations—into the same class. Further decadence in the same direction is almost certain to occur unless a new ideal dominates the executive end of our government. No influence that we can fancy would be more certain to bring to a cabinet correct ideals regarding the conduct of government work than the creation of a cabinet position—a secretaryship of Public Works—whose incumbent would be in constant touch with the heads of engineering bureaus and would be imbued with the necessity of divorcing the work of his department from political exigency and pressure. The scientific and engineering ideals are repugnant to waste, inefficiency and graft. As now organized the engineering and scientific work of the government is but an incident in the work of each department and one cannot expect from cabinet officers the same appreciation of the principles that must govern the same strenuous resistance to political pressure that would be natural in a Secretary of Public Works.

The extent of the scientific and engineering activities of the government is little realized by those not familiar with federal appropriation. The following table shows the appropriation for the fiscal years of 1915-16 and 1916-17:

	Appropriation for fiscal year ending June 30	
	1916	1917
TREASURY		
Public Health Service	$3,145,609	$3,059,606
Supervising Architect's Office	220,800	225,000
Public Buildings Bill	19,473,730	17,720,914
WAR		
River and Harbor Work	33,982,000	45,839,510
Office of Public Buildings and Grounds (Washington)	402,080	636,155
Mississippi River Commission	5,371,000	9,132,000
NAVY		
Naval Observatory	44,240	44,540
INTERIOR		
General Land Office	673,805	705,356
Geological Survey	1,355,520	1,515,520
Reclamation Service	13,930,000	9,938,000
Bureau of Mines	753,800	992,810
AGRICULTURE		
Office of Public Roads and Rural Engineering	586,490	612,505
Federal Road Aid	....	5,000,000
COMMERCE		
Bureau of Standards	728,780	1,217,880
Coast and Geodetic Survey	1,365,620	1,976,968
Steamboat Inspection Service	539,140	641,940
Total	$82,572,614	$99,258,704

Exclusive of the Patent Office, the income of which exceeds its expenses, the appropriation for scientific and engineering work in the year ending June 30, 1917, is roughly $100,000,000. To get an estimate of what this means in government affairs, comparison needs to be made with the appropriations of other departments. Excluding river and harbor work, the appropriations for the Mississippi River Commission and for the Office of Public Buildings and Grounds in Washington, the War Department appropriation for the fiscal year ending June 30, 1916, was only $123,000,000. For the 1916-17 fiscal year, excluding the same three classifications, the appropriation is $188,000,000. The Navy appropriations, excluding the naval observatory allotment in each case, are for 1916 and 1917 respectively $152,000,000 and $220,000,000. These are the leading departments so far as appropriations go. Agriculture, excluding the allotments to the Office of Public Roads, received $27,000,000 during the last fiscal year and has $29,000,000 to spend during the present year.

It is apparent, therefore, that a Department of Public Works made up of the appropriate bureaus and officers already in existence would make a large and important department of the government. The logical method of procedure, as this journal has several times pointed out, is to make the new department the logical successor of the Interior Department. Certain bureaus not of an engineering or scientific character would have to be eliminated, while those listed above, not already in the Interior Department, would have to be transferred to it.

Knowing how matters of this sort are looked upon in Congress, the suggestion is likely to be received there with little enthusiasm. Unfortunately, political exigency controls on Capital Hill. A Department of Public Works would certainly work away from this governmental standard.

Nothing worth while, however, is accomplished without considerable effort. To the engineer and the scientist the proposal is clean cut. It speaks his language. It is in the direction of co-operation, of efficiency, of centralization of similar functions under one head. It must eventually prevail, but it will not come until the slogan "America Efficient" receives as hearty support from the men who make our laws at Washington as it does from scientists and engineers and all thinking elements in our population.

The subject deserves the attention of engineering bodies throughout the country. If the plan is ultimately to prevail, it will probably be only after they have taken an active interest in the subject and exercised their influence toward its accomplishment.

Bridge Manual for Highway Officials

SOME idea of the extent and importance of proper highway-bridge construction, renewal and maintenance may be gained from a statement in the introduction to the "Bridge Manual" recently issued by the Illinois State Highway Department, prepared by Clifford Older, bridge engineer. Between $40,000,000 and $50,000,000 will be required in the next fifteen years for the repair and renewal of the older and more or less temporary bridges in Illinois. According to the bridge survey of 1914-1915, 75 per cent of the total of nearly 200,000 drainage structures of all types and sizes on the public roads outside of the corporate limits of cities and villages in Illinois are of such a temporary character that the average life is only 12 to 15 years. Mr. Older says in the introduction, "It is estimated that if, during the next 15 years, modern bridges are built in all cases where renewal is necessary, our bridge expenditure may be reduced by not less than $2,000,000 per annum." When these values are multiplied to include all the states of the country, some conception of the millions of dollars involved will be obtained. Hence follows the importance of spreading such information as will raise the standard of highway bridge design and construction to a high plane of utility and economy.

This is just the kind of information which the Illinois State Highway Department is furnishing in this bulletin. It is a noteworthy attempt to secure co-operation between highway officials and the highway department of the state. After quoting the provisions of the revised road law, there is presented a valuable discussion of effective methods of inspection, of records and reports, of proper forms of contracts, of allowable stresses, of specifications, and, in detail, of the proportioning of concrete.

It is hoped that these efforts of the Illinois Highway Department will not only improve conditions in that state, but will be taken as an example by other commonwealths. While it is admitted that no set of rules and specifications will cover all conditions, there is no doubt that the attempt to standardize practice and to disseminate clear-cut information on the factors of bridge design and construction will do much to bring about desired improvement in this phase of highway development.

Water the Chief Factor in the Making of Good Concrete

Researches on Cement and on Aggregate Now Supplemented by New Knowledge —Suggestion Made That Lighter Portions of Mix Be Wasted to Eliminate Laitance

By NATHAN C. JOHNSON
Consulting Concrete Engineer, New York City

THE improvement of concrete is an objective earnestly to be striven for. Defective concretes are within lens shot of every camera; and if their number is not to increase as the uses and applications of concrete are extended, effective rules must be established which will remove the present uncertainty as to ultimate result.

No studies are more informative, or more productive of constructive knowledge, than systematic investigations of defects. On such studies has been built the whole science of preventive and remedial medicine, with its incalculable benefits to humanity. Perfect structures, whether of flesh or of concrete, will care for themselves, but the ailing structure needs care and attention so that the ills may be remedied and their recurrence prevented.

In both sciences much has already been achieved through such study, yet even more remains to be accomplished. In ailing humanity, each nerve, each muscle, each minute, component part is recognized as affecting the harmony of the whole. In ailing concretes each part is equally important to mass strength and endurance, yet seldom is proper recognition given to this fact. Cement has been closely studied. Sand and stone have had most careful scrutiny. But although cement and sand and stone are not concrete without water, the functions of this essential substance are so little regarded as to have been, up to a twelvemonth ago, almost wholly neglected. But it is not idle or thoughtless to venture the prediction that within twice that span of time, water in concrete will be subject to closer regulation than any other substance, through sheer impossibility of longer withholding recognition of its preponderant importance.

It is with the hope that interest and discussion in this important subject will be aroused that this article is written. It contains a recommendation regarding the wastage of the lighter parts of the mix that may arouse considerable antagonism, but which is fully justified by the facts here presented.

Day's Work Planes

When structures of concrete subjected to water action in any degree are examined after two or three years of service, the surfaces are found to be discolored, usually along horizontal planes. "Efflorescence" is the explanatory anodyne of apologists; but if the same structure is examined after a longer period, the conditions first noticed are found to be aggravated. Surface stains and unsightliness have gone deeper. Undeniably they are become local disintegrations, with oftentimes heavy surface incrustations below them; and it is thrust upon one's notice that these surface deposits originate and these disintegrations are most pronounced at strata lines where surface staining was first noticed.

"Day's work planes," says the advocate of any old concrete for any and every purpose. "They are natural to concrete." With the majority of concrete work as a basis of judgment, such a dictum is apparently justified, but if it is justified by fact, concrete may not safely be employed *when subjected to water action in any degree*, for the first surface stains, the later incrustations and the deeper disintegrations bear witness to percolation and removal of material by water along these planes. And if the substance of such planes is examined, it will be found to consist of fine, semi-solid material, chalky when dry, clay-like and slippery when wet, lying in layers of greater or less thickness and bearing little or no resemblance to concrete.

"Laitance," says the apologist. "We've had it analyzed. It comes from the cement. It's part of the concrete." Unfortunately it is; and a cancer is also part of the tissues which it destroys. Yet we ignore the one and spend millions in the effort to eradicate the other.

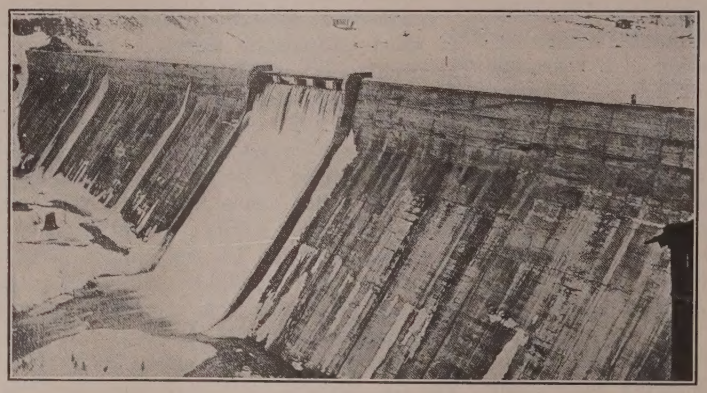


FIG. 1—DAY'S WORK PLANES SHOWING ON FACE OF AUSTIN, PA., DAM

The Austin Dam Failure

In 1911, the whole country was shocked at the failure of a concrete dam as Austin, Pa. Towns were swept away by the released waters, one hundred lives were lost, millions of dollars of material damage resulted.

Engineering examination subsequent to the disaster emphasized particularly the responsibility of a shale rock foundation, permitting slip of the entire dam. Two engineers laid emphasis upon certain defects noticeable in the concrete, but it is probable that the opinion accepted by the engineering fraternity at large was that the responsibility lay with a poor foundation.

Without disparaging in any sense these factors, it is of interest to an analytical study of defective concretes to notice the surface appearance of this dam before failure, and to endeavor to correlate this appearance with such rupture as occurred under stress of impounded water.

In Fig. 1 it is seen that this dam exhibits what might be termed a characteristic concrete surface, showing the marks of form boards in well-defined horizontal lines, with here and there darker lines, indicating the height of a lift of forms, with along and below these lines white extrusions of greater or less extent.

It is of special interest to note that one examining expert in his report to the coroner says, "One section at the west end slid on one of these horizontal construction joints" (day's work planes), and he adds that these "construction joints" are formed of "cement cream." A second engineer also notes that there was a laitance section 10 by 20 ft. in surface area near the west end that showed horizontal failure; and he states that "much of this material would have made excellent marking chalk." There was further a large section of the dam which sheared diagonally; and there was much speculation as to why massive concrete should have sheared in this peculiar way, along a plane greater than that defining a least area.

Remembering, then, that "day's work planes" are formed from laitance, or "cement cream"; and remembering the characteristics of this substance, light, semi-solid, chalky when dry, slippery when wet, nonadherent to concrete above and below it; remembering, too, the unquestioned existence of at least one large area of laitance at the west end of the structure, can foundation rock, poor though it unquestionably was, be held solely responsible for this failure? And may engineers accept day's-work planes as "inevitable," "harmless" and "natural to concrete"? No condemnation of concrete ever was greater; and, if true, condemnation is also made of any engineer who recommends concrete, except in enormous mass, for any water-exposed service, whether such exposure be to high heads of water, or to ground moisture brought through by negative pressure from surface evaporation.

Similar Characteristics

Nor is this an isolated instance. In Fig. 2 is shown the surface of a concrete wall not unlike the Austin Dam in general section. It is noticeably stratified, or banded; and at the center there are dips, or waves, as though a stream had plunged with force into a plastic substance, flowing off on either side from the point of delivery. But little imagination is needed to picture repeated batches pouring from a spout at this point, each batch forcing itself into the semi-fluid mass below. But examination reveals that each wave is outlined in a seam of laitance; that the broad, dark belt extending for some distance on either side is also laitance; and

at the extreme right is seen the same sort of white leachings so characteristic of the Austin Dam. Evidently the concretes placed in this wall must have been quite wet, to flow sufficiently to form waves and belts and stratifications.

At another point in this same wall the surface skin was removed to expose successive belts and inclinations of strata; it was found that in deep layers lay almost uncemented stone, with above each layer of stone a layer of laitance, with percolation made evident by surface incrustations starting above the relatively dense laitance, at its junction with the uncemented stone.

An inspection of the full length of this wall showed plainly the slopes and waves of successively poured batches. Unquestionably, this concrete is of uncertain and variable strength; and if one of the pouring slopes found in this wall had been in the Austin or in any other dam, with a separating laitance seam at its upper boundary, softened and made slippery by percolating water, might not diagonal failure "at a section greater than the least section" have been expected?

Excess Water Responsible

Nor can the conclusion be escaped that excess water, added to save labor of mixing and labor of compacting in forms, is responsible for such planes of weakness in concrete, whether these planes are diagonal or horizontal or whether they occur in an Austin Dam or a countryside culvert. Of what use is elaborate design if execution is grossly at fault? Daily and hourly, at the very moment these lines are written, concrete of which the accurately descriptive adjective is "drowned" is being placed in forms under specifications which directly provide for its ultimate failure.

Yet, laitance is not the only defect resulting from excess water, nor is excess water the cause of all defects. But excess water, either as a prime cause or by aggravating initial deficiencies until they come to have an exaggerated importance in the final result, is of such importance as to be deserving of special attention and study.

Function of Water

Concrete is a composite, 80 per cent or more of which is sand and stone. The remaining 10 per cent is the product resulting from chemical combination between cement and water. But in spite of its percentage minority, this cementing substance has preponderant importance. Sand and stone by themselves are but feebly coherent at best, as in Fig. 3, wherein is shown a commercial demonstration of that fact. On the other hand, sand, stone and hydrated Portland cement may be "artificial stone" in the truest sense of that term, if attending conditions are right. Water, therefore, both in physical and chemical action, is the key substance of concrete.

Water in concrete functions in four ways:

First, Water forms, with cement, the binding material uniting sand and stone. This function consists in (a) dissolving the pulverized cement, with (b) formation of acids from anhydrides; and (c) bringing these new acids and the dissolved bases of cement into sufficiently intimate contact so that they may chemically react.

Second, Water operates to flux these cementing substances into multitudes of minute irregularities on the surfaces of sand grains and stone (or gravel) particles, rendering possible extensive adhesion through crystallization and adsorption as water is absorbed or evaporated.

Third, Water acts as a lubricant between harsh and irregular particles, rendering easy placement in molds and forms.

Fourth, Water itself occupies space in the mass.

FIG. 2—THE CONCRETE IN THIS WALL WAS POURED WITH EXCESS OF WATER AND SHOWS THICK BANDS OF LAITANCE

Chemical Function

The function of water first cited is basic and essential. If there is insufficient water, obviously the reaction of the cement would not be complete; and if there is too much water, it is equally obvious, since for its strength cement depends to a certain degree upon the formation of interlacing crystals, that adequate crystallization cannot take place, since crystallization takes place only from saturated or super-saturated solution. Furthermore, cementing action is dependent to an extent upon the formation of colloids, or non-crystalline, amorphous, glue-like substances. These substances also depend for their strength upon the amount of water combined with them. Undue dilution of these colloids cannot take place without impairment of strength, just as glue (a true colloid) may be a valuable adhesive when of proper consistency, while the same glue, if too dilute (or if too concentrated) may be useless.

What quantity of water is required to properly react with a given quantity of cement is not precisely known. Furthermore, if for no reason other than variance in composition of different brands, hard and fast rules would be impossible. Much can be learned, however, as to the influence of water from observation of its effects when mixed with cement in maximum and minimum quantities.

FIG. 3—THE RESULT OF NEGLECT OF PRECAUTIONS IN MAKING CONCRETE

What a Specimen Shows

If cement alone is mixed with excess water and allowed to set, a number of very interesting things become evident with passage of time. In Fig. 4 is a sectioned block of cement, cast somewhat over a year ago in a beaker. (See Fig. 2, "The Testimony of Moving Pictures in the Study of Concrete," Engineering Record, Dec. 4, 1915, page 685.) Since that time and until recently split open, this block of cement has remained exposed to room temperature and atmosphere with corresponding evaporation and drying.

It will be at once noticed that this block is stratified, lighter portions being at the top and heavier portions at the bottom. Inasmuch as cement particles vary in size, the heavier ones naturally gravitate to the bottom, particularly when there is excess fluid to act as lubricant, thus repeating in miniature the segregation in concrete. And at the top is a heavy deposit of fine white material, which investigation reveals to be largely hydrated lime, and which resembles the substance of which day's-work planes are composed.

Other Things Shown

But there are additional features in this section which compel attention.

First, there is a deep crack extending from outside to the junction of laitance and solid portion at the center, where unhydrated cement particles begin to show. The appearance and position of this crack indicate a warping of the top surface as the piece dried out, with separation from other portions. If this block were subjected to water pressure, leakage and solution, *with removal of any soluble portions of the block,* would take place along this junction plane. The same action takes place along laitance seams in concrete; and inasmuch as cement is *always soluble, even with lapse of years,* both in its unhydrated and hydrated states, the source of initial surface stains and, later, of heavy incrustations is evident.

Second, it is interesting to note that in spite of the length of time this cement has been mixed with water, a very considerable portion of it still remains quite uncombined with water. Obviously, excess mixing water is not an assurance of hydration, so that no merit may be claimed in this respect.

What Excess Water Does

When cement is mixed to normal consistency these defects are not all in evidence. The conclusion, therefore, becomes inescapable that excess water must be responsible for segregation, laitance and cracking. In wet concrete and mortar these actions are repeated to an exaggerated extent by reason of the large excess of water commonly employed; and segregation is further aggravated by the relative massiveness of stone particles as compared with the sand and cement particles.

And so like the checking, warping and peeling of commercial surface coats is the behavior of the upper layers of this block, that the thought occurs with the force of a blow *that in excess water may lie the solution of the baffling stucco problem, of the dusting floor problem and of the problem of bonding new concrete to old.* With respect to this last, how puerile appears the dainty surface picking of massive deposits of concrete usually required, when the usual depth of laitance is taken into consideration!

Fluxing and Lubricating Functions

The second function of water—that of fluxing the cementing substance over the surface of sand, cement and stone or gravel particles—is closely related to the foregoing. Cement adheres to these substances by myriad contacts (see Fig. 5). If the solution is too dilute, or if these minute roughnesses are already full of water, the adhering substance can form but a meager attachment at a relatively small number of points, with proportionate weakness.

Nor is this an imaginary condition. In detailed examinations of concrete, it is found that probably not over one-third of the surface of stone particles and possibly the same relative proportion of the surface of sand particles, is in contact with cement, the balance of the surface having been protected at the time of setting by an envelope of water not carrying dissolved cementing substances, or an essentially similar envelope of cementing substances in so dilute a solution that they were unable to adequately crystallize. And like relations between dilution and strength affect the amorphous constituents. The quantity of these is directly dependent upon the concentration of cementing solutions. Quantity of water and strength of concrete are therefore closely related.

The foregoing actions are also closely connected with the third function of water—that of acting as a lubricant between particles. Water is a mobile substance and has high surface tension, so that in confined space, as between sand particles in considerable mass, it may act most effectively in this regard. The advantage to be gained, however, *is not commensurate with the quantity of water.* When the water content is increased beyond a certain point, segregation of coarser from finer materials invariably takes place, so that what is gained by fluidity in one portion is lost by harshness in the other portions with always very great detriment to the quality of the concrete.

FIG. 4—UNHYDRATED CEMENT AND GRADATION OF PARTICLES FROM TOP TO BOTTOM ARE FOUND IN THIS YEAR-OLD BLOCK OF NEAT CEMENT

FIG. 6—EVEN A FIRST-GRADE COMMERCIAL CONCRETE SHOWS WATER VOIDS (4 DIAMETERS)

Water a Space Filler

All of the foregoing is intimately concerned with the fourth function of water—that of occupying space. There is no substance more incompressible than water when it is confined. Recognition is given to this fact in hydraulic presses. Forms for concrete are essentially confined spaces, care being generally exercised to see that they are made and kept tight. It follows, therefore, that each drop of water in concrete, whether combined or uncombined with cement, occupies a definite, unchangeable amount of space in the mass at the time the form is filled. It further follows, since it is impossible to conceive of this space-occupying water as otherwise than distributed throughout the mass, that dispersion of sand particles and stone particles, with proportionate lowering of mass density must occur. And since the foregoing is true, it is evident that if any part of this water is uncombined, all evaporation or drainage subsequent to setting will leave in the rigid mass hollows of a size equivalent to the spaces occupied by the water; and since this water was evenly distributed, such evaporation or drainage must result in an essentially porous mass. Attention is called to the water voids in a first-grade commercial concrete shown in Fig. 6.

We are so accustomed to thinking of concrete as a solid that it is somewhat difficult to realize that it is actually porous, 17 to 40 per cent being air and water voids. It is true that these voids may not constitute continuous passageways, but when this simple statement of void percentages is translated into dollars and cents and it is pointed out that for every $100,000 worth of concrete, from $17,000 to $40,000 is paid for *holes,* which not only have no value of themselves, but constitute a serious menace to the integrity and usefulness of any structure, the matter is brought more closely home. Nor is this an exaggerated statement. On the contrary, initial loss is but a small fraction of the ultimate loss. "Penny wise and pound foolish" would be a fitting epitaph for many a lamented construction.

Yet to-day, in the majority of concrete structures, these or like defects exist; and the most deplorable part is that at the present time there is little general inclination to better these conditions. But if concrete is to retain its prestige, a standard procedure for concrete work based on real knowledge must be evolved by those skilled in the art, adopted by engineering and architectural bodies vested with authority and recognized and insisted upon universally.

A Suggested Remedy

The unsightliness of day's work planes and their potential danger may, it is true, be recognized to such an extent as to cause provisions in specifications "that if the engineer deems it advisable he may require picking or roughing of the top portion of the work last poured, before pouring the next concrete in order that they may thoroughly bond." How often does the engineer deem it advisable? Such provisions might as well be omitted so far as their adequacy is concerned.

It is virtually impossible to effect adequate removal of laitance after the mass is set. This is especially true in reinforced work, where there is a network of steel. In

many such cases adequate removal of laitance would have to be done by knitting-needles. The only solution of the problem seems to be either prevention of formation of laitance, through improved methods of making concrete, *or else, after a form is filled, the removal of top boards to a point sufficiently low to allow the accumulated fine materials and fluids to flow off until coarse aggregate shows in the deposited mass, the drained materials being wasted.*

This remedy is radical. It will doubtless be subject to ridicule by the unthinking, but if the menace of day's work planes is to be avoided there seems at present no way other than this. Certainly the cost is insignificant as compared to the integrity of a structure and no more than the cost of an equal insurance against loss. When procedures are better perfected, different conditions will obtain, but in the present undeveloped state of the art, some adequate assurance is an imperative necessity.

But even granting adequate appreciation of these matters, procedures are exceedingly inconsistent. The menace of day's work planes and of laitance may be recognized by provisions in building codes that "all concrete columns should be poured continuously to the top of the form." Yet it is quite common to permit the pouring of over-wet concretes in such columns, filling them to the top, without considering of what material the column head must be constituted.

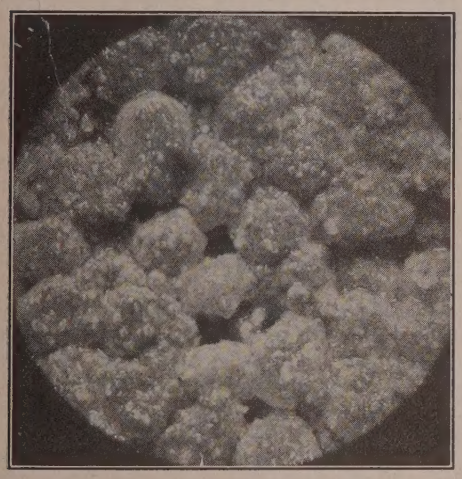


FIG. 5—CEMENT PARTICLES FLUXED OVER SURFACE OF SAND GRAIN

Consider wet concrete flowing into a 20-ft. column form 2 ft. square. The first rush of material will be almost liquid. The heavier materials will follow in regular order. Necessarily, the heavier stones will go to the bottom, passing through a mass of liquid that will wash off the greater portion of any cement with which the stone might have been covered in the mixing process. Other materials will build themselves up as nearly as possible in the ratios of their sizes and gravities throughout the entire column length, with always a mass of uncemented sand and stone at the bottom, where the greatest stress is to be endured; and at the extreme top a layer of laitance of exaggerated depth due to the high ratio of length to sectional area. (See Fig. 7.)

If this laitance become water-soaked, slippage or settlement to a greater or less degree is to be expected. Doubtless the behavior of columns in concrete buildings will be cited in refutation of these statements, but it should be borne in mind that such columns are dried out soon after they are put in place; and that the stresses which they are called upon to bear are initially low. If these columns were subject to saturation or to high stress proportionate to their bulk, the result would be far different, as is evident in many a structure in distress.

SUGGESTED SPECIFICATIONS

Advocating concretes drier than present custom sanctions should not be construed as holding any brief for very dry concretes, laboriously tamped in place. One is almost as bad as the other. Yet drier concretes should be used, and to bring about their use it is necessary to so crystallize the growing sentiment against the use of excess water as to make sure the observance of necessary precautions; and to incorporate in specifications such clauses as will as nearly as possible insure the result desired.

Along these lines, the following specifications are suggested:

1. Concrete shall consist of sand, stone (or gravel), cement *and water* in such quantities as shall be designated by the engineer.

FIG. 7—SPIKES DRIVEN INTO LAITANCE AT TOP OF COLUMN

2. The proportions and quantities of all materials, *including water,* shall be as directed by the engineer and shall be subject at all times to such change as his tests or judgment may dictate as advisable.

3. *All* materials shall be accurately measured in measures of approved type and known capacity.

Cement shall be measured by the standard sack or, if in bulk, by weight, 94.5 lb. being taken as an equivalent of one sack. Loose measurement of cement is prohibited.

Sand and stone shall be measured in struck measures of a capacity and type approved by the engineer. Measurement in wheelbarrows of a type which do not admit of a struck measurement will not be permitted.

Water shall be measured at each mixer in containers adapted to ready adjustment and to accurate delivery of variable quantities. Supplementing the delivery of such measuring containers by additions of water, because of slowness of discharge or for any other reason, will not be permitted.

4. *Concrete of a plastic consistency is required in all parts of the work, unless special permission be given by the engineer for the use of drier and stiffer mixtures. Sloppy and over-wet concretes are strictly prohibited. The quantity of water, therefore, will be subject to regulation at all times by the engineer according to the requirements of the aggregates in use at that time. The rejection and removal of over-wet concretes either before or after placing in forms may at the engineer's discretion be required of the contractor without compensation.*

5. *After any form or lift of forms has been filled, spaded and allowed an interval of settling not greater than one-half (½) hour, and while the concrete yet remains in semi-fluid condition, the top portion of the forms shall be removed throughout the entire length of the section to such depth as may be required by the engineer and the materials shall be allowed to flow out of the forms and be wasted. This wasting shall be carried to such a depth as will expose coarse aggregate in the mass. Concrete shall not again be deposited on the remaining concrete until the next lift of forms is ready to be filled.*

DISCUSSION NEEDED

It is not too much to hope that discussion will be had on this important subject at the coming annual meetings of the American Society of Civil Engineers and the American Concrete Institute. Discussion will surely stimulate thought and thought will stimulate research, so that before long it may well be that America will have solved this world-wide problem of how, day in and day out, to produce the highest type of concrete.

How Chicago Is to Finance Traction Program

Extension of Existing Profit-Division Plan Recommended — Amortization Funds Will Eventually Make City Owner

FINAL conclusions and recommendations of the Chicago Traction and Subway Commission are given in the completed main report turned over Dec. 20 to the city council transportation committee. The report hitherto made public and reviewed in the Engineering Record last week, page 770, was supplemented by the "Financial Plan," which is summarized by the following recommendations of the commission:

1. That a single corporation be organized to take over the surface and elevated lines.

2. That legislation be sought:

(a) To permit the formation of such a corporation.

(b) To permit the grant of a terminable franchise in return for which the existing companies shall surrender all their definite franchises.

(c) To empower the city to purchase the property of the new corporation.

(d) To empower the city to procure the consents of abutting property owners.

3. That the construction of a combined system of subways and elevated railroads be begun at once and co-ordinated with the present and future elevated railroads, so developed as to furnish the highest grade of rapid-transit service.

4. That the city be given full control over the extensions to the systems and additions to equipment and the furnishing of service limited only in that the net return to the corporation will not be reduced below 6 per cent.

5. That a financial plan be developed so as:

(a) To extend the partnership management now existing between the city and the surface lines to include the elevated lines so that the city shall have a share in the divisible net receipts of all the lines.

(b) To allow to the corporation, so far as affected by any act or orders of the city, a net return on the combined valuation of the existing properties of 6 per cent.

(c) To invest in the construction of subways or other revenue-producing additions the present traction fund and increase thereto on the same terms as new capital furnished by the corporation. That is to say, the corporation shall receive only the actual interest that it has to pay on the new capital furnished and the city shall receive on its revenue-producing investment the same rate of return.

(d) To provide for two amortization funds whereby the outstanding valuation or purchase price shall be progressively reduced, these amortization funds to be increased by all remainders of the traction fund over requirements for new construction.

(e) To confine the return to the corporation between the limits of 6 and 8 per cent on its then investment in road and equipment by requiring that after its total return exceeds 7 per cent a portion of such excess over 7 per cent and all of the excess over 8 per cent shall be paid into the special amortization fund.

(f) To provide for such use of the traction fund and amortization funds as to establish a practicable and feasible method of acquisition by the city of the entire local traction system.

Complete Recapture by 1960

A reasonable forecast of the results obtainable under this financial plan, concludes the commission, indicates that by 1937, or at the end of twenty years, there will have been amortized actually or in effect nearly $120,000,000, or 30 per cent of the then total capital investment in the combined properties. The continuation of this forecast indicates that by about 1947, or in about thirty years, not only will all of the additional capital to be furnished by the corporation, as contemplated in the report, be paid off, but the operation of the amortization fund and the city's traction fund will probably begin to reduce the original 1916 valuation of the combined properties. And, further, unless the divisible net receipts, and consequently the additions to the city's traction fund, are greatly reduced by unjustifiable expenditure, that possibly by the year 1960 the whole of the corporation's then investment will have been retired. Chicago will then become the actual owner in fee of a combined system of subway, surface and elevated railroads, which in accordance with the orders of the board of regulation and control and the provisions of the ordinance will have been maintained at full efficiency and will have cost at least $490,000,000, and which the city can then operate directly or lease to an operating corporation, as public opinion at that time shall determine.

The members of the commission are William Barclay Parsons, Bion J. Arnold and Robert Ridgway.

A supplement to the report will be given out later. It will contain about 150 pages of printed matter and fifty or more maps and plans.

Higher Unit Stresses for Pipe and Computation of Water-Hammer Pressure Advocated

Design of Heavy Steel Pressure Pipe Lines Can Be Made More Economical by Proposed Method Outlined in Detail

By BARTON M. JONES
Assistant Engineer, Miami Conservancy District, Dayton, Ohio

An interesting article by Frank H. Carter on "Selecting Economical Type of Riveted Joint for Steel Pipes and Standpipes" appeared in the Engineering Record of Oct. 14, page 467. In this article Mr. Carter shows that where a large quantity of metal is involved, as in large steel pipes and other structures built to resist internal pressure, a saving in cost can be effected by the use of the most efficient types of riveted joints. This is undoubtedly true, particularly where single or double riveted lap or butt-strap joints are commonly used, as in plate less than about 5/8 in. thick. For heavier plates it is customary to use the more elaborate joints. Aside from cost, mechanical uncertainties and the loss of power from increased resistance to flow should be watched to prevent the use of complicated joints from being carried too far.

Along a related line, the writer would like to outline a means for obtaining further economy in the use of the steel, particularly by the application of proper unit stresses. In another part of his article Mr. Carter calls attention to the use of unit stresses as low as 6000 to 7500 lb. per square inch of gross section, approximately equivalent to 8000 to 10,000 lb. per square inch in the net section. While these cases are somewhat lower than usual, they confirm the present-day tendency among engineers to adopt very low unit stresses because of experiences with pipe-line troubles. These unit stresses appear to be unnecessarily low and do not represent liberal designing, but a waste of money in not placing the steel where it will do the most good. Failure to understand and provide for the effect of water hammer is the principal cause of this situation.

Effect of Water Hammer

Mr. Carter uses the assumption that the effect of water hammer decreases from a maximum at the lower end of the pipe line to practically zero at the upper end. It is known from both observation and theory that a pressure wave from water hammer travels the full length of the pipe, or to a point of relief such as a standpipe or reservoir, and that its intensity is influenced only by the dimensions of the pipe at the various points along the line. Referring to his example of a pipe line of 54 in. diameter, 2800 ft. long, and varying in thickness from 5/16 in. to 9/16 in., a pressure at the lower end of the pipe of 100 lb. per square inch due to water hammer would result in about 85 lb. per square inch at the upper end, instead of zero as shown by him.

In common practice the thickness of the various lengths composing a pipe line is figured according to one of the three usual assumptions as to the pressure to which each length of pipe will be subjected. A low unit stress is adopted for the net section to provide the desired factor of safety, and in addition a uniform thickness is often added to allow for surface deterioration.

The three most common assumptions of pressure are as follows: (1) The maximum static pressure to which the pipe can be subjected; (2) the maximum static pressure plus an arbitrary amount to provide for water hammer, such as 100 lb. per square inch considered uniform over the entire line; (3) the maximum static pressure plus a moderate amount to provide for water hammer which is figured for each particular part of the pipe according to its diameter and thickness and the assumed rate of gate closing.

For proper balancing of parts the pipe should, if possible, be so proportioned that no one part will be stressed to the breaking point unless all other parts have likewise reached the same unit stresses. There is no uncertainty about the distribution of the extraordinary pressures which would cause these stresses. Aside from the static pressure which is definitely known, the only other bursting pressure is caused by water hammer, and the relative intensities of the latter at different points along the line can be readily calculated. That is, if a shock from water hammer produces a certain pressure at one point in the pipe line, the corresponding pressure at any other point can be determined. A pressure wave which results from the accumulation of several successive water-hammer shocks has the same effect as if it had been caused by a single larger shock, and can be so treated.

High Unit Stress Proposed

In order to distribute the steel in pressure lines of high head so as to obtain the greatest effective strength, it is suggested that the thickness of the shell be designed by using the elastic limit (or a value even more near the breaking stress) of the steel for the unit stress and obtaining the desired factor of safety by making provision for a severe water-hammer pressure in addition to the static pressure. If desired, a small uniform thickness may then be added as usual to allow for corrosion. This method is justified because the uncertainties due to imperfections in material and workmanship can be largely eliminated by a test made after the pipe has been laid, the remaining uncertainties being principally in the pressure to which the pipe will be subjected.

Under ordinary operating conditions or during a moderate water hammer, the unit stresses in a pipe designed as suggested would not be uniform, but would be greater at the lower end than at the upper end of the pipe. The pressure wave from a dangerous water hammer, on the other hand, would cause stresses which in maximum value would be nearly uniform throughout the full length of the pipe.

Purpose of Method

To make the purpose of this suggested method of design evident, it may be stated that many high-head penstocks could be proportioned by its use to resist a sudden closing of the entire flow without stressing the steel beyond the elastic limit at any

point, and the cost of the pipe so designed would be much less than one capable of withstanding equally severe shocks, designed in the usual manner with low unit stresses. The upper portion of a pipe line of ordinary design is made relatively too thin and could fail as the result of a pressure wave, while the stresses in the lower portion of the pipe remain comparatively low.

With a given water-hammer allowance, the diameter and thickness of a piece of pipe fix its lowest position along the profile. Pipe is built of plate the thicknesses of which do not usually change by less than 1/16 in. The diameters are chosen of even figures and often with a difference sufficient to allow nesting of the pipe for shipment. Having selected the pipe dimensions that could be considered for use, a table can be prepared to give for each diameter and each thickness of pipe its position on the profile in terms of the static head at that point. In computing this, the maximum head that the pipe will resist is first determined, using, as suggested, the elastic limit of the material. From this head is subtracted the pressure head that would be equivalent to the water hammer in case a given flow were suddenly stopped. The water-hammer pressure can be computed when the reduction in flow is known, together with both the diameter and the thickness of the pipe. The following is an equation arranged in a simple form for making the calculation:

$$h = \frac{2tse}{0.433d} - \frac{268{,}800Q}{d^2\sqrt{\frac{d}{t} + 102}}$$

in which h is the allowable static head in feet for a pipe of certain dimensions, indicating its position on the profile; t, the thickness of pipe wall in inches; d, the inside diameter of pipe in inches; s, the ultimate unit stress allowable in pipe wall in pounds per square inch; e, the efficiency of a longitudinal joint, and Q, the sudden reduction of water flow in second feet. For gradual gate closure, Q should be taken as the reduction in flow during the interval of time T which is required for the pressure wave to travel upstream through the pipe to the point of relief and return. Q must be found for each point along the line, as it depends upon T for that particular point. The time T in seconds is

$$T = \frac{l'\sqrt{\frac{d'}{t'} + 102} + l''\sqrt{\frac{d''}{t''} + 102} + \ldots}{23{,}600}$$

where l' is length in feet of part of pipe the diameter of which is d' and the thickness of which is t', etc.

The equations given allow for the elasticity of both steel and water, the coefficients used being 30,000,000 and 294,000 lb. per square inch respectively. It will be noted that the length of the water column does not affect the calculations except as to what would be termed "sudden closing." The velocity of the pressure wave through a particular part of the pipe is sometimes of interest. This velocity v in feet per second is

$$v = \frac{\sqrt{\frac{d}{t} + 102}}{23{,}600}$$

Regarding the economical diameter for the pipe, it is not particularly difficult to determine this, even when the thickness of the pipe is based on the water-hammer consideration as described in the foregoing. For the final design, the writer has found it convenient to combine the three operations of determining the economical diameter, the thickness, and the location of the pipe of various dimensions along the profile. For this purpose formulas are not entirely satisfactory, as they frequently call for impossible odd diameters and thicknesses of pipe.

In the table giving the position of each class of pipe along the profile may be shown also the total annual expense per unit length of pipe—that is, the loss in revenue due to friction losses plus the annual charges on the investment. Inspection will then show the most advantageous dimensions of pipe for certain static heads or points on the profile. In other words, it will enable the selection of a pipe which will fulfill the pressure requirements and which will at the same time represent the least annual expense.

This method of designing a pipe line involves only dimensions and weights based upon actual pipe designs instead of theoretical sizes. The results for all practicable combinations of diameter and thickness can be readily presented in a table for comparison and selection. It may entail slightly more labor than direct formulas, but the additional labor involved is well warranted by the results obtainable and the importance which usually attaches to the design of structures of this class.

Soft-Ground Tunnel Under Lake Union at Seattle Presents Many Difficulties

Poling-Board Compressed-Air Method, with Top Heading Lined Before Taking Out Bench, Solves Them, Though Section of Arch Settles and Four Blowouts Occur

REPLACING a temporary trestle which carried the water mains supplying Seattle across Lake Union, a concrete-lined tunnel has been completed in soft ground under the lake by the top-heading method, using poling boards and compressed air. The ground was so soft that the lining of the top heading, which had to be placed before the bench was taken out, settled at one point and had to be replaced. Four blowouts occurred through the lake bottom, all of which were successfully stopped with weighted timber or canvas blankets. Effective grouting was done with hand force pumps.

Tunnel to Carry Water Mains and Conduits

The water supply for Seattle comes from the Cedar Lake watershed, which is to the south and east of the city, so that mains must cross the chain of inlets and lakes which connect Lake Washington with Puget Sound in order to reach the northern part of the city. Heretofore water mains have been carried across Lake Union on a temporary wooden trestle, pending the time when it would be necessary to provide other means of crossing. With the completion of the Lake Washington Canal, Lake Union becomes navigable to vessels of considerable draft, and the water mains had to be kept clear of the channel.

The city, accordingly, awarded a contract in July, 1914, for the construction of a tunnel beneath Lake Union which would provide for water mains and telephone and electric wires. The work was to have been completed early in 1915, but owing to difficulties and delays the tunnel was not finished until October, 1916. The installation of water mains in the new tunnel for the present will consist of one 42-in. and one 16-in. main under a head of 470 ft. and one 24-in. main under a 375-ft. head. The 42-in. main, which has already been placed in service, connects reservoirs on opposite sides of the canal. The other two lines will supply the low and intermediate pressure districts of the city.

Excavating Shafts and Tunnel

The tunnel is circular in section, about 900 ft. long, and crosses the channel at right angles, with its center 54 ft. below the water surface. At either end the tunnel terminates in a vertical shaft, the north 15 ft. and the south 16 ft. in diameter. Both the shafts and the tunnel are lined with concrete 22 in. thick. The north shaft was sunk in the open through a sand-and-gravel formation that offered no serious difficulties.

The south shaft, on the other hand, was for practically the entire depth in fine sand. After the first 25 ft. in the open, the use of caisson methods was required. Both the north and the south shafts were sunk as drop shafts by weighting with sandbags. The cutting edges of the shafts were made of angles and steel plates.

The tunnel was advanced from both ends, using the poling-board method. Because of the very soft material traversed, the entire work had to be done under air pressure, the maximum pressure being about 27 lb. per square inch. The compressor plant at each shaft consisted of two units, one with a capacity of 800 cu. ft. and the other with 700 cu. ft. of free air per minute. The motors were connected so that either of two separate sources of power could be drawn upon in emergencies.

Four Breaks During the Tunneling

During the tunneling there were four separate breaks, or "blows," in which the sudden inflow of water caused a temporary shutdown and threatened the safety of the work. These breaks were repaired by mattresses placed from above on the lake bottom. Two of these mattresses consisted of 30-ft. squares of canvas upon which material was sluiced from the adjacent bank. In the second blow two distinct openings had to be closed, over one of which a timber mattress was placed. In the last case a larger area had to be covered and a 40 x 60-ft. timber mattress was built, floated into place and weighted down with 4 or 5 ft. of earth sluiced into place.

None of the breaks occurred so suddenly that there was danger to the workmen, and although the tunnel was flooded on two occasions there was no difficulty in unwatering it after the mattresses were placed. At other times, however, the full capacity of the pumps was taxed. In unwatering the tunnels air was turned on through the regu-

lar lines till sufficient pressure was reached to balance the hydrostatic head. This pressure did not, however, force the water out through the face, and the heading was drained by opening pipes passing through the tunnel lock and allowing the water to flow to pumps in the shaft. The capacity at each end totaled approximately 600 gal. per minute. The motors driving the pumps were connected so as to draw upon either of two separate sources from which energy could be supplied, to insure continuity of service in emergencies.

Arch Concrete Lining Placed First

In the tunnel the concrete was placed first in the arch, as indicated in the accompanying drawing, and later poured into the forms of the invert from the same level from which the arch was concreted. Concrete was delivered into the tunnel in cars of ¾-cu. yd. capacity, being lowered on hoists in the shafts and entering through the air locks at either end of the tunnel. After the first 30-ft. section from the south shaft was placed it was found that its timbers, forms and concrete had settled into the soft bottom, on which they were temporarily blocked, for a depth of about 6 in., thus leaving the arch about this much below grade at this point. The work was continued beyond this point, advancing at proper grade and leaving the section out of alignment to be dealt with later.

After the headings had met and the concreting was otherwise completed, the arch of the 30-ft. section which had settled was entirely removed and the timbering exposed. This was done of course with the air pressure on the tunnel. It was then found that at the point of maximum settlement a 16-in. thickness of concrete could be put in without interfering with the timbering. Reinforcing sufficient to give this thickness a strength exceeding that of the unreinforced 22-in. section was therefore put in and the correct grade for the arch at this point was secured. The amount of correction necessary had been reduced by increasing the specified grade of the tunnel from the center toward the south shaft. This change in grade put the specified elevation of the arch at the south shaft about 4 in. lower than was originally intended.

The entire tunnel drains toward the south shaft, where all seepage will collect in a permanent sump built in the concrete. This will be equipped with an eductor, or jet, pump operated by water from the mains which are to be carried through the tunnel.

Wedge Flange Against Leaks for Grout Connections

As was anticipated, when the concrete lining was finished and the air pressure was taken off there were numerous leaks through which water found entrance to the tunnel. Because the tunnel will be used only for pipes and wires, and because the pump installation referred to would be required in any event, it was not considered worth while to go to the expense of securing a practically watertight tunnel and it was decided to seal only those leaks which allowed a considerable inflow of water.

The contractor was required to stop 77 leaks indicated by the inspector and which developed a considerable flow, and in addition to these the city considered it worth while to stop about 295 more which were too small to be included among those assigned to the contractor. The grout used by the contractor in stopping the larger leaks was paid for by the city, and the compensation allowed therefor figured out at about $36 per cubic yard.

A 1¼-in. air drill was used to open up each leak before grouting, and it was found that those which afforded the largest flow were the most easily repaired. After drilling out a leak an 8-in. flange with a gasket was placed around the hole and was wedged tightly into place by means of a strut running diametrically to the opposite side of the tunnel. Attached to this flange was a 2-in. valve which could be closed to prevent the water flowing into the tunnel. The grouting pipe was then connected on the outside of this valve, and as the pressure was turned on the valve was opened so that the grout could be forced into the passage opened up by the drill.

Force Pumps for Grouting

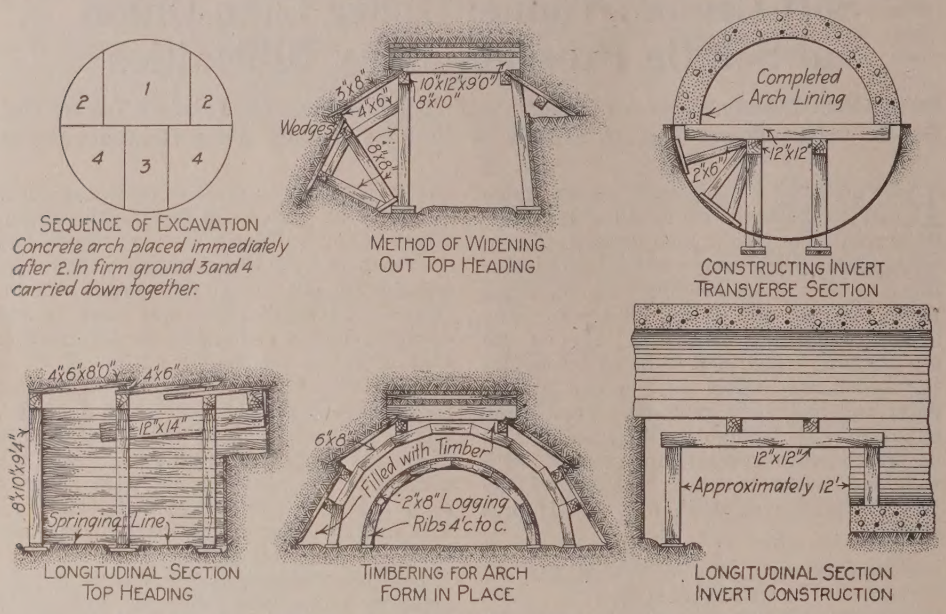
For grouting the contractor used a Grant force pump, which was able to develop a pressure of about 125 lb. per square inch. With this equipment some of the leaks were stopped with a very small amount of grout and others required almost half a cubic yard. For the 77 holes grouted with this machine a total of 1810 sacks of cement were used.

For the smaller holes which the city closed a home-made hand pump was used for forcing in the grout. This consisted of a double-action force pump with 1-in. suction and ½-in. discharge, having a 6-in. packing gland which was long enough to take about 2 in. of hydraulic packing. This packing gland and check valve were the only parts of this pump which had to be made up on order, all the remaining parts being assembled from stock material. With this device operated by two men with long hand levers it was possible to get pressures as high as 300 lb. per square inch. The ½-in. discharge was connected to a 1-in. air pressure hose, which in turn was connected with bushings to the valve on the flange fastened over the leak. With this small hand machine 295 holes were stopped with a total of 325 sacks of cement.

Bracing Struts Left Twelve Hours

After grouting the holes the bracing struts were left in place for twelve hours and then removed. In practically every case the repair by this method was effective, and it was considered that the scheme of grouting was notably efficient and inexpensive for a tunnel in such soft material as that encountered on this job. The use of the gasket and flange method leaves the repaired spot with a smooth finished surface that requires no further attention. In some cases where very large leaks were repaired the effective area of the flange, which was 8 in. in diameter, was increased by the use of a large wooden washer and gasket of equal size cut to fit the size and shape of the particular leak under treatment.

The construction of the tunnel was under the general supervision of A. H. Dimock, city engineer of Seattle. T. H. Carver, assistant city engineer, was in immediate charge of the work, and E. D. Alexander was resident engineer for the city. The original contract was awarded to Meecham & Babcock for $183,000 and the tunnel was driven and lined under subcontract by Joseph Hanreddy of Chicago, for whom Robert Spencer was resident superintendent.



VERY SOFT GROUND MET WITH TOP-HEADING METHOD, USING COMPRESSED AIR

What Drainage Reclamation Needs

Drainage problems were discussed recently before 500 business men of the Chicago Association of Commerce by Prof. F. H. Newell. Considering only the simple elements, the following conclusions were reached: Great areas of fertile lands lie unutilized along our rivers. Similar lands have been reclaimed and cultivated, with benefit to the state as well as to individuals, by improved health and increased agricultural production. While the easy work has been done, there is still more to be accomplished, and to even greater advantage to all. The legal obstacles should be made known and removed. The financial difficulties resulting from uneven distribution of cost and benefits must be adjusted, which can only be accomplished by arousing intelligent public opinion. The business man who is in a position to look into the future must lead in the education of the public to bring about the needed reforms in legal and financial details. The results of such action will be a more widely extended and more profitable agriculture, the basis upon which rests commercial success.

Brick Pavement on Two-Inch Mortar Base Laid for $1.45½ Per Square Yard

On Lightly Traveled Streets of Dwight, Illinois, Substantial Saving Was Made by Reducing Thickness of Foundation Course

By P. E. GREEN
Of Marr, Green & Company, Civil and Sanitary Engineers, Chicago

LAID upon a 2-in. mortar base, instead of upon 4 or 5 in. of concrete, the common practice for this type of surfacing, 20,000 sq. yd. of monolithic brick pavement in the town of Dwight, Ill., were constructed at a cost, exclusive of grading, of only $1.45½ per square yard, a substantial reduction from the usual price for this kind of work. Of course it is not presumed that a heavy traffic of 6, 8 or 10-ton motor trucks could use a pavement with so thin a base constantly without destroying it, but in small cities and on the residence streets of large cities it is believed that this type of construction can be successfully employed.

In the last few months there has been some development of a brick pavement in which the concrete base has been reduced to as small a thickness as 1 in., being then simply a bed to give the brick a smooth surface. This construction is based on the theory that, provided the subgrade is sound and dry and kept so, it is of ample strength to withstand the weight of any ordinary traffic.

To Keep Subgrade Dry

The problem of constructing a monolithic brick pavement on city streets is quite different from that of country roads. The necessity of proper gutters, variations in grades, numerous right-angled and acute intersections and adequate drainage complicates matters enormously. At Dwight the topography is practically level. The surface drainage therefore must be taken care of largely by means of variations in the height of the curb. In this particular case very great care has been taken to see that the final drainage is adequate. A complete system of storm-water drains was constructed with numerous catchbasins and inlet connections. By this means it is expected that the subgrade will be kept permanently dry, and if this end is achieved there can be little question but that a vitrified brick 4 in. in depth, with a 2-in. mortar base under it and built as a monolith, will be amply strong for any traffic which it may receive. No more underdrains were required, however, than should be put under any properly designed pavement. The roadway widths are 22 ft.

Specifications for Wearing Surface

The specification under which the wearing surface was laid is as follows:

The brick shall have been carefully piled along the sides of the improvement so that it may be rapidly laid on the mortar bed, as it is the intention of these specifications to provide for the construction of the brick wearing surface simultaneously with that of the mortar foundation, thus insuring a monolithic pavement.

The mortar bed shall consist of a layer of Portland cement mortar 2 in. in thickness and composed of 1 part of the best quality of Portland cement and 3 parts of clean, sharp sand of the same quality as specified for curb and gutter. The sand and cement shall be thoroughly mixed dry to an even and unbroken shade, and then water in sufficient quantities added so that the resulting mixture will be a fairly stiff plastic mass, neither so wet that it will run freely nor so dry that it needs to be tamped to bring the water to the surface. Extreme care must be taken in this mix, and if it is not possible to get the proper mix in a concrete mixer the contractor shall proceed to mix and spread this material entirely by hand. This mortar shall be spread over the subgrade and lightly tamped with a hand tamper and then brought to an absolutely true surface with the approved template. All dry spots or sloppy wet spots must be avoided, and if they occur must be eliminated at once. If necessary, the contractor shall perform a series of experiments under the direction of the engineer so as to insure the proper, even, hemogeneous mix required for this improvement.

SMALL LIGHT ROLLER USED TO SHAPE CEMENT MORTAR BASE

The blocks, after having been set, shall be rolled with a hand roller 30 in. wide and weighing not more than 50 lb. per inch of width nor less than 30 lb. per inch of width until the surface is smooth and even and the blocks are well embedded in the cement mortar. Particular care shall be taken by the men laying the blocks to eliminate imperfect blocks. After rolling once the inspector will cull all other imperfect blocks still left in the pavement, and immediately after this culling the surface of the pavement shall be swept clean, and the joints between the blocks shall be filled with Portland cement grout as described under the paragraph "Cement Grout Filler."

It was realized that the specifications for the mortar bed were not ideal, but actual knowledge of the best mix for this mortar for use under city conditions was not available. Hence the necessity of experimentation. Events fully justified the form.

After the construction of the storm-water drains the roadway was graded and finished with a rigid template; the crown was established at 4 in. It was at first endeavored to have the crown less than 4 in., as a flat crown is an ideal to be approached, but it was found during construction that when less than this amount was used on this width of street it was almost impossible to avoid small depressions in the completed surface.

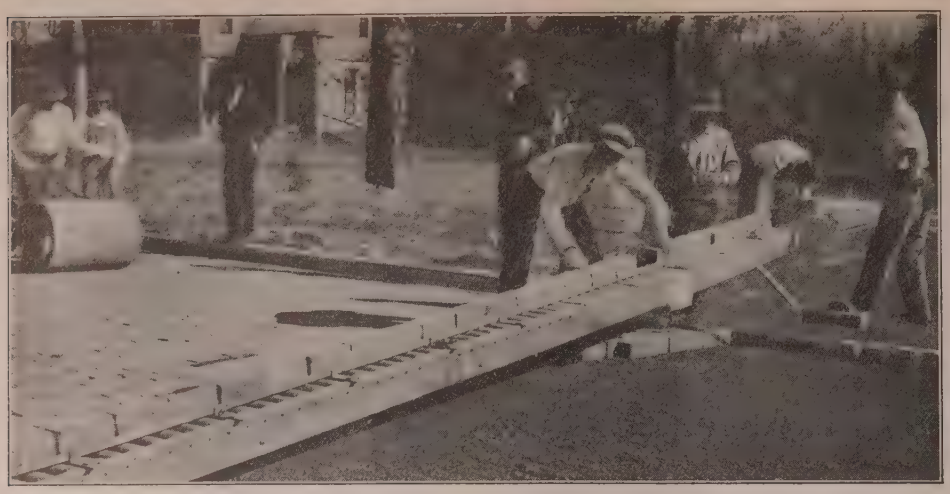
The contractor had on hand a small continuous mixer, and this was tried with great success. With this type of mixer, the mix being in sight the entire time, it was easier to obtain uniform mortar than with the batch mixer. With the batch mixer a uniform product can be obtained and its capacity is greater, but it requires constant attention to the water and timing of the hopper. The usual criticism against the continuous mixer is believed to be uncalled for. The character of the sand, the amount of water in the mix and the length of time in which the machine mixed the mortar were found to be very important.

Test Sizes of Sand

Various kinds of sand were experimented with in order to secure the best results. It was demonstrated that the mortar, in order that it may be handled in the best way and to eliminate dry spots or wet spots, should have just enough water in it so that when patted with a shovel the water would flush to the surface. More water than this would collect in pools and would make soft spots and the brick would go down under the roller. This is a vitally important point in securing a smooth surface.

Several samples of what was considered ideal mortar were tested for amount of water contained by taking samples, drying them out and weighing them both before and after they were dried. The amount of water in normal sand was also determined. It was demonstrated that the total amount of water should be from 19 to 23 per cent by volume of sand.

Various sized sands were used in order to find out whether a fine sand or a coarse sand produced the best results. Sand which is too fine—that is, which contains practically no pebbles even though it is what is ordinarily passed as a first-class mortar sand—would tend to hold the water in pockets. And sand which is too coarse, with too many pebbles, or too great a proportion of voids, would discharge the water too rapidly after being laid on the subgrade, and it would all drain toward the gutter. An evenly graded coarse sand, with a considerable percentage of pebbles the size of a pea or under, was decided to be most suitable. While no facilities were at hand properly to sieve the sand, yet from the writer's experience in filtration work he believes that sand which has an effec-



BRICK WERE DELIVERED FOR LAYING BY ROLLER CONVEYOR

tive size of about 0.02 in. and a uniformity coefficient of 3.0 is about the best graded for the purpose.

For this type of pavement the size and grading of the sand are most important considerations and too much emphasis cannot be placed on this point.

Mortar was delivered directly on the subgrade by the continuous mixer and shaped with shovels and template, and was not on an average more than 20 ft. ahead of the brick work.

Tamping of the base was provided by the specifications, but it was found that a little roller weighing about 3½ lb. per inch of width made the best tamper. The mortar was deposited on the subgrade by the mixer, the template drawn over it and then rolled with this light roller, and the template drawn over it again, forming a fine, even, dense and smooth surface with a minimum of wet or dry spots.

The brick, which had been previously piled alongside the work, was delivered to the workmen on roller conveyors, the bricklayer taking them directly from the roller. This method of delivering the brick to the men is practical up to a 40-ft. width of roadway, using on a street of this width two conveyors, trussed, one end resting on each curb. The bricklayers objected at first to laying directly from the conveyor, preferring to have them delivered to them by the men, but this means tramping over the new-laid brick with its soft mortar bed and a consequent disturbance of the surface. When the bricklayers became accustomed to this method of laying they preferred it. It also tends to speed up the work.

Closely following the bricklayers was a hand-roller. This roller was of the brand known as "Anyweight," the weight being varied by means of sand, water, etc., put inside of the roller. However, it is believed that a hand-roller for this type of work on streets of this width, or wider, is inferior to a very small self-propelled roller of, say, 1-ton weight on two wheels. The Anyweight can be loaded up to about 900 lb., or about 30 lb. per inch of width, but it is believed that a slightly heavier roller would secure better results. When it is loaded up to 900 lb. it is hard to keep a roller man because of the heavy labor of rolling. Hence the foreman's tendency is to reduce the weight instead of increasing it. If there is much work of this character there can be little question that a small self-propelled roller is the thing.

The brick were pushed ⅛ to ¼ in. into the mortar base by the rolling, and some bond was secured even before the grout was applied. This was demonstrated when, for some reason or other, it had not been possible to keep the grout up to the front, and on the following morning it was found hard to extract a brick from the mortar bed.

Grouting Followed Closely

The grouting followed the rolling and culling of the brick as closely as possible and usually was within a few feet of the end. Here again it seems that if a small self-propelled roller had been available the thoroughness of the grouting might have been improved upon by rolling after the first coat of grout had been applied, thus insuring an even and uniform penetration of the grout to the surface of the mortar bed and into all crevices.

It is believed that the finished pavement should be covered with earth between May 15 and Sept. 15 to secure better curing, but that before and after that period this covering is not so essential.

The final surface secured on this work, after the men had become accustomed to the construction, was beautifully smooth. In fact, during a period extending over a good many years the writer has never seen a smoother or more even new brick pavement. A depression in the surface was rare, and wherever discovered it was promptly brought up to grade.

BRICK REMOVED TO SHOW HOW MORTAR BASE ENTERS JOINTS AFTER ROLLING

No cross-expansion joints were used, nor does the writer believe they are necessary. It is believed they are a source of weakness in this type of construction. A large percentage of failures of brick pavements in which the cement-grout filler was used can be traced to cross-expansion joints. With an expansion joint across a roadway surface when expansion occurs the joint filler at one end or the other of the joint will yield first because of lesser width, the partial filling of part of the joint with an incompressible material such as sand or some similar reason. The result is an unbalanced couple and a sort of rotation about the rigid point. The brick back from the expansion joint crack, the joints spall and at the incompressible point the bricks crush. If there had been an even, uniform bearing the internal stress caused by the expansion could have been taken up by the block, or in the case where contraction takes place the crack formed is too narrow to cause any serious trouble, and in any case is promptly filled up with incompressible matter such as sand.

Lessons Learned

As a result of experience with this type of construction the following suggestions are made with the idea of increasing the practicability and decreasing the cost of construction:

1. A thickness of less than 2 in. of mortar base in a city street is hardly practicable because of the conditions which must be met, the expense of exact fine grading and the trouble at intersections where other improvements must be met.
2. The sand should be of the character described above, but a possible substitute for it would be a concrete composed of 1 part cement, 2 parts sand of the size previously mentioned and 4 parts pea gravel.
3. The water must be very carefully regulated, and the best results are secured when it amounts to about 22 per cent, by volume, of the sand.
4. The weight of the roller should be about 50 lb. per inch width, and a small self-propelled roller would be a great advantage.
5. It would very probably improve the construction if the brick were rolled after the first coat of grout had been applied.
6. A crown of 2 per cent of a street 20 ft. in width, decreasing to 1 per cent on a street 15 ft. in width, is about the minimum that can be handled successfully. Smaller crowns than this tend to cause the accumulation of water pockets and soft spots with their attendant depressions in the finished surface.
7. As far as possible no men should be allowed on the pavement behind the roller. This applies to everybody, including the men pushing the roller. The weight of these men coming on the individual brick tends to make depressions.
8. It is quite probable that a light mixer for grouting, the grout being spouted onto the brick, would tend to make a smoother surface.

There are great possibilities in this type of construction in small cities and in the residence streets of larger cities. A very smooth, attractive pavement is the result. The cost of this class of wearing surface is materially reduced. The cost of the pavement in question was $1.45½ per square yard, exclusive of grading. With care and thoroughness it is believed that the

strength of this construction is fully equal to that of ordinary grouted brick surface on 4 or 5 in. of concrete with a 1 or 2-in. sand bed. It is also believed that it is superior to the concrete pavement because it practically equals in thickness the concrete pavement, while its resistance to wear is considerably greater. Less trouble from expansion and heaving is anticipated.

It cannot be too often reiterated that the essential element of success is extreme care to the details of construction. However, this is true of any type of pavement. In this case it is the attention to the fine details of the sand grading, the amount of water, the rolling and the keeping of men off the finished product before it is grouted that make for success. The rolling should be not only longitudinal but also horizontal and diagonal. It is necessary in this type of construction to co-ordinate carefully the delivery of material, since if all material is not on the ground ready to be used at the same time the entire gang must be laid off. Once these points are understood and appreciated, however, the work proceeds wonderfully rapidly and satisfactorily.

The contractor for the work was Charles S. Upham of Odell, Ill. Mr. Upham is an extremely ingenious man and had many little labor-saving tools and appliances on the work. One of the most interesting of these and one which was absolutely new to the writer was an adjustable trowel for finishing concrete curb and gutter, described in the Hints for the Contractor section, page 812.

To the writer one of the novelties on this particular job was the grader and ditcher. This was a sort of a small light steam shovel manufactured by the Keystone Driller Company. It can be used either for digging a ditch and backfilling the same or for rough grading. The shovel travels on a boom, which is a double I-beam, and is raised, swung to one side or lowered through a universal joint at its base, the whole machine operating like a steam shovel, but being much less cumbersome and much more flexible. It is a very handy machine for a general contractor. In this particular job ditches from 2 to 9 ft. in depth and 40 in. wide were dug for the underdrainage. The subgrade also was graded with it, it being possible to manipulate the grade to within ½ in. of the final contour. The machine would load a 1¼-yd. wagon in from 40 seconds to 1½ minutes and would dig a ditch up to 40 in. in width and 20 ft. deep without any trouble. When digging a ditch the shovel bucket is reversed and works toward the machine, but when grading it works away from the machine.

M. A. Peiser was resident engineer on the work. Much of the success of the work was due to his intelligent care and interest.

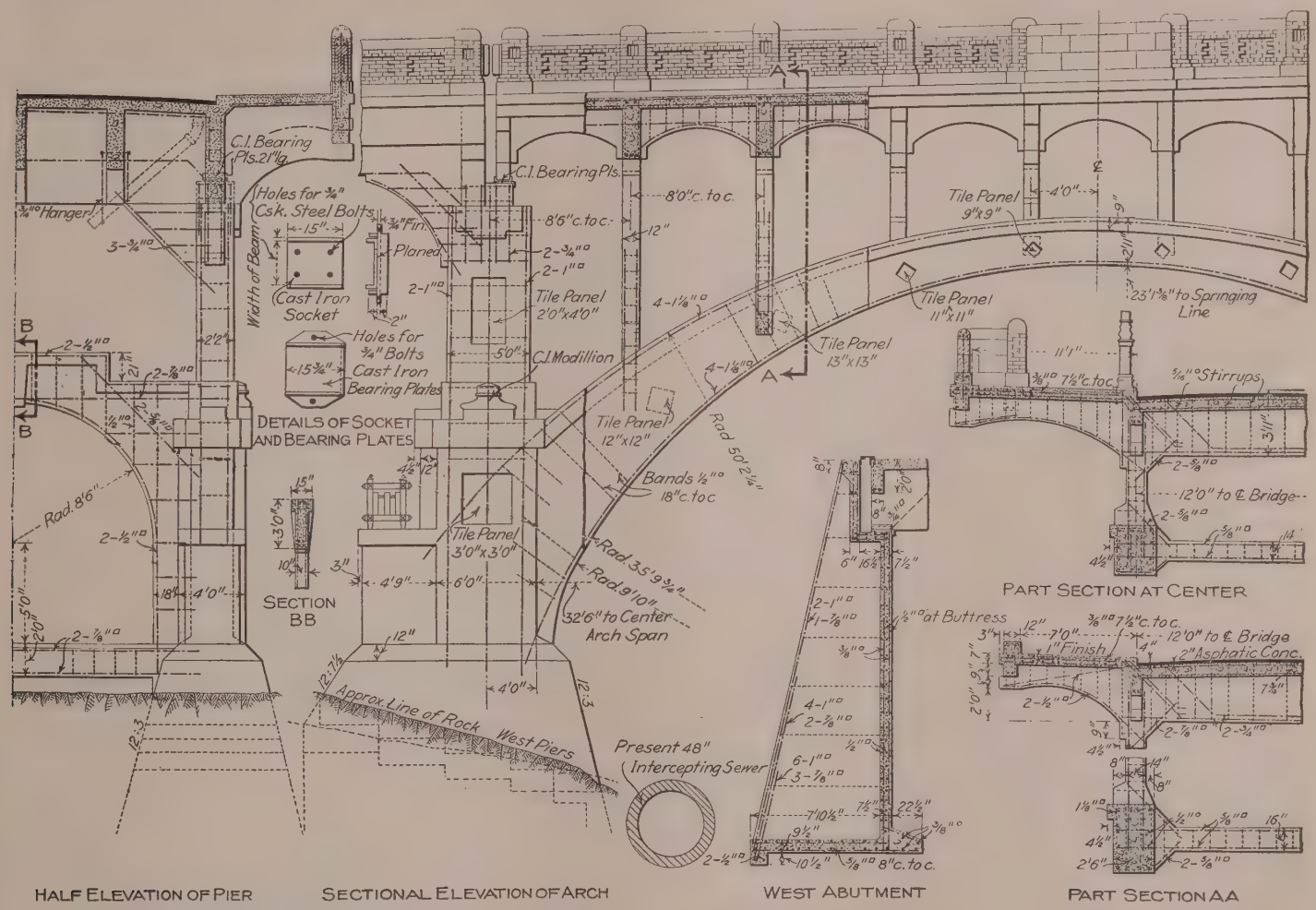
Every Day Is Pay Day in Pennsylvania

Contractors in central Pennsylvania have solved the problem of keeping labor on the job. The force of one contractor who began paying his men off every day instead of at the end of the week was so pleased with the arrangement that it stuck by him, and other contractors have adopted the same plan. According to reports, the plan has met with success wherever tried.

Inlaid Tile Used in Arch Span of Park Bridge

Atlanta Structure with Counterfort Retaining Walls and Cast-Iron Expansion Details for Reinforced-Concrete Stringers

CURVED sidewalk brackets and spandrel openings, inlaid panels of colored tile or mosaic in the main piers and arch ribs, and pier offsets supporting plant tubs mark the new Piedmont Park bridge in Atlanta, Ga., as another engineering structure in which architectural considerations have been given due prominence. Counterfort abutments, with the buttresses on 6-ft. centers to conform to the spacing of the stringers of the end spans, and cast-iron sockets and bearing plates at the expansion ends of the stringers are other features of this highway bridge built to carry a new boulevard over Clear Creek and the Southern Railway tracks.



HALF ELEVATION AND SECTIONS OF 73-FOOT MAIN ARCH OVER CREEK—DETAILS OF PIER AND WEST ABUTMENT

General Dimensions

The total length of the bridge is approximately 625 ft., consisting of four 36-ft. 6-in. concrete girder spans, one on the west end and three on the east end flanking the main arch of 73-ft. span and 23-ft. rise over the creek, and two approaches. The west girder span is over a future roadway, and the three east skew spans are carried over tracks of the Southern Railway—one present track and four planned for the future. Overhead clearance of 22 ft. is required at these tracks. An existing intercepting sewer on the west side of the creek determined the location of the west pier or arch

abutment, which was placed just far enough west of the sewer to avoid interference.

The design was prepared with a view to harmonizing the picturesque surroundings with economic layout and simple details. To add æsthetic features, not only were curved outlines in the spandrel openings of the main arch span adopted, but panels of inlaid colored tile are used in the piers and on the outside of the main arch ribs, also cast-iron modillions painted a dusk color, as noted on the accompanying drawing. The main piers have large pedestals with creosoted-timber plant tubs. Another element of variety is introduced by the paneled red brick railing with a white concrete coping cast in units.

For the west or park approach the bridge is provided with two large granite portals and white ornamental flower urns on top. The stones used in the portals are the granite blocks of Atlanta's first pavement of 1882, and the lampposts are from Atlanta's first street-lighting system of 1855.

One of the details which will be noted as exceptional is the cast-iron socket and bearing plate at the expansion ends of the concrete stringers where they bear on the abutments. These are shown in the drawing herewith. The socket is attached to the bottom of the stringer by four countersunk bolts, and its planed lower face slides on the planed upper face of the bearing plates bolted to the abutment.

The design was made by C. E. Kauffman, engineer of bridges and estimates, Department of Construction, city of Atlanta. The contractors are Case & Cochran, of Atlanta.

Ninety-two City Managers Now

According to statistics given out at the recent convention of the City Managers' Association there were on Nov. 1 of this year 92 cities in the United States operating under the city manager form of government.

"South Station Under" of Boston Rapid-Transit System Has Ample Traffic Facilities

Stairways and Escalators on All Sides of Square Insure Rapid and Direct Transfer of Passengers—Large Lobby Above Tracks

By WILLIAM W. LEWIS
Assistant Engineer, Boston Transit Commission, Boston

AMPLE PROVISIONS for accommodating large crowds on special occasions were made in the design of the recently completed "South Station Under" of the Boston Rapid-Transit System, located at Dewey Square. In fact, these special requirements governed the dimensions and layout, the number and capacity of the combined entrance and exit openings, and the escalators, rather than the estimated usual daily or average traffic, either at present or for the future. Two classes of traffic were considered in the design—passengers desiring access to and from the streets and railroad passengers transferring to and from the South Union Station. The governing conditions and some of the details of construction are here given.

Location of Station

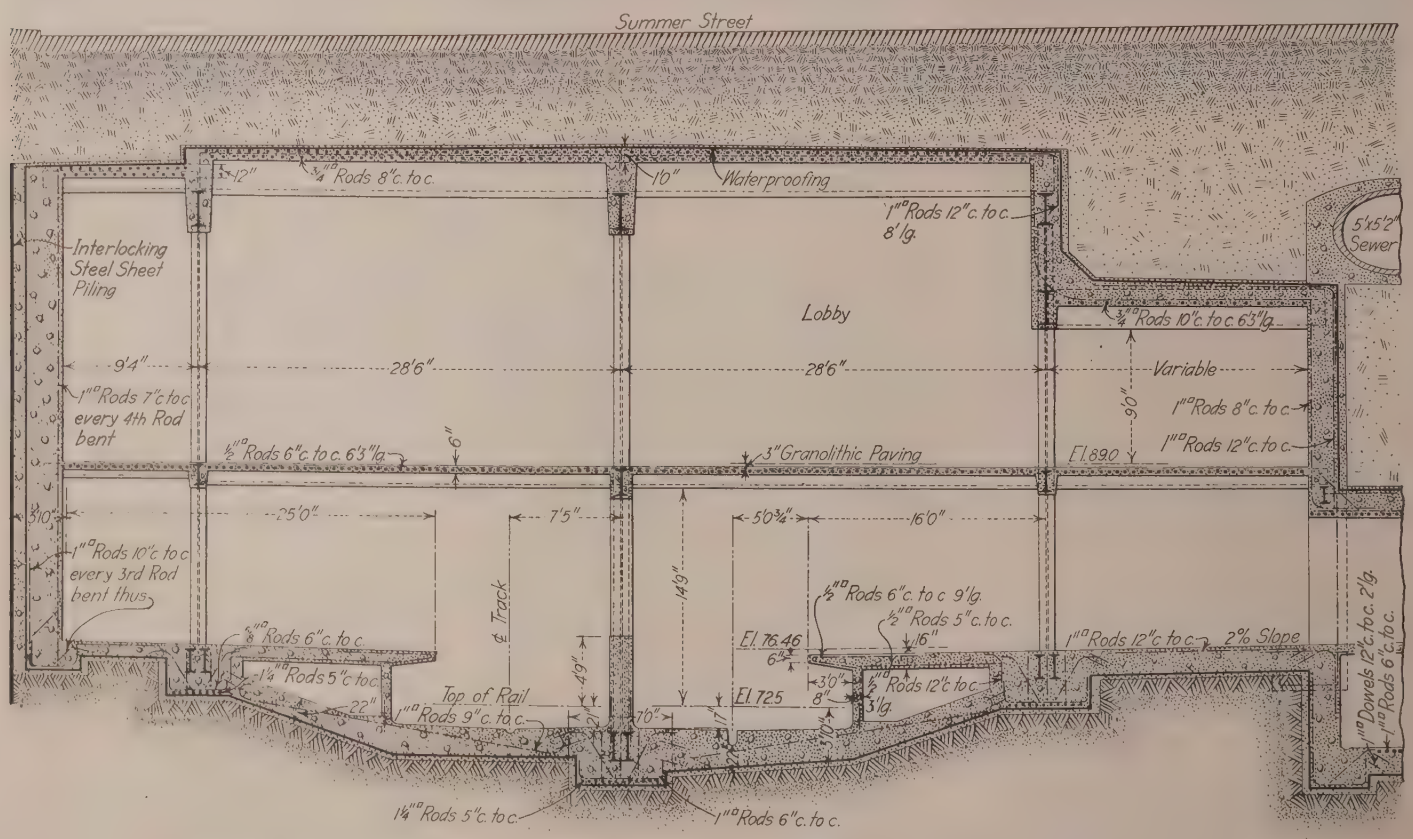
The portion of Boston's rapid-transit system recently opened to public travel is a part of the subway known as the Dorchester tunnel, an extension or continuation of the Cambridge subway. The Dorchester tunnel begins at "Park Street Under" station under Boston Common and continues in an easterly direction under Winter Street and Summer Street to and through Dewey Square. Here it turns in a southerly direction, running through a part of South Boston to Andrew Square. This tunnel, from the Cambridge subway at Tremont Street to and including the Washington Station near Washington Street, was opened to public travel on April 4, 1915. The part recently put in service adjoins this section and extends from the Washington Station to and including the station in Dewey Square.

At Dewey Square is located the South Union Station of the New York, New Haven & Hartford Railroad Company and the Boston & Albany Railroad Company—one of the two railroad stations which handle all the downtown railroad traffic of the city. Running through the square are many lines of surface cars and the Atlantic Avenue loop of the elevated system. The subway station in this square will thus be a very important feature in the rapid-transit system. It will serve to connect the Tremont Street subway, the Washington Street tunnel, as well as the Cambridge and Dorchester districts, with the South Union Station.

Design Conditions

The subway station called the "South Station Under" is designed to serve two classes of traffic—first, those persons entering or leaving the station from or to the public streets, and, second, those persons wishing to transfer between the tunnel station and the South Union Station. The square being large and the vehicular and pedestrian traffic much congested at times, entrances are placed on the four corners of the square, as seen on the plan.

These entrance stairways are each 8 ft. wide and are planned to be used by passengers either entering or leaving the station. Owing to the high value of the property in this locality, it was deemed best to locate them on the sidewalks of the streets,



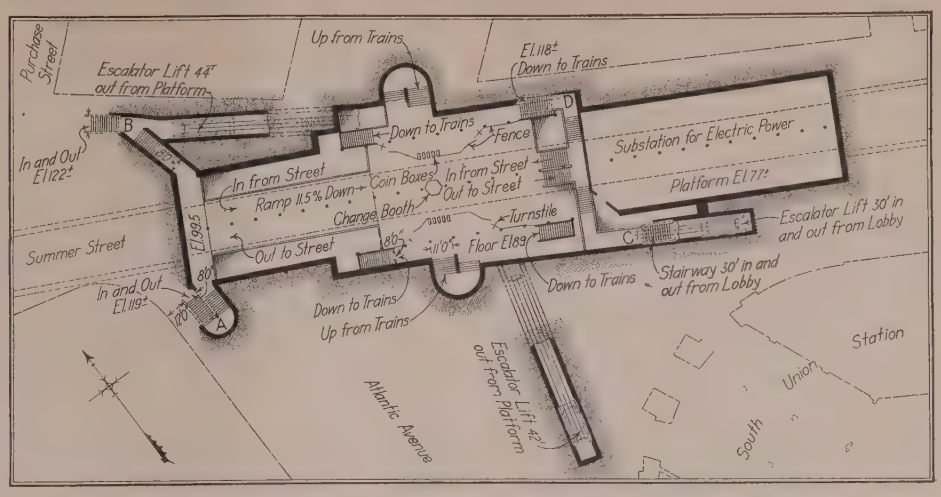
TYPICAL CROSS-SECTION SHOWS THE STEEL FRAMEWORK AND RELATIVE POSITION OF PLATFORMS AND LOBBY

which in all but one case have been widened for the purpose. Passengers coming from or going to any of the streets leading into the square can enter or leave the station without crossing the square. One of these stairways is located on the sidewalk adjacent to the South Union Station and is especially convenient for passengers wishing to use the railroad station. An awning or covering may be built between this stairway and the railroad station to protect passengers from rain or snow.

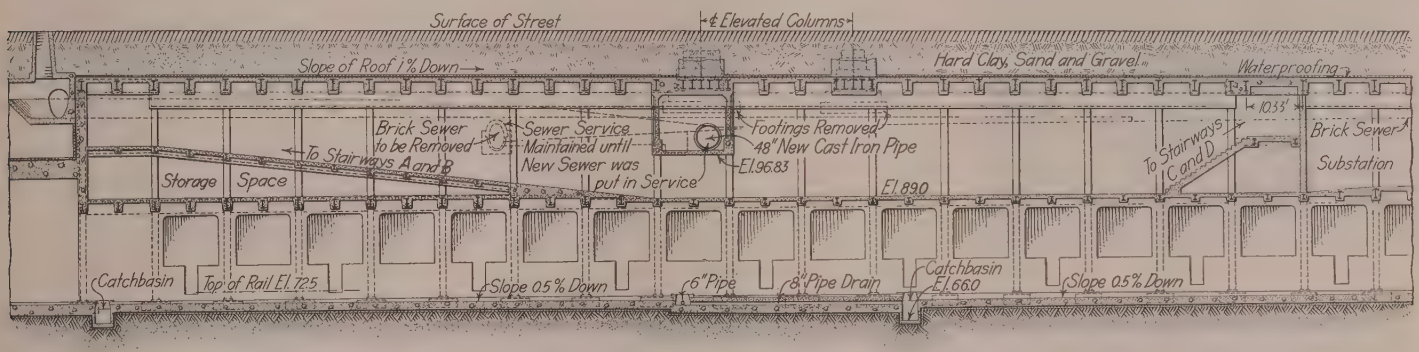
The two stairways at the westerly side of the square lead to a common landing beneath the street at the upper end of a ramp about 28 ft. wide, sloping down on an 11.5-per cent. grade to the westerly end of the station lobby. The two stairways at the easterly side of the square lead to a common landing at the upper end of a flight of stairs about 16 ft. wide. These stairs land at the easterly end of the station lobby.

This lobby is a large room or chamber about 30 ft. below the surface of the street, about 65 ft. wide and 100 ft. long, located over the tracks, to be used in common by the passengers going or coming in either direction. A different treatment at the two ends of the lobby was necessary because of the different relative location of the surface stairways, fixed by the streets, to the station lobby.

From this lobby there are six stairways, three at each side, one 11 ft. wide and two 8 ft. wide, leading down to the two station platforms. All these stairways are used in common by passengers going down to or coming up from the trains. The entrance to these stairways on each side of the lobby is guarded by an iron fence and a set of coin boxes where passengers pay their fare before descending further to the station platform. Located in this iron fence at convenient places are turnstiles and gates for the use of passengers coming up from the trains. The turnstiles will be in use all the time and the gates will be available to supplement them in times of heavy traffic. The space between the two fences, used in common by passengers going in either direction, contains a "change booth," as indicated on the plan drawing.



SECTIONAL PLAN THROUGH THE STATION AT THE LEVEL OF THE LOBBY



PART PROFILE ON CENTER LINE OF SOUTH-BOUND TRACK SHOWS EXISTING SEWERS, DRAINAGE AND STRUCTURAL FEATURES

STATION PLATFORMS—ESCALATORS

The station platforms are located 13 ft. below the lobby and 43 ft. below the surface of the square. They are about 355 ft. long and have an unobstructed width of 15 ft. For a length of about 147 ft. near the middle the platforms have an additional width varying from about 10 ft. to about 18 ft. where the stairways from the lobby land.

Lighting is especially effective. It is produced by locating the lights in the slabs between the beams. Looking along the platform, the lights are out of sight, giving the effect of indirect lighting, as seen in the accompanying illustration.

Leading from each platform, in addition to the stairways mentioned, there is a double-file ascending cleat-type escalator running to the surface of the street for the use of outbound passengers only. Each of these escalators has a capacity of 7200 passengers per hour. There are also two single-file cleat-type reversible escalators which run from the lobby level to the surface of the street. Each of these escalators has a capacity of 3600 passengers per hour, and one can be run ascending and one descending. They are located on the south side of the lobby and have their surface landing on the sidewalk near the entrance to the South Union Station, for the special purpose of serving passengers transferring to and from the railroad station.

The station is built with a length of about 200 ft. on a curve of 5000-ft. radius, and the remaining 155 ft. on a straight line. The depth of the top of rail below the surface of the square, about 47 ft., was determined by the conditions existing east of the station, where the tunnel passes under a part of Boston Harbor called the Fort Point Channel. Here the minimum depth of the top of the tunnel below mean low water of the sea was fixed by the War Department. At the Fort Point Channel the tunnel was placed as high as the limitations would permit. Then running westerly toward the station the tunnel was built on the maximum allowable ascending grade of 3 per cent. until it reached the station, thus fixing its elevation. The grade of the rails through the station was required to be level.

As various schemes have been suggested from time to time for a tunnel or subway

LOOKING EAST ON SOUTH PLATFORM—LIGHTING OF STATION EXCEPTIONALLY GOOD

to run from the South Union Station across the city to the North Station, across the line of the Dorchester tunnel, it was also required that so far as possible the grade of the tunnel and the location and details of the station should not be inconsistent with these schemes.

Providing for Sewers

Running through Dewey Square across the location of the station and serving a large district was a very important main intercepting sewer. Its location and elevation were such that it was decided to carry it through the station. This was accomplished by building a concrete chamber in the upper part of the lobby, in which was laid a 48-in. cast iron pipe. The chamber was built large enough to carry an additional 48-in. pipe, if found necessary.

There were other important sewers that interfered with the construction of the station and whose service could not be interrupted. They were connected to a new

RAMP TO STREET AT WEST END OF LOBBY

5 x 5 ft. 2 in. sewer around one side of the station, built before the old sewers were abandoned.

Elevated Railway Columns

Two columns carrying the elevated-railroad structure passing through the square were located directly over the station and four others were located very close to the excavation. The two directly over the station were temporarily supported by a system of steel beams, all below the surface of the street, placed one at a time under the footing of the column. These beams were supported on timber posts resting at the bottom of pits located on one side of the column foundation and excavated to the bottom of the tunnel. The new foundations rest on two groups of I-beams provided for the purpose and built into the roof of the tunnel. The foundations of the four columns close to the station were not disturbed. The service on the elevated structure was not interrupted during the construction of the station.

Besides the elevated-railroad and surface tracks, there was one track of the Union Freight Railroad passing through the square. This railroad is engaged in transferring freight cars from the steam roads to the docks and warehouses and carries very heavy loads. By the use of heavy bridging and great care its service was maintained throughout the period of construction. The average depth of the excavation below the surface of the street was about 50 ft. The deepest point was at the pump well, where the excavation was carried to 60.5 ft. below the surface of the street.

The design was made under the direction of the Boston Transit Commission, of which George F. Swain is chairman and Edmund S. Davis chief engineer. The contractor was the Hugh Nawn Contracting Company of Boston. The writer acted as assistant engineer in charge of the design.

Dredging Contractor Must Keep in Close Personal Touch with Work

Simple and Accurate Reports and Good Business Methods of Accounting Necessary If Balance Is to Be Kept on Right Side of Ledger

By ARTHUR M. SHAW
Consulting Engineer, New Orleans, La.

[This article concludes *a series outlining the principles governing the selection and operation of dredges. The first article, which appeared Dec. 16, described the application of different types of plant. The second, published last week, dealt with the human element.*—Editor.]

No contractor can expect to remain long in business if he cannot maintain a proper relation between his receipts and his expenditures. This relation cannot be secured without a comprehensive knowledge of the items which make up the expense budget. In the case of an engineer superintending a project for a client or employer, immediate financial disaster to the one in direct charge may not be so certain to follow a failure properly to analyze his expenditures, but the moral obligation to acquaint himself with conditions is even greater. Moreover, his future advancement in his profession will depend just as fully on his grasp of the business and economic questions which may arise as on his technical ability. An engineer so employed should keep careful cost records in order that he may intelligently direct the work; but in addition to this, the records which he keeps of projects that are under his supervision will be found to be of infinitely more value for future reference than volumes of similar data secured from other sources.

Whether for the use of a contractor-owner or an engineer-manager, the manner of collecting and recording data may be identical. No absolute system of records and classification can be devised, as local conditions will affect the amount and kind of data which should be collected. For instance, on work of regular section, which will be measured by a survey party, no report need be made by the dredge superintendent of average depth and width dug each day. On the other hand, if there is a possibility of dispute as to quantities handled, a daily record of such data, made by the dredge crew, may be invaluable. Actual measurements, systematically taken and properly recorded, are very convincing even though they may not have been taken by a highly educated man.

DAILY REPORT—DREDGE
Day Shift. _____ 191
Working on _____ Canal.
Began at Sta.__plus____. Ended Sta.__plus__
(a) Average depth dug__ft. Width dug__ft
(b) Renewed _____ cable.
Number men employed this shift
Delayed__ hours account _____
Remarks:
Signatures:
Operator __ Captain

Report Forms Suited to Heavy Hand and Soft Pencil

Report forms which are to be filled out by men who are engaged in hard manual labor must be clear and concise and must call for a minimum amount of clerical work. It should be remembered that such a man will write with a heavy hand and a soft pencil. In the accompanying form, suggested for daily reports, item "a" should be omitted if the information can be obtained from other sources. Item "b" is considered to be of enough importance to justify a separate record. Cable renewals are an important item in dredge operation, and an exact record of the performance of cables of various grades and makes may assist in effecting an economy in this item. Low-grade cables may give good service under certain conditions, while in other cases the highest-priced cable may be the cheapest one to buy when the cost per yard of material handled for cable renewals is calculated.

Conditions may require that other data —such as the weather, the amount of fuel used and on hand, or the character of material handled—be shown on the daily report. As already stated, however, all unnecessary matter should be eliminated. While the information forming the report should be reduced to the bare essentials, a systematic daily preparation of the report should be rigidly enforced. Forms of distinctive color may be used to advantage for day and night shifts. Cards are preferred to paper forms, as they are easily filed. Also, if it is necessary to transmit them by mail, they may take the form of a private mailing card.

Give Specific Information in Orders

All orders made out by the captain, especially for repair parts, should contain, in detail, specific information as to what is desired. As a further safeguard against error, the manager should have on file in his office as complete a record of the details of equipment as practicable. This record should include such information as the size, shop number, and name and address of maker of all engines, pumps and other special machinery. It should also contain detailed information relative to boiler, including diameter and length of flues, and complete dimensions of all sheaves. Manufacturers of sheaves have developed certain standard dimensions, but these are not always adhered to, and expensive delays may be avoided by indicating all dimensions. A statement should also be made of the bush-

ings required. Such parts as need frequent renewal may often be secured from local sources more satisfactorily than from the manufacturers. For these parts detailed tracings should be made and extra prints kept on hand. These may include boom pins, sheave frames, friction blocks, etc.

VOUCHER SYSTEM RECOMMENDED

The voucher system of recording and distributing expense items is admirably adapted to almost any class of construction work. The accompanying table is suggested as a typical example of the distribution of items required in connection with dredging work. However, it by no means covers all the distributions which should be made under special conditions. It may often be desirable to keep separate accounts for other items, such as transportation of fuel, maintenance of barges, construction work other than dredging, etc. The use of a combination check voucher is recommended. In issuing vouchers, sufficient memoranda should be made to render possible the closing of all accounts at the end of the month without waiting for the return of canceled vouchers. The record books of such a system would consist of a combined day book and journal, a voucher distribution book and a ledger. All receipts, transfers of accounts and other transactions not appearing on the vouchers should be entered in the journal and posted to the ledger, using the double-entry system.

DISTRIBUTION OF ITEMS REQUIRED IN CONNECTION WITH DREDGING WORK

1. Operation of dredge
2. Fuel
3. Board (includes time of cook)
4. Miscellaneous supplies
5. Renewals, main hoisting cables
6. Other repairs and renewals
7. Moving
8. Interest
9. Depreciation
10. Insurance
11. Proportion of overhead expenses

The vouchers are distributed to the various accounts through the voucher distribution book, which is ruled with a series of vertical columns, each column being headed by a name of an account. After all vouchers for the month have been posted in this book, the total of each column is posted to the ledger as a debit against the account under which it appears and the total of all vouchers is shown as a credit to "Cash." No entries originate in the ledger.

OBJECT OF SYSTEM TO MAKE CLOSE WATCH ON BUSINESS POSSIBLE

A trial balance sheet should be taken off at least once a month. From this can be learned the true financial status of the business, provided proper care and discretion have been exercised in gathering and recording the data from which the book record has been prepared. Whether the project is small—in which case the man in charge may act as his own bookkeeper—or so extensive that a large clerical force is required, the manager should keep himself fully posted as to all important details. This entails not only carefully prepared records, but intelligent analysis of these records.

While such a system of cost recording and cost analysis is essential to the best results, nothing can take the place of frequent visits to and a full acquaintance with the work itself. Interpretation of written records and remedy of such defects as may be found can intelligently be made only by means of personal contact with men and things as they actually exist.

Reinforced-Concrete Garage Has Cantilever Floors

Design of McMillan Building, Detroit, Fixed by Wide Column Spacing for Parking Cars —Inclined Slabs on Second Floor

DESIGN of the floors for a new reinforced-concrete building, the McMillan garage, at the corner of Cass Avenue and Congress Street, Detroit, Mich., was determined by the requirement for open spaces between columns and proper provision for parking cars. The available space of 130 ft. in the width was, therefore, divided by three rows of columns spaced nearly 39 ft. apart, and the upper floors were designed as cantilevers 14 ft. long on the outer ends, just the amount necessary to allow parking of cars against the outside walls to bring their ends even with the columns. The cantilever floor beams are designed as continuous beams over three supports. In two panels on the second floor an inclined slab was necessary to give access to a rear alley in one case and to Cass Avenue in the other, the steep grade of the latter bringing it and the alley nearly to the second-floor level, where entrances for cars are provided.

DETERMINING CONDITIONS

The requirement for wide working and parking spaces for cars in the center of the 106 x 138-ft. building led directly to the selection of the widest practicable column spacing, nearly 39 ft., the floors to be supported on continuous beams extending the full width of the building. Owing to the relatively low specified live load of 80 lb. per square foot, it was found that the short outer spans would subject outside columns to a negative reaction. In other words, the weight of the upper walls, without any supporting columns, would be an advantage in economy, and simplify the design. The first-floor wall is therefore independent of the second-floor spandrel beam, which supports the upper wall, and the floorbeams are designed as cantilevers without support at the ends.

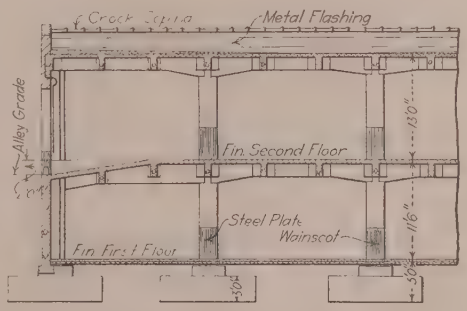
The building is designed for five stories, but at present only two stories are to be built. If a heavier live load had been specified, or if heavy concentrated loads on the cantilever parts of the floors were probable, the use of exterior columns would have been advisable.

DETAILS OF FLOORS

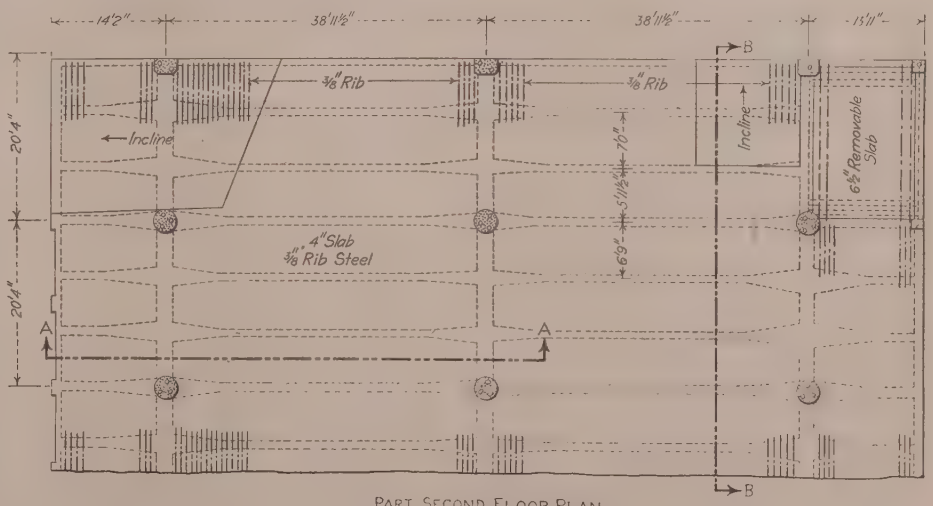
The continuous floorbeams are spaced about 7 ft. apart to support a 4-in. slab, as noted in the drawing. At the columns the beams are flared laterally to increase the resistance to shear. The reactions, shears, and bending moments were computed by the application of the theorem of three moments, assuming constant moment of inertia. The reinforcement consists of bent and straight bars and stirrups, placed as indicated for continuity over the supports.

The inclines in two panels of the second floor are provided by sloping the floor slabs and the supporting beams, the reinforcement in the latter being bent to conform to the outline of the beams. While the first floor is at the level of Congress Street on the south, the second floor is only about 2 ft. above the alley in the rear, owing to the steep grade of Cass Avenue on the west. Entrance for cars from the latter can, therefore, be obtained by an incline in one bay of the rear panel. Retaining walls are required on the north and west sides. These are designed as vertical slabs supported at top and bottom.

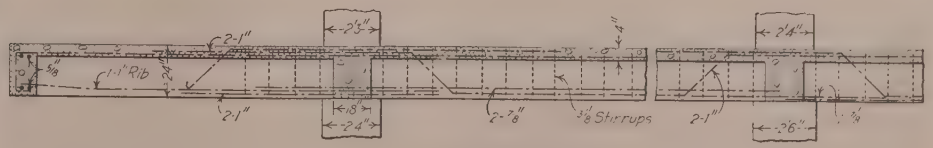
As each half of the building on the lower floors is to be operated independently, entrances being provided for that purpose,



PART LONGITUDINAL SECTION B-B



PART SECOND FLOOR PLAN



ENLARGED SECTION A-A

PART PLAN AND SECTIONS OF GARAGE, INDICATING CANTILEVER FLOORBEAMS

the cars can be parked both against the outside walls and near the interior row of columns.

The contract for the first two stories of the building was recently let to the Janss Brothers, Boomer, Hame & Crane Company of Detroit, Mich., and the excavation and footings have now been completed. The design was made by Albert Kahn, architect, and Ernest Wilby, associate architect, of Detroit. The reinforcing steel was furnished and details of the same made by the Trussed Concrete Steel Company of Detroit and Youngstown, Ohio.

Chicago Studying Effects of Zoning System

Bill Before City Council Provides for Restriction of New Construction of Certain Locations

AN ORDINANCE is before the Chicago City Council proposing a bill to be enacted by the General Assembly amending the city and villages act and authorizing cities to create industrial, residential and other zones and make property regulations. It is believed that if the bill is passed, real estate values will be stabilized, the city development will be better directed, buildings of different types which do not harmonize will be segregated, and better industrial facilities and home conditions will result.

In its tentative draft the bill provides that the city shall have the power to regulate types of buildings, to regulate lot areas, courts and other open spaces, and to restrict the location of trades, industries and buildings designed for specific uses, giving consideration to the character of the district, its suitability for particular purposes and the conservation of property values.

Power to Form City Districts

It also grants to the municipalities power to divide cities into districts, classify buildings, trades and industries therein, and to create a commission the specific duty of which shall be to investigate and make recommendations as to how the powers conferred by the act may best be exercised. No action is to be taken, however, until after public hearings are held. Permission to co-operate with city councils of other cities in making joint investigations, and to exercise powers conferred in promoting safety from fires, public health and welfare and conservation of property, is also included.

The bill expressly provides that no existing building shall be condemned because out of harmony with the conditions that may be created when the proposed districts are established. The regulations that may be prescribed will, however, affect all new construction.

Gage Heights Decrease as River Rises

The flow of the Colorado River at Yuma has varied from 35,000 to 84,000 sec.-ft. for a gage reading of 125, according to a recent paper by F. L. Sellew. Similar results, he stated, could be shown for other gage readings. The gage reading cannot be taken as evidence of the volume of the flow. In fact, near the crests of high floods, owing to scouring action, the gage has actually fallen while the volume of flow was increasing.

Group of Buildings Designed for Maximum Daylight and Transportation Facilities

Manufacturing Plant in Philadelphia Enlarged by Addition of Structures Connected to Existing Building by Underground Tunnel

ADDITIONS to the existing plant of the Edward G. Budd Manufacturing Company at Hunting Park Avenue and Twenty-fifth Street, Philadelphia, will consist of four large buildings—one reinforced-concrete structure of five stories, two one-story steel structures, connected to the present buildings by a reinforced-concrete tunnel under the Pennsylvania Railroad tracks, and one one-story brick structure.

The design of these buildings was determined by the requirements for the proper handling of material inside the plant. For example, the receiving platform located in building C was designed for the handling of steel, which forms the basis for the products of this company. The shipping platform in building A was designed to handle easily the completed products of the company, such as all-steel automobile bodies, wire wheels, and various types of large and difficult stampings made from sheet steel.

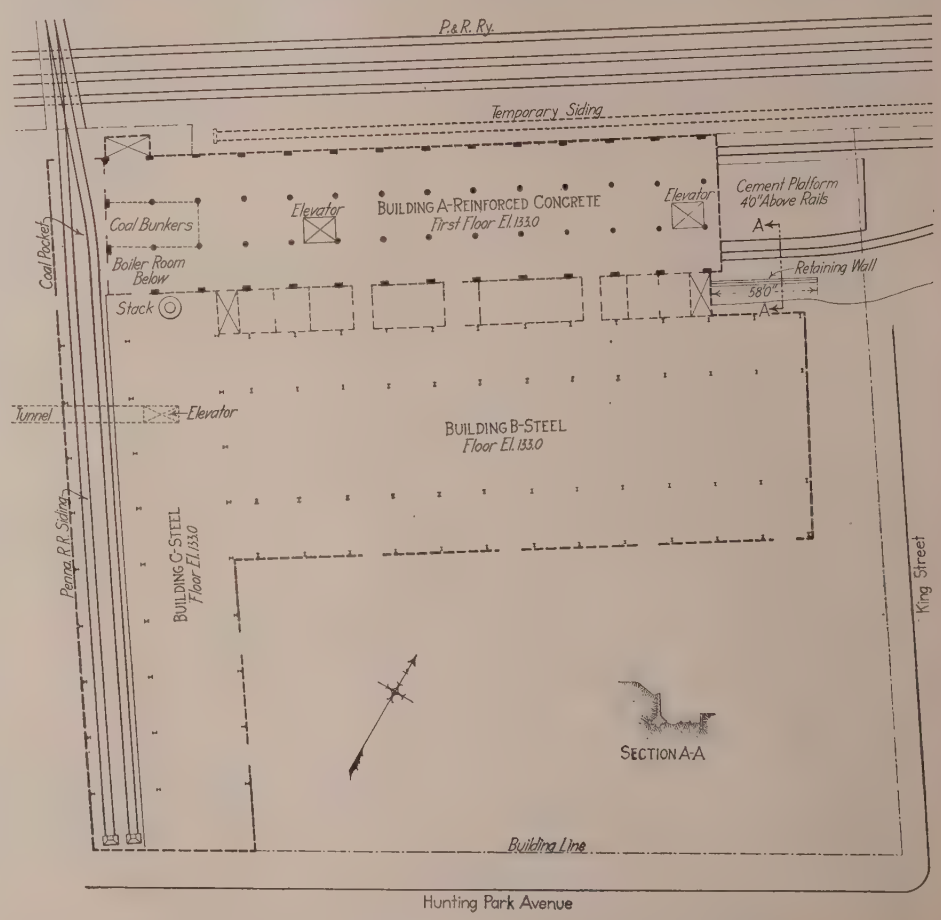
General Design of Buildings

Few buildings have such ideal shipping facilities, as this plant is located on both the Pennsylvania and the Reading systems. The layout by which connections to these railroads were made is illustrated herewith. The tracks connecting with the Pennsylvania Railroad, which are at a higher elevation than the Reading, cross the latter system by means of a separate bridge. From this point they lead over the coal bunkers into building C. The spur tracks from the Philadelphia & Reading enter building A on either side of a loading platform built on the level with the car floors. Great care has been taken to facilitate the rapid handling of freight cars for receiving and shipping material.

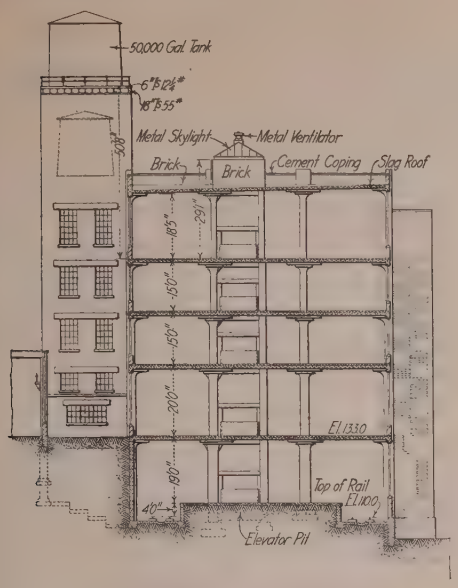
The sidings and the receiving and loading platforms are all in totally inclosed buildings, well lighted and heated. This is made necessary by the nature of the materials to be handled, such as the highly polished steel sheets, which are unloaded on the receiving platform, and the completed polished-steel products, which are packed on the loading platform. In this manner greater care can be exercised in the handling of these materials, and a high grade of packers may be employed for this work.

Features of Design

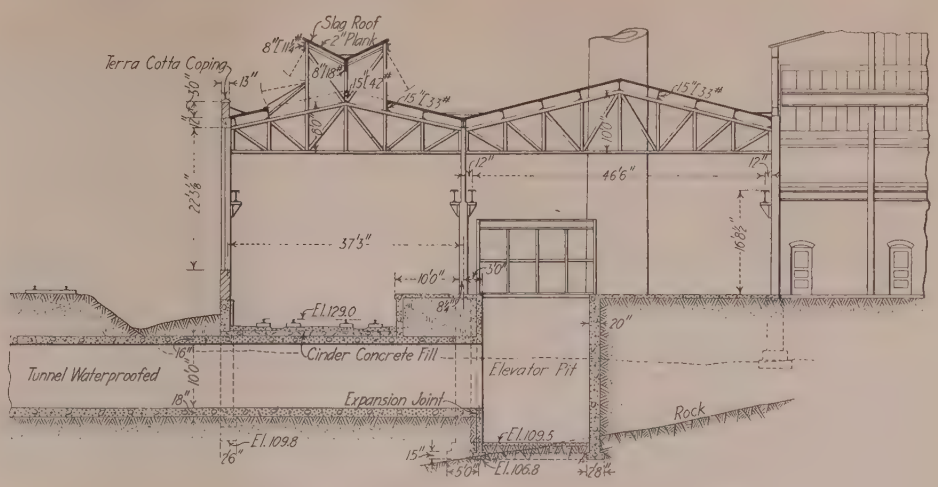
The buildings have been designed with a view to obtaining the best conditions for the workers and to secure well-lighted buildings, as a much higher grade of workmanship is obtained with natural light than with artificial light. The reinforced-concrete building A is five stories in height and 75 x 284 ft. in plan. This building is designed with four-way flat-slab floors of the Norcross system between hooped columns spaced 25 ft. on centers each way. The story heights are unusual, varying from 15 to 20 ft. This variation in height was introduced in order to give ample working space and light for finishing the large units under as perfect conditions as possi-



PLAN OF THREE NEW BUILDINGS FOR BUDD MANUFACTURING COMPANY



CROSS-SECTION OF BUILDING A



CROSS-SECTION OF BUILDING C AT CENTER LINE OF TUNNEL

ble. The east end of the building is so designed as to permit the addition of an extension.

Building A has been planned for assembly work on the two lower floors. The units are then carried to the third floor, where the final assembly takes place. It is the intention to use this building for the manufacture of all-steel automobile bodies and of wire wheels. The work progressing upward, the finished product will be sent, by means of a chute, to the shipping platform, located in the basement. The wire wheels will be carried by a conveyor from the fourth floor to the basement. Wherever possible, trucking has been eliminated, as it is expensive and a slow method of handling material.

Special mention should be made of the method of handling the coal and ashes. In the end of building A there have been erected concrete coal pockets from which a Link-Belt conveyor carries coal to the mechanical stokers. A great saving of labor is accomplished in this way, and excellent facilities are secured for the storage of coal.

Steel-Frame Buildings

The steel-frame building B, 124 x 314 ft. in plan, is of the usual one-story mill type with a high 60-ft. aisle in the center and two lower 31-ft. side aisles roofed by 2-in. planking and slag. To insure maximum light, the rolled steel ventilating sash on the sides of the center aisle are set with a slope of about 30 deg. with the vertical, as shown on the cross-section drawing, so that it will be practically unnecessary to use artificial light except at night.

Building B will be used as a press shop. It consists of three bays, the central bay being planned to accommodate large presses. The side bays will be used for smaller machines, such as rotary shears and small punch presses. Across the center span is a 15-ton crane, which will be used for handling dies and bringing steel to the various presses. Crossing each of the smaller spans are 5-ton cranes installed for the same purpose.

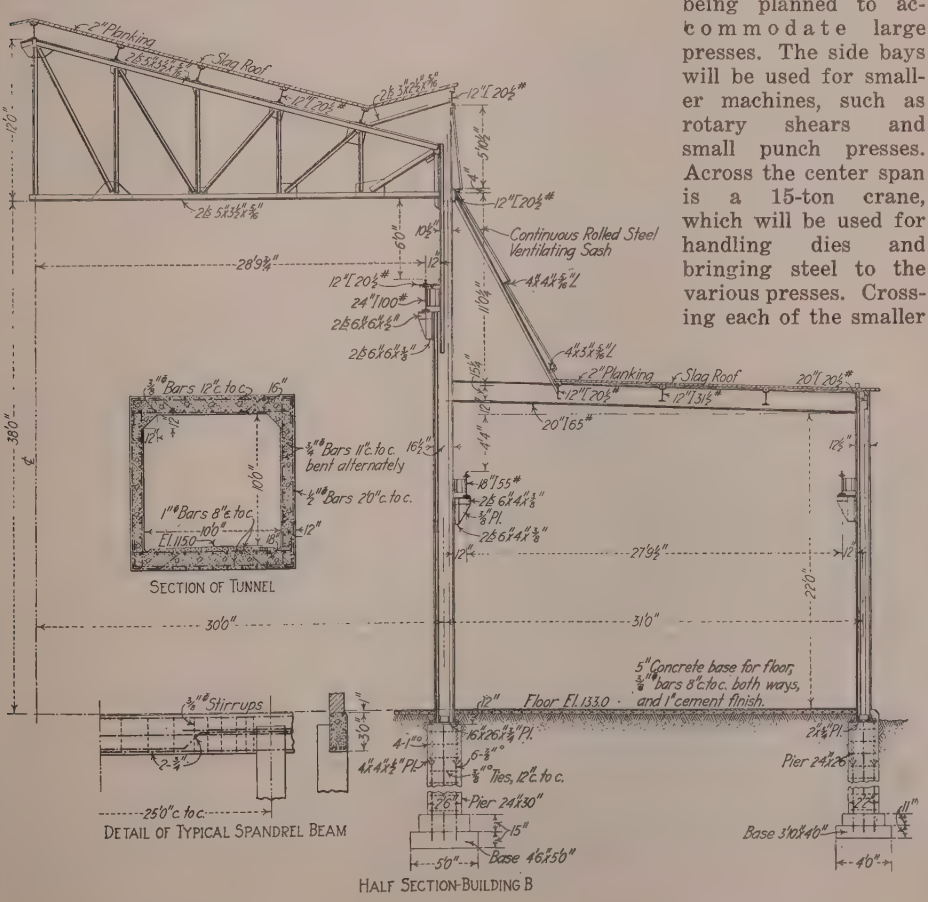
Connected with building B is the one-story steel building C, 303 ft. long and about 90 ft. wide, with aisles of 40 and 50 ft., as shown in the cross-section. The location of the columns was fixed by the necessity for the two siding tracks and the platform space on the west. The railroad tracks are supported upon short 7 x 9-in. wood blocks 2 ft. long, held in place by 3/4-in. bolts embedded in the concrete floor. A 12-in. reinforced-concrete wall supports the edge of the loading platform. The brick walls are carried on reinforced-concrete lintels, shown in detail on the drawing of the cross-section of building B. About 30 ft. above the roof is a 50,000-gal. tank carried by steel beams on brick walls. This will be used for the sprinkler system.

Storage and Special Features

Great care has been taken to facilitate the carrying of the steel from the loaded freight cars to a suitable storage, and from thence to the point where it is to be used. The steel is brought in from the freight cars on specially designed trucks. From these it is lifted by the 10-ton crane which spans the storage building, and then conveyed to its proper place.

Among other special features is the reinforced-concrete tunnel, which has been made necessary by the fact that the Pennsylvania Railroad separates the old and the new buildings. This tunnel, which passes under the main line and siding tracks of the Pennsylvania Railroad, is 10 x 10 ft. in inside dimensions. The details of the tunnel are shown on the drawing of the cross-section for building B. The trucking space is amply large for hauling steel from the steel storage building to the present shop.

The buildings were designed by the architects, Ballinger & Perrot of Philadelphia, in conformity with the requirements of the owners, and under the direct supervision of the president, Edward G. Budd. The contract has been let to the F. W. Mark Construction Company of Philadelphia.



HALF CROSS-SECTION OF BUILDING B—DETAILS OF SPANDREL BEAM AND TUNNEL

23,000,000 Square Yards of Concrete Roads Contracted For in 1916

The roads, streets and alleys that have been placed under contract during the present year to be built of concrete total nearly 23,000,000 sq. yd., according to the Portland Cement Association. Owing to many unfavorable labor conditions much of this work will be carried over into next season.

Diagram Facilitates Detailing of Gusset Plates

Unknown Bevels, Sizes of Connection Plates and Location of End Rivets Can Be Easily Determined

ONE of the time-consuming operations in the detailing of roof trusses and riveted-truss frames is the determination of the size of gusset or connection plates, the end-rivet location and in some cases the bevel of the diagonal connecting members to give economical connections. The diagram here shown can be constructed either full size or to a large scale, and makes layouts entirely unnecessary. Those familiar with detailing will understand its operation by the following description of its application to the simple example illustrated.

When the location of the working point P is known, the bevel for the diagonal member is known, and the movable diagonal scale, drawn on tracing cloth to represent

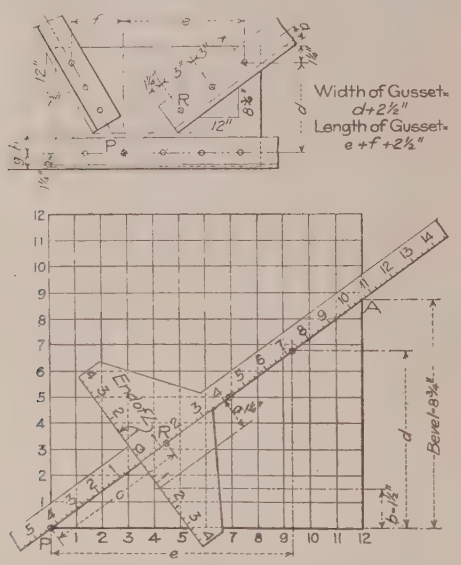


DIAGRAM FOR GUSSET-PLATE DETAILING

Diagrams should be drawn full size, with division lines to eighths of an inch.

the diagonal angle (with lengths laid off each way from the end of the angle), can be placed on the diagram in the proper diagonal position PA fixed by the bevel. The distance b for clearance should allow for the over-run of the chord angles and clearance between the angles, and the distance a is fixed by the gage in the diagonal angle. These two distances are located on the vertical scale and the normal diagonal scale respectively. This movable scale is then shifted parallel to itself until it is in the position shown. The desired values c, d and e can then be obtained when the rivet spacing and edge distances are known. From the value of d the width of plate follows by adding the edge distance on each side, say $2 \times 1\frac{1}{4} = 2\frac{1}{2}$ in., as indicated.

The length of the gusset plate of course depends on the slope of the two diagonals, and the value of f for the left diagonal can be found by the diagram if the slope is laid off to the right instead of to the left. The required length of gusset is then $e + f + 2\frac{1}{2}$ in., as noted.

Working Point to Be Found

When it is desired to reduce the size of the connection plates and the location of the working point is not specified at the intersection of the working lines, the working point for the diagonal is usually taken at the end rivet R. The co-ordinates for this point can be found by simple trial, obtaining the approximate bevel by the known position of panel points, reading feet on the horizontal and vertical scales as co-ordinates of the total length of the diagonal. By shifting the upper scales representing the angle, with edge distances known, the working point R can be located with required clearances between the members meeting at the joint. The desired co-ordinates are then easily read from the diagram, allowing for the inaccuracy in the bevel, and the exact bevel can be computed.

For angles with double gage lines and many rivets in the joint, it is best to extend the plotting of the diagram and the upper scales to insure sufficient length, or else the size of gussets can be found by adding quantities taken from the smaller diagram shown.

New Ditch Excavated in Bank of Old One

Concreting Costs $8.25 per Yard Excluding Excavation—Water Loss Reduced and Money Formerly Spent on Maintenance Saved

By C. D. CONWAY
Superintendent, Los Molinos (Cal.) Land Company

THE IRRIGATION system of the Los Molinos Land Company, in Tehama County, California, comprises 120 miles of ditches with capacities ranging from 5 to 100 sec.-ft. In the main canals and primary laterals, where the water is running constantly during the irrigation season, the seepage losses average less than 1 per cent per mile. In the secondary laterals, in which the water is running only at intervals, the losses are as high as 50 per cent per mile. This excessive loss is owing to the character of the soil through which these laterals pass—a Sacramento silt loam underlain with gravel in which vegetation grows very rapidly and gophers thrive. As the cost of maintenance and the loss of water are very high the company is lining these ditches with concrete. During the spring of 1916 4000 ft. was lined.

Instead of reducing the size of the earth ditch, the writer decided to excavate a new ditch within the bank of the existing one, as shown in the drawing. Stakes were set at the outside edge of the base. That section was taken out vertically, after

CONCRETE MIXED ON PLATFORM AND PLACED BY BUCKETS

TABLE 1—TOTAL COST PER FOOT OF 3050-FOOT DITCH

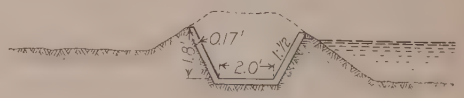
Excavation	$0.066
Forms (labor)	.021
Lumber	.014
Mixing and placing	.087
Cement	.171
Sand and gravel	.066
Engineering	.004
Superintendence	.010
Miscellaneous	.015
Total	$0.454

TABLE 2—COST OF CONCRETE PER YARD, EXCLUDING EXCAVATION

Sand and gravel	$1.45
Cement	3.75
Carpenters	.44
Lumber	.33
Labor	1.90
Equipment and team	.42
Total	$8.29

which two men with templates trimmed the bottom and sloped the sides. Grade stakes were set every 16 ft. Movable wooden forms in 16-ft. lengths were placed and supported as shown in the picture.

The concrete was mixed by hand on a board large enough for 1-yd. batches. The platform was built on runners and moved along the ditch for each batch, the gravel being distributed far enough from the ditch to leave room for the board to pass. Water was hauled in a wagon, and the same team moved the mixing board. Six men were



CONCRETE SECTION

NEW DITCH WAS EXCAVATED IN BANK OF OLD ONE

employed in mixing and placing the concrete with buckets.

The aggregate used was a natural mixture of river sand and gravel screened through 1½-in. mesh. Five sacks of Portland cement to a yard of this aggregate were used. The concrete was mixed very wet and was well worked with a small specially made spade.

Expansion and contraction were provided for by placing ⅜-in. pine boards between forms. These were afterward broken off flush with the concrete. Though the temperature reached 110 deg. Fahr. in the shade at a time when the ditch was dry, no cracks have been noted.

Costs Tabulated

The cost per linear foot, including the cost of intake, outlet and a check and takeout every 660 ft., is given in Table 1. While the schedule of wages was low, the laborers were all inexperienced. The average progress was 170 ft. a day with a crew of six laborers and one carpenter, who acted as foreman. Toward the latter part of the job as much as 230 ft. per day was lined.

The itemized cost of concrete, exclusive of excavation, is given in Table 2.

This ditch has been satisfactory in every respect. In the opinion of the writer this method is much cheaper, where the banks are of sufficient size, than reducing the cross-section of the original ditch. The capacity of the earth section was 10 sec.-ft.; that of the concrete is 9.6 sec.-ft., using 0.15 for the value of n in Kutter's formula and a depth of water of 1.5 ft. The grade of the ditches is 0.08 per cent. Laborers on excavation were paid $2 for a nine-hour day, those handling concrete, $2.25, and carpenters received $3 a day. Lumber cost $20 per thousand and cement $3 per barrel delivered at the job.

Improvements Made in Signposts for Roads

Data on Economical and Permanent Types Collected from Highway and Automobile Organizations

THE need for permanent highway signposts is an outgrowth of progress in road-building throughout the country. The wood signpost has proved costly in most cases, because it must be repainted frequently; it is also subject to damage by vandals. The problem, therefore, has been to devise a post which will act not only as a guide but will be permanent. The following information regarding signpost practice has been obtained from the Highway Commission of New York State, through its first deputy commissioner, H. E. Breed, the Lincoln Highway Association, the Automobile Club of Minneapolis and the Automobile Club of Southern California.

New York State Signs

In 1909 the State Highway Commission of New York, after various experiments, began to install metal signs bolted on 2-in. galvanized-iron posts, which were set in concrete. The post shown in Fig. 1, according to Mr. Breed, represents an average cost of $6, this price including post, excavation and concrete for the necessary work connected with its installation. The average cost of the highway number sign placed upon it was $1. This included the signboard and attaching the board to the post. The average price for the guide sign was 17 cents a letter. This included the signboard and attaching the board to the post. For example, the New York State Commission gets the cost of the post with the road number of 100 and with the guide sign, "Albany, 6 miles, and Troy, 1 mile," attached—that is, in 1909 and 1911, when these types were in use—estimated as follows: 1 signpost, $6; 1 highway number sign, $1; two guide signs (14 letters or numbers at 17 cents each), $2.38; total cost, $9.38.

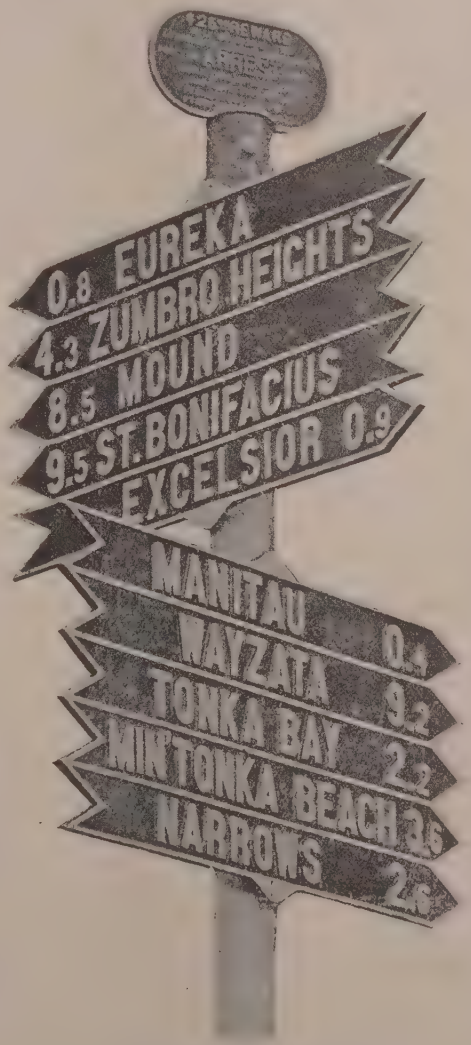
Recently, however, the New York State Commission has installed a number of concrete signposts at a cost of $10.40. The details are shown in Fig. 2. The price covers all concrete, reinforcement, forms, excavation and backfill and the furnishing of all material and labor necessary to installation. The cost of the guide signs, $2.10, covers everything necessary to installation. An estimate of this signpost, with one highway number sign and two guide signs, as given under the other type, is: 1 signpost, $10.40; 1 highway number sign, $2; 2 guide signs, $4.20; total cost, $16.60.

Advantages of New Type

These prices as given are from the averaging of cost on roads built in 1915. These two types cannot be compared in regard to cost, as the payment by letter in the first type makes the cost variable, but in general the present type would cost almost twice that of the old. The advantages in the new type at its increased cost are that for permanency the concrete post far outlasts a 2-in. galvanized pipe and is not subject to bending or being forced out of place. In regard to utility, Mr. Breed believes that the latter type is more easily read at speed than the old, as the letters on the metal plate, as well as the plate, are not as legible after they have been in service some time as are the painted boards. Of course, with the painted boards as used in the latter type there is the expense of maintenance, but from the advantages derived this maintenance charge is offset by the increased facilities that the public has. This type of sign is not patented and consequently there is no royalty to pay, which increases the cost of most patented signs. In the danger sign that is shown for use now, the board is rectangular, with a large red arrow in the field. The word "Danger" appears in this in black letters, as well as the reason for the danger sign shown by words in black on a white field. This sign has a peculiar advantage of gaining at once the attention of the driver and can be seen at great enough distances to be of much use.

Lincoln Highway Signs

The Lincoln Highway, according to information from Secretary A. F. Bement, is now very thoroughly marked from New York to San Francisco and can be followed by the tourist who has never driven over the road without at any time losing his way or being in doubt as to the correctness of his course. The present marking of the Lincoln Highway is the result of three years' effort, and during that time experiments have been made with different kinds of markings in different communities. The Lincoln Highway Association had purchased inexpensive steel signs with the emblem painted on them, but they rapidly rusted out and required frequent applications of paint, and soon became useless.



MALLEABLE CAST-IRON SIGNS USED IN MINNEAPOLIS

Mr. Bement says: "We have also, at different times, bought more expensive signs, running from $1 to $1.50 apiece, on heavy 16-gage steel, with baked-on enamel letters, but these have been too expensive for our organization to purchase in the quantities necessary and we have come to a standardized marking which is done by the application of the paint directly on the telephone poles on the route, and which is giving very satisfactory results, it being only necessary to repaint these markers every two years, and this only in the interest of appearance and not because it is absolutely essential."

From time to time different organization wishing to co-operate with the association have sent crews over the Lincoln Highway, placing warning signs before railroad crossings, indicating right and left turns, etc. One thing which is very striking is that any large circular sign set on a post invariably becomes a target for vandals, and it is almost in every instance found to be defaced after a year of service. The tendency to shoot at these signs with a shotgun or rifle and throw stones at them has caused some of the concerns erecting them to place a small bull's-eye directly below the sign, giving the directions, "If you must shoot, shoot this." This warning has in many instances saved the signs from mutilation.

In the West, where there are no telegraph poles for the placing of Lincoln Highway markers, it has been found most practical, according to Mr. Bement, to sink 2 or 3 in. iron or steel pipe into the ground so that it stands out 3 or 4 ft., and paint the marker on that.

Malleable-Iron Post for Minneapolis Club

The Automobile Club of Minneapolis, according to Joseph H. Prior, chairman of the signs committee, first tried wood posts. Then sheet iron, galvanized iron and cast iron were each tried and found wanting. Finally malleable cast-iron signs were tried, and there has not been one broken up to the present time. The signs, 30 in. long and ⅝ in. thick, are bolted on a 2½-in. galvanized-iron pipe 12 ft. long, which is set in concrete. With a 3-ton motor truck hauling the signs and all material except sand and gravel, which are available along the road, three men have set 27 signposts per day. The average cost for the signs and the labor of placing them is $7. For painting the signs a special paint is used that is said to give promise of great durability. The signs, having been galvanized at the foundry, are painted two coats of white. The letters, figures and border are painted black, and the whole is finished with a coat of spar varnish. Several colors and combinations of colors have been tried, and it has been finally decided that a white background with black letters and border makes the most legible and neatest finish.

14,000 Signs in Southern California

The Automobile Club of Southern California, according to its secretary, Standish L. Mitchell, has erected more than 14,000 road signs on more than 12,000 miles of

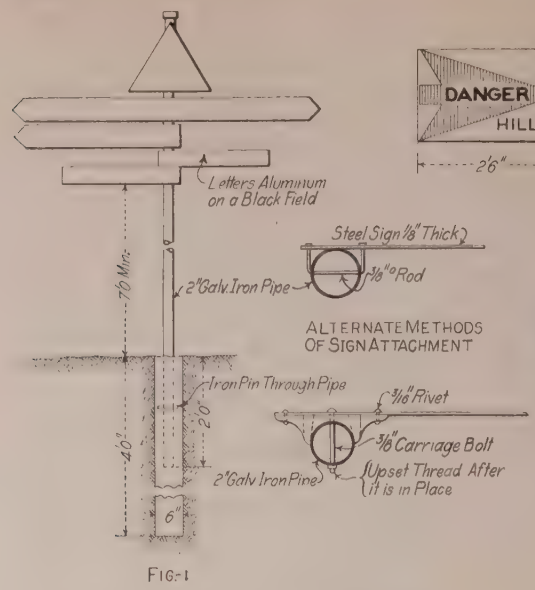


FIG. 1—METALLIC SIGNPOST USED BY NEW YORK STATE AND NOW SUPERSEDED

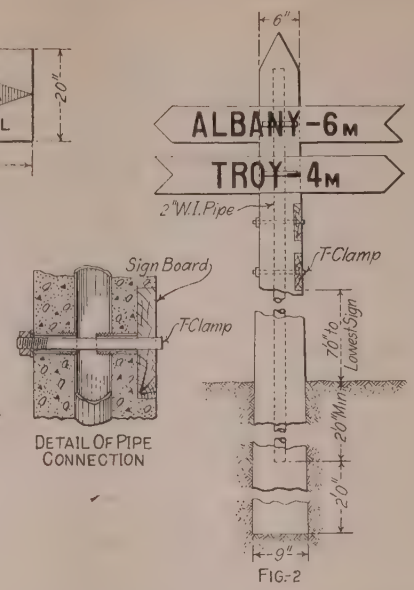


FIG. 2—CONCRETE POSTS WITH WOODEN DIRECTION POST NOW USED IN NEW YORK STATE

road. It has placed signs in cities, in mountains and in the desert places. Wherever the motorist travels in Southern California (a section larger than the five New England States), he will find the road signs of this club, and he will find them stretching across the continent from Kansas City to Los Angeles.

For fifteen years the Automobile Club of Southern California has been marking highways. At first the work was necessarily crude, as it was pioneering in a new field—that of systematic highway posting. The first signs were of wood, erected on wood posts, but in the last two years the entire system has been revised and metal signs and posts have been substituted.

According to the club's engineering department, enameled metal has proved entirely satisfactory, as it is practically impervious to weather conditions and will last indefinitely if not "shot up" by careless or thoughtless hunters.

The club is now using 12-ft. scrap boiler tube anchored at the bottom with two redwood blocks, 1 ft. long, 2 in. thick and 6 in. wide and placed at a depth of 3 ft. In signposting work on the desert or where the soil is loose or "shifty," the posts are set at a greater depth.

Warning Sign

One of the features of the club's signposting work is its "warning" signs placed on city streets approaching schoolhouses, where children might be playing in the street; at approaches to hospitals, where they read: "Hospital; Quiet; Close Mufflers"; before fire engine houses, and at dangerous street curves or crossings.

It has been found that the fewer the words on the signs the better they serve the purpose, as it is difficult to catch at a glance the meaning of long paragraphs. In Southern California, where highway conditions have been constantly changing because of improvements, it has been found practically impossible to place mileages on the signs until the highways become permanently located. The majority of the club signs carry the name of the route: "Coast Route"—an arrow pointing to the next town, with the name of the town in large letters and the club's emblem.

Signs larger than the regulation "direction signs" are used at railroad crossings to warn motorists, and at the bottom and top of mountain grades to advise the free use of the horn and slow driving. On mountain grades where there are many curves the club uses warning signs liberally in keeping with its policy of "safety first."

Uniformity in signposting for any territory is most advisable, as the motorist becomes accustomed to one type of sign and the driver's eye is caught most quickly by the familiar appearance of it, and it becomes almost second nature to read the well-known sign at a glance, as frequently changing letter-type and sign-shape proves confusing.

Metal signs and posts have proved most satisfactory on the desert and in mountains, as campers have been prone to chop down wooden ones and then use them for firewood. At first it was feared that the bright enamel would prove too great a temptation to itinerant hunters, but the automobile club has found that sentiment in regard to "shooting up" road markers has changed, and it is seldom if ever done in Southern California.

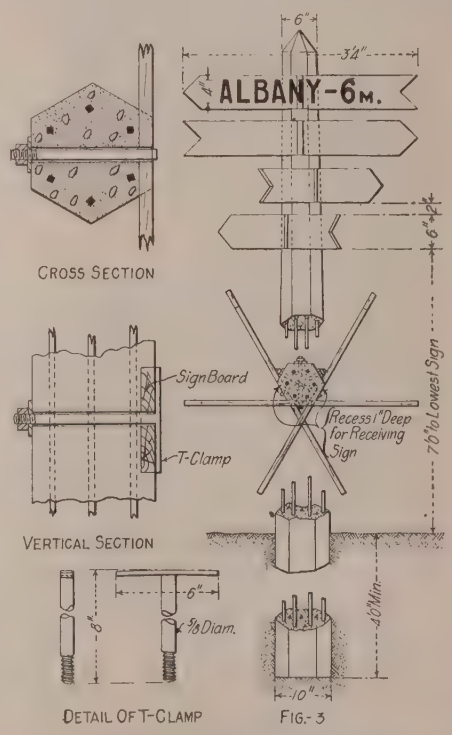


FIG. 3—ALTERNATE TYPE OF CONCRETE POST IN NEW YORK

Two Crews Erect Signs

The actual work of erecting the signs is done by two crews. The first is known as the charting crew, which travels over the roads to be marked and indicates on a club map the location for each sign and what it shall say. The data are returned to the club headquarters and the "sign orders" are made out and sent to the enameling works, where each sign is stenciled. These signs then, with their posts, are loaded into club trucks and set out in charge of a second crew, which places them according to the data supplied by the charters. Often when the second crew is out on the road in a certain territory the signs as posts are shipped to them, so that they do not need to leave the field in which they are working.

In designing the signs for out-of-town highways the club keeps in mind the fact that the average motorist is traveling at a fair rate of speed and does not wish to lose time by slowing up to read road signs, and for that reason each sign is simple and carries its message in as few words as possible, and these are printed in the largest possible type.

It is shown by club statistics that the erection of signs averages a little better than one sign to every mile of road. Very often there are several signs to every mile, determined by the number of turns and branches.

Estimates Expenditure on Lincoln Highway for 1916

$6,000,000 Spent by Eleven States Does Not Include City Pavements—New Hotels Total $5,406,000

THE FUNDS expended for road improvements along the Lincoln Highway last year are conservatively estimated by the Lincoln Highway Association at $6,000,000. A detailed report by H. C. Ostermann, field secretary for the association, summarizes the amounts spent last year in each state along the Lincoln Highway as given in the accompanying table:

FUNDS SPENT IN 1916 ON LINCOLN HIGHWAY

State	Amount
New Jersey	$183,678
Pennsylvania	193,034
Ohio	925,000
Indiana	706,108
Illinois	256,800
Iowa	904,955
Nebraska	367,300
Wyoming	60,650
Utah	275,500
Nevada	69,140
California	256,000
Total	$4,198,165

The figures do not include money spent on street improvements in many of the cities on the coast-to-coast highway. In many instances it was impossible to secure a record of the amounts expended, which explains the discrepancy between Mr. Ostermann's estimate and the total of the figures given in the table. The expenditure for new hotels along the famous route totals $5,406,000 for 1916. That sum includes the Fremont Hotels in Fremont and Grand Island, Neb., the total cost of which was $450,000. These hotels will be opened early in 1917.

Letters to the Editor

Comment on matters of interest to engineers and contractors will be welcomed

Is Uniformity Possible in State Motor-Truck Legislation?

SIR: I have read the editorial, "Is Uniformity Possible in State Motor-Truck Legislation?" in the Engineering Record of Dec. 9, page 699. I am very strongly of the opinion that uniformity is not only necessary but possible. Whatever may be the wishes of motor-truck manufacturers, it is absolutely necessary that there should be an understanding between the designers of the vehicles and the designers of the highways which are to carry them. Roads and bridges designed six years ago, with the most careful study of the then existing conditions, are to-day unable to bear the increased loads that have been imposed upon them by the heavy trucks. I am not now alluding to road failures due to surface defects developed by the increase in the number of vehicles, but to those arising from the overstrain of bridges and lack of road foundations due to the excessive axle loads.

I believe that at present it would be possible immediately to regulate the weight to the loading gage under which motor trucks will have to pass. It would seem to me, if no other means are possible, that a congressional statute fixing the maximum limits of width, height, length and weight for trucks and tractors engaged in interstate commerce would be entirely practical. It would appear to me that a conference between the motor-truck and tractor interests, the United States Office of Good Roads, and the Association of State Highway Officials would be productive of much good. This latter association would represent both the American Highway Association and the American Road Builders' Association, as its members all belong to one or both of these bodies.

E. A. STEVENS,
Commissioner, New Jersey Department of Public Roads.
Trenton, N. J.

SIR: It is generally admitted that the planning and the improvement of public highways is not a problem to be solved by each town or county independently of adjoining districts. It is even admitted that the system of improved highways of one state should be so articulated with those of an adjoining state that an interstate or national system of highways will be created. It follows that regulations governing the use of highways in adjoining states should be reasonably uniform. The embarrassments of the railroads engaged in interstate commerce which result from inconsistent or conflicting regulations in adjoining states are quite apparent, and the need of more uniform laws or of placing control over railroads engaged in interstate business in a body, the jurisdiction of which would not be confined to a single state, is frequently emphasized.

There appears to be the same necessity for harmonizing regulations affecting the use of interstate highways, and this could probably be accomplished by making regulations adopted by the different states as consistent with one another as the varying conditions and requirements of traffic would permit. The suggestion of the Engineering Record that organizations especially interested in this subject co-operate in the framing of a model motor-truck law appears to be a timely one.

NELSON P. LEWIS,
Chief Engineer, Board of Estimate and Apportionment.
New York City.

SIR: The suggestion contained in your editorial of Dec. 9 that legislation be as uniform as possible throughout the states is a most excellent one for many reasons which it is not necessary to dwell upon, as they are so obvious.

Your idea of having co-operation between the various highway associations and those representing the motor-vehicle interests is undoubtedly the best way to arrive at a solution of this very important question. Without uniformity of legislation, many hardships will be inflicted upon the users of motor vehicles, and in the last analysis the taxpayer, as usual, will pay the bill.

EUGENE W. STERN,
Chief Engineer in Charge of Highways, Borough of Manhattan.
New York City.

SIR: The following is my opinion on the motor-truck question:

If there is a universal demand for extremely heavy motor units the states must build roads sufficient to withstand these peculiar classes of vehicles. Nevertheless, there must be reasonable restrictions as to the type of vehicle, the character of tires and springs, of the amount of unsprung weight, the speed at which the vehicle should travel and possible restrictions as to the roads upon which the heavy vehicles might be used.

C. J. BENNETT,
State Highway Commissioner of Connecticut.
Hartford.

SIR: I beg to acknowledge your favor of Dec. 13, calling my attention to an editorial in the Engineering Record of Dec. 9, page 699, entitled "Is Uniformity Possible in State Motor-Truck Legislation?"

Up to the present time we have had very little experience with motor trucks in this state, and consequently have not found it necessary to pass legislation governing their use. From what little experience we have had, however, I am of the opinion that uniformity is both necessary and possible. There should be a full understanding between the manufacturers of motor vehicles and the constructor of highways on which the motors are used. I am satisfied that both bridges and roads as designed six to eight years ago are unable to carry the increased load of the heavy trucks. The road failures in this state from this source were due, in my judgment, to the lack of proper foundation rather than to increase in the number of vehicles used.

I believe that some uniform regulations are possible, regulating within certain limits the height, weight, etc., of tractors and trucks, and to this end would suggest a conference between the motor and tractor manufacturers and the highway departments of the United States. I believe that this could best be accomplished through the executive committee of the American Association of State Highway Officials, to whom I will refer the matter at their next meeting.

G. P. COLEMAN,
Commissioner, State Highway Commission of Virginia.
Richmond.

Slab-and-Beam Floor Without Shear Stirrups

SIR: In the article "Slab-and Beam Floor Without Shear Stirrups," in the Engineering Record of Sept. 9, 1916, page 324, J. H. Byrd emphasizes the advantages of a flat-slab floor construction. We certainly agree with Mr. Byrd that the predominating characteristics of flat-slab construction, such as clear headroom, lighting, ventilation, appearance, placing of future partitions, more sanitary conditions, etc., are thoroughly appreciated not only by architects and engineers, but also by the building public of to-day. The type of design outlined by Mr. Byrd and applied to the building of the Firestone Tire & Rubber Company has undoubtedly some of the advantages of the flat-slab system. So far as the "large economy" claimed by Mr. Byrd for this type of construction is concerned, we cannot agree with his statements.

In the first section of Mr. Byrd's article we read the following: "This type is claimed to be more economical than flat-slab design, according to the Chicago building ordinance." This statement may be misleading, since it does not express clearly whether the expression "designed according to the Chicago ordinance" pertains only to the flat-slab design or to both designs.

It seems to us that a comparative design of this kind, which is supposed to convey reliable information to engineers throughout the country, since it is published in a magazine of national distribution, should be based upon the same building code in both cases, if strict impartiality is desired. The relative economy of different types of construction does not depend on quantities of materials only, as Mr. Byrd implied, but also to a large extent on the respective cost of forms, cost of handling the material, cost of bending of reinforcement, and the degree of safety against possible faulty construction. Comparing the design outlined by Mr. Byrd with a standard flat-slab design from this viewpoint, we find that the question of economy is considerably in favor of the flat-slab design.

Analyzing the beam-and-joist system according to the Chicago building ordinance, we find that considerable changes would have to be made in the design in order to pass the Chicago building department. Using a live load of 200 lb., and a typical panel 24 ft. 6 in. square, we get the following results:

Fig. 1 is an exact copy of the sketch accompanying Mr. Byrd's article. Fig. 2 indicates the dimensions of the same type of design as required by the Chicago building department, and Fig. 3 shows a standard cantilever flat-slab design used for comparative purposes. The 3-in. slab between

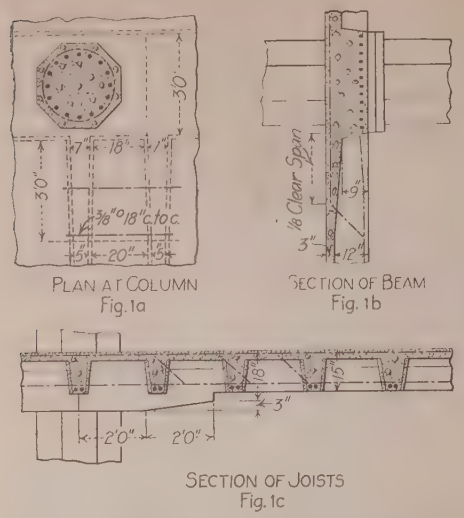


FIG. 1—CONCRETE JOIST DESIGN ACCORDING TO J. H. BYRD

the joists, Figs. 1a and 2a, would have to be reinforced, spacing the reinforcing rods at least 9 in. apart. This reinforcement, however, could be considered at the same time as temperature reinforcement. The joists, Figs. 1c and 2c, if considered as beams, will have to be treated as such in their design. If not considered as beams, we would not be able to make a reduction of 15 per cent on the live load in computing the girder. If we do consider these joists as beams, the maximum T-section used in the computations shall not be wider than 20 in. and the rods will have to be 1½ in. clear from the bottom and sides of the beams. The bending moment will have to be figured as $wl^2/12$, l being the span from center to center of the supports, or 24 ft. 6 in.

In redesigning the girder, Figs. 1b and 2b, we find that it will be prohibitive, from the viewpoint of economical design, to make the girder 15 in. deep, since this would require a beam with either an effective width of 184 in. or about 16 sq. in. of compressive reinforcement, both of which are not generally considered good practice. Therefore we will have to increase the depth of the girder to 24 in., thus omitting the bracket over the columns. In spite of the additional depth, we find that the girder will have to be reinforced for shear with stirrups, since 40 lb. per square inch shearing stress in concrete shall not be exceeded. The beams, being still comparatively shallow, will have to be reinforced with stirrups not larger in size than ½ in. in diameter, which requires for a reasonably close spacing a stirrup of six prongs, and we would need eighteen stirrups of this type at each end of the girder. We also need compressive reinforcement for the negative moment over the columns, placed as indicated in Fig. 2c, and not near the neutral axis, as Mr. Byrd shows his compressive reinforcing bars in Fig. 1c. Making these required changes, we would have to do away with the two principal claims for this type of design—namely, the flat ceiling and the omitting of shear reinforcement.

For a comparative design we used a typical cantilever flat-slab construction with a panel size of 24 ft. 6 in. square, and 200 lb. live load. The slab will have to be 10 in. in thickness, and a 5-in. drop panel is required. Estimating the cost of the two different systems, we use Chicago market prices for material, as well as standard Chicago prices for labor, both derived from records of actual construction work. It is a well-known fact that the form work for flat-slab design is considerably easier to build, and consequently from 15 to 18 per cent cheaper than for beam-and-girder construction. The advantages of using the forms several times holds for both systems. The price of concrete, due to the more difficult placing in beam-and-girder design, is about 10 per cent higher than in flat-slab design. There also is a difference in the price of steel, since the flat-slab construction does away with difficult bending of heavy sizes of rods. From a strictly impartial estimate of a typical panel of both types, we find the cost of the concrete joist system about 20 cents per square foot higher than the cost of a cantilever flat-slab construction. Local conditions at Kansas City may be extremely favorable to the type of design applied by Mr. Byrd; however, it seems hardly possible that such a large difference of 50 per cent in price could be offset by local rulings of the public-building department.

Mr. Byrd does not give sufficient information as to the methods of the test loadings, and the fact that the tests gave apparently satisfactory results does not indicate that the required factor of safety of four has been maintained. It would be interesting to learn more in detail the principles of designing applied by Mr. Byrd on his system, in order to modify our opinion of this type of construction, if possible.

CURT VON MUELLER,
Concrete Steel Products Company.
Chicago.

[The foregoing letter was submitted to Mr. Byrd, and his reply follows.—EDITOR.]

SIR: In reply to the letter by Curt Von Mueller, of the Concrete Steel Products Company, we know that the ordinances governing the design of flat-slabs were evolved from the results of test loads and a reasonable theory of bending formulas worked out to meet the tests. Several engineers have pointed out in various papers that other designers would be allowed the same liberties if their designs were governed by the results of test loads. Our present ordinances are certainly unfair in this respect.

In reference to the Firestone Building under discussion: The flat-slab which we designed as a comparison in cost was practically the same as given by Mr. Von Mueller. As stated in the paper now being criticised, various reasons, such as future

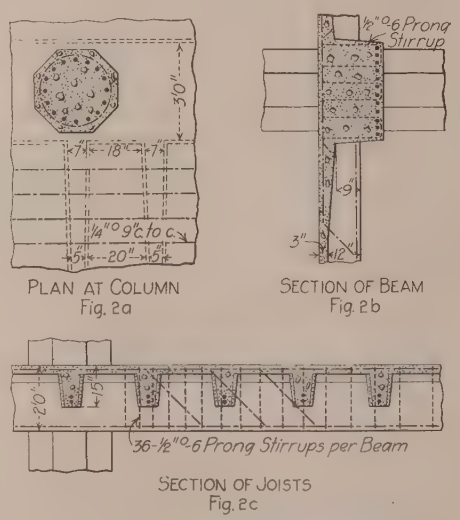


FIG. 2—CONCRETE JOIST DESIGN ACCORDING TO CHICAGO BUILDING ORDINANCE

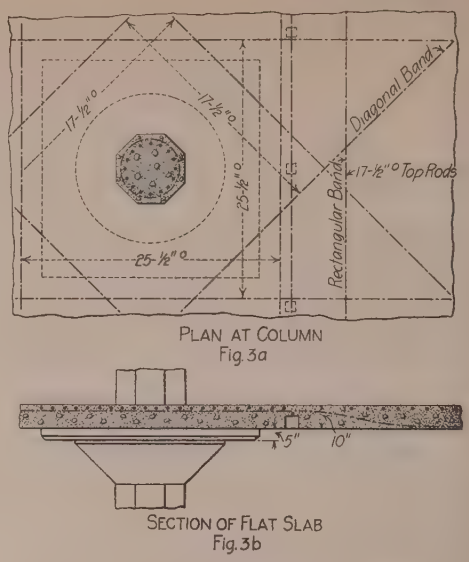


FIG. 3—CANTILEVER FLAT-SLAB DESIGN

openings, present stairs, elevators, etc., would have produced few panels of flat-slab effect, and the straight slabs and beams for the remainder of the building would have produced deep beams, which were undesirable. The cost of a typical flat-slab panel and a typical joist panel favored the joist type of construction.

Since this building was designed and constructed, further study by engineers in Kansas City has resulted in improving the joist system of design in the substitution of mesh in the slab in place of ⅜-in. bars and the taking advantage of some of the theory advanced by the flat-slab designers in our treatment of beams and joists. In a building at present being bid upon, the joist system showed a saving of $10,000 over the flat-slab, at the same time producing compressive stress in the flange sections of joist and beams not exceeding 400 lb. per square inch.

Buildings designed by the flat-slab method, if strictly following the ordinances, have undoubtedly a sufficient factor of safety. The joist design bases its claim to economy on the principle that a 4 x 14-in. member of any material if placed on edge has a decided advantage over the one laid on its side.

J. H. BYRD,
Structural Engineer.
Kansas City, Mo.

Reinforced-Gypsum Roof Decks a Modern Development

SIR: With reference to the article written by me upon "Reinforced-Gypsum Roof Decks a Modern Development in the Structural Field," appearing on page 745 of your issue of Dec. 16, would state that there are two typographical errors which I trust you will correct. Such corrections are necessary for the proper understanding of the principles involved, as the statement has been made that the usual formulas for reinforced concrete have been used in the determination of stresses upon reinforced-gypsum construction.

In the second column at the bottom of the last paragraph you state the effective depth to be id; this should read jd. Also at the top of the third column, when referring to flange computations for rectangular beams you show $p = A/t'd$, whereas it should read $p = A/b'd$.

VIRGIL G. MARANI,
Cleveland. Consulting Engineer.

HINTS FOR THE CONTRACTOR

Details Which Save Time and Labor on Construction Work

Other articles in this issue of interest to contractors and construction engineers are indexed in the Table of Contents

Contributions to this section are solicited, and if found available will be paid for. They must be SHORT, *and should be accompanied, if possible, by photographs or sketches.*

Utilize Backfiller for Pulling Sheet Piles

A SEWER contractor in Clintonville, Wis., is using an Oshkosh backfiller to pull sheet piling by rigging up a tripod with the pulling cable running over the block, as shown in the photograph. With this rig 12-ft. wood piles are pulled at the rate of 200 ft. per hour with considerable saving in time and labor cost over the usual hand methods, according to R. Mierswa & Sons, contractors for the work.

HAULING LINE FROM BACKFILLER RUN OVER BLOCK ON TRIPOD TO PULL WOOD SHEETING AT RATE OF TWO HUNDRED LINEAR FEET AN HOUR

Unique Concrete Blocks Built by Home-Made Traveler

A METHOD of making large concrete blocks which produces a remarkably smooth and attractive surface by casting them face down is employed in the new Illinois First Cavalry Armory, now under construction north of Chicago Avenue and near Lake Michigan in Chicago. A handy home-made traveler with two booms is used on the work.

Because the plans for the structure contemplated a more extensive plant than was provided for in the appropriation, only the drill hall and three stories of the five-story headhouse are being built at present, and concrete blocks are being used as the most economical way of securing an artistic exterior. Because of the plans, many blocks with curved surfaces and irregular shapes are required.

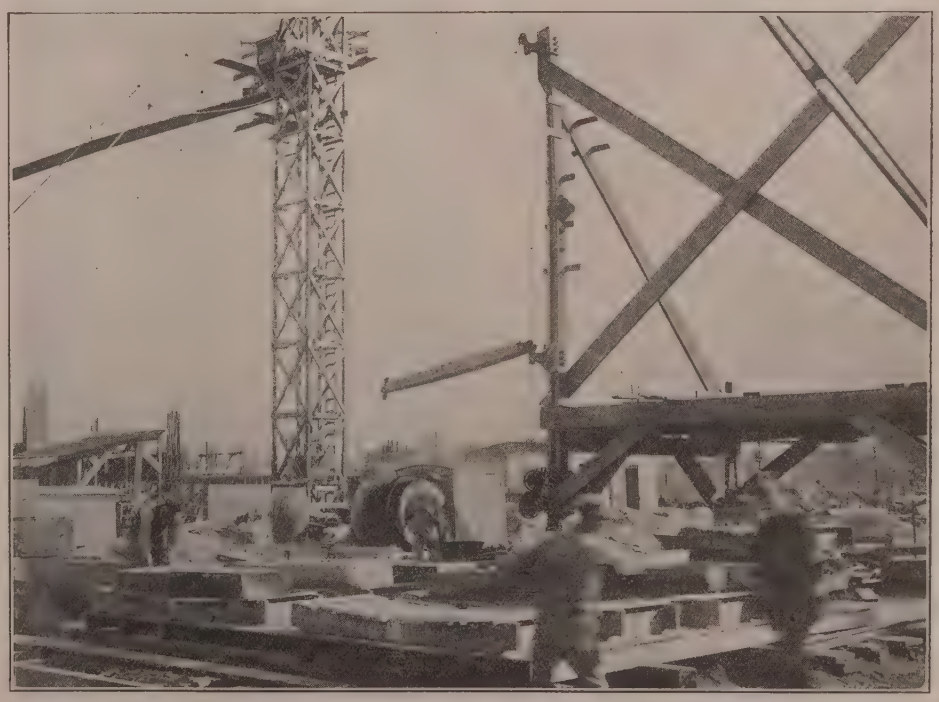
A track was built 100 ft. long with rails 19 ft. apart, on which was constructed a wood traveler, and from the corner posts of which at one end were erected jib cranes, each operated by a hand hoist. The traveler is moved along the track by means of a cable fastened to one of the rails and carried around the drum of a hand winch mounted at the side of the traveler frame. The space between the rails is floored and on this all forms for blocks are erected in convenient reach of the jib cranes. The standard width of each block course is 2 ft., but on account of the semicircular ends of the building and many window openings the lengths of blocks vary considerably, the longest being about 8 ft.

The blocks are cast face downward. The bed of each form is covered with galvanized sheet iron, and great care is taken before casting a block to have the sheet-iron surface perfectly smooth and clean. The side forms are wedged into position inside of wood frames. The surface of the block, about 1 in. in thickness, is composed entirely of fine aggregates, with a large cement content thoroughly mixed, with only enough water so that the material will adhere when pressed in the hand. This mixture is tamped very hard in the forms. The proportion of the aggregates used in the surface of the block is 1 bbl. of limestone screenings to 1 bbl. of sand and three bags of cement. The smooth texture of the surface of the block depends upon having the galvanized sheet-iron bed of the form perfectly clean and without markings or defacements of any kind, upon the fine aggregates, upon a uniform dry mix and upon the hard tamping into the forms. Great care is therefore required in all of this work.

Back of the surface layer of concrete is placed a reinforcement of triangular mesh heavy wire netting. Two heavy wire lifting loops are also placed in each block. The back of each block is composed of standard 1:2:4 concrete, which, while also mixed dry, contains considerably more water than the surface layer. The time required after casting before a block can be lifted depends entirely on atmospheric conditions. In dry, warm weather it was possible to remove the side forms within two hours and lift the block within half a day after casting, but in cold weather two or three days are required. It has been found that the block dries more rapidly when the side forms are removed as soon as possible.

The illustration shows the traveler, a Standard concrete mixer, served by the jib cranes and several curved-face blocks on the bed forms with the side forms removed. These blocks when built into the wall not only have a massive appearance but present a pleasing effect without acid treatment of any kind. This method of construction is held to provide a structure of great durability at small cost.

The general contract was let to the Hanson Brothers Company, Chicago, which designed the equipment for casting the blocks and conducted the experiments for obtaining the smooth block surface. Charles T. McClelland is superintendent for the contractor.



LIGHT TRAVELING CRANE MOVES OVER CASTING PLATFORM TO HANDLE CONCRETE BLOCKS

Heavy Rake Spreads Riprap and Cobbles on Revetment

PULLED back and forth between a locomotive crane and a floating pile driver or dragged up and down the slope by lines from a hoist mounted on a flat car, the heavy rake shown in the photograph was used with great economy over former methods to place riprap and spread cobbles on revetment work done in California by forces of the Southern Pacific Company.

The revetment was made of cobble stones unloaded from bottom-dump cars and spread to the edge of the embankment by a track plow. The heavy rake was then used to drag the stones down the bank and produce a surface with the desired slope. It was handled by two lines from a hoisting engine mounted on one of the railroad company's mixer cars. One line was used to haul the rake uphill, the other was led through a single block on a float anchored at the foot of the slope, and used to pull the rake down with a load of stone.

The toe of the slope is protected from wave action by heavy blocks of granite riprap. After being unloaded at the top of the embankment these stones were also dragged down by the rake to the water's edge. The quantity of large stone placed was smaller, progress was somewhat more rapid, and a locomotive crane which unloaded the stone was available. In this instance the rake was pulled down the bank by one of the company's floating pile drivers and drawn up by the crane.

HEAVY RAKE, HANDLED BY POWER, SPREADS COBBLES AND RIPRAP EFFICIENTLY ON SLOPE

Adjustable Trowel Triples Finishing Progress on Concrete Curb

BY P. E. GREEN
Of Marr, Green & Company, Consulting Engineers, Chicago

WITH an adjustable trowel devised by Charles S. Upham of Odell, Ill., the contractor on the brick paving work at Dwight, Ill., described on page 797 of this issue, concrete curb finishers could do from two to three times as much work in a day as they could with an ordinary trowel or float and at the same time secure a much better job. The curb and gutter was what is called variable curb, that is, there were summits and inlets in the combined curb and gutter itself, so that the height of the curb above the gutter varied from 2 to 10 in. This is necessary for economical construction in a very flat country.

One of the great difficulties which workmen have found in making a good job of finished concrete combined curb and gutter is this variation in the height. Ordinarily it is simply troweled by hand with a wooden float or similar device. Mr. Upham, however, developed an adjustable sheet steel trowel, shown in the accompanying picture. This consists of an L-shaped horizontal piece for the top of the curb and an L-shaped piece for the gutter inside of the curb, the top piece lapping the bottom piece.

The adjustable feature is a slot in the bottom piece by means of which the position of the top piece is varied.

The entire tool is laid directly on the forms filled with concrete for the curb and gutter and pushed along by one man. The front end of it has a decided flare which tends to force the finishing mortar toward the rear end under a considerable pressure, the result being a remarkably smooth piece of finished work.

ADJUSTABLE TROWEL FOR FINISHING CONCRETE CURBS WHICH TRIPLED PROGRESS ON THIS KIND OF WORK

Plow on Dinkey Clears Road of Dumped Material

TO REMOVE aggregate from the narrow-gage dinkey tracks on Section 7 of the road construction in Vermilion County, Illinois, the contractor has placed an improvised plow on the front of the engine, as shown in the photograph. It consists of a 2-in. plank supported by a heavy iron strap, which in turn is bolted to two timbers placed back of the bumper. The plow is also used to a considerable extent in pushing macadam shoulder material off the concrete portion of the road. It is the practice to place the dinkey track on top of the concrete as soon as possbile after the latter has hardened. The Granite City Lime & Cement Company is carrying out the work.

PLOW PUSHES MATERIAL AWAY FROM TRACKS

Steam Shovel Breaks Up Concrete Base Quickly with Drop Hammer

By HERBERT J. GILKEY
Chicago, Ill.

AN ERIE shovel, on which a 2000-lb. drop hammer was rigged without even dismounting the dipper, was used recently in Chicago to break up 12,000 sq. ft. of 6-in. concrete pavement base in less than one day. The pavement broken up was at Sixty-ninth and Leavitt streets, where the former street is being lowered 5 ft. to pass under the Pennsylvania Railroad. The old pavement was of brick on a concrete base, and the bricks were removed before the base was attacked.

The pile hammer was attached to the hoisting drum of the shovel by a wire line passing over the larger sheave in the end of the boom after the dipper had been swung in close to the shovel and tied up. Each blow of the hammer broke up about 50 sq. ft. of concrete base into pieces small enough to be handled in ordinary dump wagons. The contractors for the work were W. T. Keating and E. O'Brian.

Pavement Costs in San Francisco

During the last fiscal year San Francisco has constructed more pavement under public assessment than during any other like period of the city's history. The total area paved was 472,253 sq. yd. The average costs for various types were as follows: Asphalt, $1.91; bituminous rock, $2.14; basalt rock, $3.42; vitrified brick, $3.35.

NEWS OF THE WEEK

Passing Events in the Civil Engineering and Contracting Fields

$9,530,000 Irrigation Project Planned in California

Dam and Reservoir in San Joaquin Valley Will Probably Be Built Without Federal Aid—Hydroelectric Plant Included

The plan of irrigationists in the San Joaquin valley, California, to construct a dam and reservoir to conserve the flood water of Kings River has been indorsed by Louis C. Hill, consulting engineer, of Los Angeles, who was selected by the U. S. Reclamation Service to report on the project when federal indorsement was sought several months ago. It is proposed to construct a concrete dam and reservoir, having a storage capacity of 600,000 acre-feet, in the Pine Flats region of the Sierra Nevada Mountains in Fresno County. A 10,000-kw. hydroelectric plant and the installation of 525 deep-well turbine pumping plants, with eighty reserve plants, in the delta of Kings River, to bring the underground water supply into use; are also included in the plans.

In comparing the Pine Flats project with the Elephant Butte and Arrowrock dams, Mr. Hill estimates that the yardage to be handled will be about twice the amount handled on either of the former projects. Unit costs will probably be much less owing to the availability of construction materials and water supply, the proximity of power transmission lines, and favorable conditions for a construction camp. The short distance to bedrock will make the cost of river diversion small.

Will Cost $9,530,000

The total cost is estimated at $9,530,000 or about $9.53 per acre for the 1,000,000 acres benefited. The dam and storage works, exclusive of surveys, borings, rights-of-way, insurance, interest, camp expenses, hospital, etc., are estimated to cost $5,845,000, itemized as follows: Excavation $325,000; 1,050,000 cu. yd. cement masonry, $4,515,000; gates, etc., $400,000; spillway, $200,000; flume for bringing lumber to the site, $200,000; grouting, $20,000; Cement Gun work, $15,000; extension of railroad, $100,000; roads, $50,000; power substation, $15,000; river diversion, $30,000; pumping, lighting, etc., $10,000; drainage and well drilling, $15,000. The proposed power plant will cost about $600,000 and 30 miles of transmission lines, $150,000. The cost of the 605 pumping plants—all of similar design and capacity, is estimated at $1,815,000.

Preliminary plans for the project were prepared by I. Teilman, of the Fresno & Consolidated Canal Companies. Officials of the six irrigation districts taking water from Kings River have organized the Kings River Reclamation and Conservation District with headquarters at Fresno. This organization has indorsed Mr. Hill's recommendations. It is said that the project will be carried on without federal aid.

Favorable to Increased Diversion

The flood resolution authorizing the Secretary of War to distribute all of the 20,000 sec.-ft. over Niagara Falls due the United States under its treaty with Canada was favorably reported Dec. 21 by the House Foreign Affairs Committee. The measure is identical with the Wadsworth resolution passed by the Senate, except that the committee amended it so that grants under the resolution will expire March 4 next instead of July 1, as was originally proposed.

2200 Applaud Goethals at New York Meeting

Guest at Merchants' Association Luncheon—Recommends Revising Panama Canal Toll Charges—British Ships Have Advantage

Major-Gen. George W. Goethals, as guest of the Merchants' Association, Dec. 21, at one of the largest luncheons in the history of New York City, reiterated that British ships were enjoying an advantage over United States ships in the matter of tolls, and that it was the duty of Congress to revise the rates if the country is to receive benefit from its enormous expenditure in furnishing a waterway between the two oceans.

Gen. Goethals was introduced by William C. Breed as the man who "created the passageway that Columbus sought" and who "accomplished the job" the great discoverer set out to do. Twenty-two hundred attended the luncheon in the grand ballroom at the Hotel Astor. Gen. Goethals was applauded when he laid stress on the "strategic value of the canal to the United States in time of war,' and of the right of this country to exert absolute sovereignty over the strip in which it had invested its money. He emphasized the demand for modification of the agreement made by President Taft with the Republic of Panama, under which a duty of 15 per cent is imposed on everything brought to warehouses by merchants or manufacturers, and told of the progress made by the United States in developing trade in coal and oil along the Isthmus.

Tolls Main Subject of Address

Gen. Goethals said the coaling stations established by the Canal Commission at the Atlantic and Pacific ends of the canal are being operated satisfactorily, and that the commission is ready to lease lands to coal dealers who want to do business in the zone. War conditions, he said, had prevented private concerns from entering the field, but it was hoped that the plan would finally meet with success.

After pointing out the difference in the methods of the United States and England in measuring tonnage, and the effect on toll rates at the canal, he added: "The tolls actually collected under our present registered tonnage system are about 30 per cent less than they should be. A bill is now before Congress to have this modified. If it is enacted our revenues will far exceed our operating expenses, and we will begin to pay part of the interest on the investment. In the first fiscal year of the canal our collections exceeded our operating expenses by $350,000. Of course, due to the closing of the canal by the slides, our revenues were kept down, but we are now operating at less cost than the actual revenue notwithstanding that we are losing about 30 per cent that we ought to get."

Contractor Sues for $47,000 on Cleveland Contract

The Walsh Construction Company, builder of the filtered water reservoirs of the new filtration plant, has filed suit against the city of Cleveland to collect $47,041.23, alleged to be due for construction work. The suit was filed in the United States District Court. The city recently awarded to another construction company a contract to rebuild the filtration basins which collapsed last July. The price mentioned in the new contract is above the original agreement with the Walsh company.

Motor-Truck Men Object to Proposed Schedule

State Commission Holds Second Hearing on Measure to Increase Funds Available for State Highway Maintenance

Many objections to the proposed new schedule of motor-truck registration fees, which will become operative in New York State within a few weeks, were voiced by motor-truck interests at a public hearing in the auditorium of the Merchants' Association, Woolworth Building, New York City, Dec. 21. State Highway Commissioner Edwin Duffey and State Engineer Frank M. Williams represented the special commission of three (General W. W. Wotherspoon, state superintendent of public works, being absent) appointed by the Legislature to file on Jan. 1 a scale of charges for commercial trucks based on time and extent of the use of the highways and wear and tear on roads.

Many of the arguments against the new schedule of fees were similar to those advanced at the first public hearing in Albany, reported in the Engineering Record of Nov. 25, page 663. Among those who were present to discuss the measure at the New York hearing there was not a single highway engineer, although the motor-truck manufacturers and users appeared in force.

Asks for Tentative Rules

Speaking as president of the Motor Truck Club of America, Roderick Stephens urged the commission to make public any tentative rules and regulations which it had under consideration, following the practice which obtained at hearings on proposed motor-truck legislation in New Jersey. His argument was that with something definite before them the motor-truck men could be specific in their discussion, instead of talking generalities. Commissioner Duffey, however, refused to accede to his request. Mr. Stephens pointed out that at a recent meeting of the Motor Truck Club of America, Commissioner Arthur Woods of the New York Police Department had gone on record that he would not inaugurate any legislation dealing with motor-truck regulation without first consulting with committees representing the owners and manufacturers of trucks. This precedent, however, was without influence in inducing the state highway commissioner to change his original ruling. Commissioner Duffey thought that "nothing would be gained" by such procedure. He studiously evaded any direct statement which would indicate the lines along which the commission was working, although he did give out the hint that trailers would not be considered in the proposed new code.

Exemptions Requested

Requests for the exemption of certain classes of motor trucks were made, notably those of the Fifth Avenue Coach Company, which operate almost entirely within city limits and pay large taxes to the City of New York, amounting, in the aggregate, to about $500 per vehicle for the 135 vehicles controlled by the corporation. It was argued that the proposed schedule of fees should provide a special classification for vehicles which did not leave city streets.

A tilt between counsel for the National Automobile Chamber of Commerce and Commissioner Duffey occurred on the question of exemption of motor trucks from the personal-property tax. This exemption, it was pointed out, is allowed in the case of pleasure cars.

The commissioner maintained, however, that it was not within the scope of his commission's powers to grant such exemption. Their work, he said, is merely to file a schedule of fees by Jan. 1. He intimated that this schedule would start with a minimum fee and progress upward as the weight of motor trucks increased. It was pointed out by R. H. Johnson, president of the Automobile Dealers Association, that a light truck can often do more damage than a heavy one. He cited the case of the "flying squadron" of the New York department stores—light trucks on pneumatic tires which attain high speed for suburban service. Such trucks, he maintained, are far more of a menace to highways than 5-ton coal trucks properly tired and running at low speeds. Mr. Johnson advocated the retention of the present fee of $5.

Mr. Stephens suggested that Commissioner Duffey file the new schedule of fees merely as a report and ask the Legislature for more power so that it might consider the question of exemption of motor trucks from the personal-property tax. Commissioner Duffey's attitude indicated that there was small chance of such a procedure being followed.

Upon the subject of solid versus pneumatic tires a lively discussion arose. The opinion seemed to be general that the line of demarcation was the 1½-ton truck.

Formula Abandoned

Arthur J. Slade, consulting engineer and member of the Society of Automobile Engineers, told of the unsuccessful efforts during the last seven years to develop a formula for taxing motor vehicles on a basis of road damage. The subject was first considered by the Society of Automobile Engineers in 1910. A formula was proposed in 1914 by a special committee and its recommendations were turned over to the research division of the society. After a year's study the research division reported that so many factors were involved in such a formula that nothing could be devised which would be susceptible of ready application. The same question was submitted to the standards committee of the Motor Truck Club of America, and practically the same conclusion was reached, namely, that a workable formula, taking into consideration all of the factors, was an impossibility. If a formula is to be used, Mr. Slade said, it should be a simple rule of thumb.

Chicago Association of Commerce Awards Prizes for Papers

Twenty-two engineers, representing eleven universities scattered all over the United States, competed for the cash prizes offered in September to undergraduates and graduates in 1915 and 1916 by Subdivision 63, Engineers, Chicago Association of Commerce, for the three best papers on any one of three subjects: (1) "Engineering and Civic Progress," (2) "The Engineer of the Future," (3) "The Business Relation of the Engineer to the Commercial World." Harvey T. Hill, Chicago, a graduate of Pennsylvania State College, 1915, won the first prize, $50. The second prize, $30, will go to Leo Shippy, a mechanical engineer junior at Iowa State College, who wrote on the second subject. H. M. Kistler, a Pennsylvania State College graduate of 1916, will receive the third place and $20 for his paper on the second subject.

The technical schools represented are as follows: University of Illinois, nine; Pennsylvania State College, two; one each from Iowa State College, universities of Michigan, Minnesota, Pennsylvania, Cincinnati, Washington, Cornell, Purdue and Worcester Polytechnic. Two men did not give this information. Nine of the contestants were graduated this year, four in 1915; five are undergraduates. The remaining four did not give their year. Only ten men spoke of their course in college. Of these, five were electricals, three mechanicals and two were civils. Subjects 1 and 2 were each chosen by nine men; only three wrote on the third. One man sent a semi-popular engineering story. Three men mentioned seeing the notice in technical journals.

The judges of the contest were Prof. F. H. Newell, University of Illinois; Dean John F. Hayford, Northwestern University, and John W. Alvord, consulting engineer, of Chicago.

Wood Preservers Meet January 23 in New York City

The American Wood Preservers' Association will hold its annual convention Jan. 23 to 25 at the Hotel Astor, New York City. It will be the first meeting of the society in New York. The nominees for office are: President, John Foley; vice-president, M. K. Trumbull and J. B. Card; secretary-treasurer, F. J. Angier; executive committee, V. K. Hendricks and C. M. Taylor. The results of the ballot will be announced at the convention.

Will Meet to Push Completion of Highway Across Washington

The Pasco (Wash.) Chamber of Commerce will invite the commercial bodies, county commissioners, good-roads and taxpayers' associations, and automobile clubs in the counties of Asotin, Columbia, Garfield, Adams, Whitman, Walla Walla, Franklin, Benton, Yakima, Klickitat, Skamania, Clarke, Cowlitz, and Lewis to send representatives to a meeting to be held in Pasco late in January or early in February to effect the organization of a highway association, the object of which will be to encourage and hasten the completion of one highway across the state of Washington that can be traveled every day of the year. After the route is logged, marked and mapped efforts will be made to popularize it by a campaign of publicity. The organization will cooperate with similar associations in Idaho, Montana and Oregon, so as to concentrate a greater amount of tourist travel throughout the southern counties of Washington.

Road School of Wisconsin Highway Commission January 29 to February 3

The sixth annual road school of the Wisconsin State Highway Commission will be held in the State Capitol at Madison, beginning Jan. 29. At that meeting all recent developments in road and bridge construction, maintenance and administration will be discussed. All who are interested are invited to attend. Last year the registration at the road school was about 700. It is expected that this will be exceeded this year. The usual exhibit of road machinery, motor trucks, and road materials will be held in connection with the school. Those who will attend are advised to make their hotel reservations immediately.

NEXT WEEK

Articles by

CHARLES A. STONE
GANO DUNN
NELSON P. LEWIS
T. CHALKLEY HATTON
A. B. FLETCHER
B. F. CRESSON, JR.
H. E. BREED
W. S. KELLER
ARTHUR J. SLADE

Reviews of Labor and Material Markets

War Department Approves Vehicle Tube Under Hudson River at New York

A permit for a tube to be used for vehicle traffic between Canal Street, Manhattan, and Thirteenth Street, Jersey City, has been issued by the War Department to the New Jersey Interstate Bridge and Tunnel Commission. Plans showing the size of the tunnel have not been filed by the applicants. The permit requires that the tunnel be located at least 50 ft. below mean water level.

The project has already been approved by the Boards of Freeholders of Hudson and Bergen Counties, New Jersey. In Essex County the board stood 4 to 4 on the vote taken last summer, but will vote again soon. Favorable action by all three counties is necessary before the governor of New Jersey can appoint a commission to undertake actual work of construction.

The tunnel's cost is estimated at about $11,000,000, of which half will be paid by each state. It is expected that twin tubes of the type used in the Hudson and Manhattan tunnels will be constructed.

Short Course in Highway Engineering at University of Michigan

The College of Engineering of the University of Michigan announces its third annual short course in highway engineering to be given during the week of Feb. 19 to 23, 1917. In the conduct of this course, the same plan will be followed as in former years. The instruction will be given from the viewpoint of road conditions in Michigan and expressly for the benefit of highway commissioners, engineers, contractors and others interested in the construction and maintenance of roads.

The course is a continuation of the work done in the past two years, but arrangements will be made for those coming the first time. The instruction will be under the supervision of the engineering faculty of the University of Michigan and engineers of the Michigan State Highway Department. This will be supplemented by several lectures by prominent highway engineers and State highway commissioners of various states throughout the country. No charge will be made for the course.

Agree Tentatively on Plan for New Buffalo Station

Subject to ratification by the commission after a public hearing in January, the Buffalo Terminal Commission has agreed to the proposal of the New York Central Railroad for the construction of a new terminal in that city. The site of the present station, and not the Terrace site, is the one chosen, but the new station will be moved west to Washington. The estimated cost of the project is between $6,000,000 and $7,000,000.

Call for $60,000,000 Road Bond Issue in Illinois

A bond issue of $60,000,000 to complete a 4000-mile system of state highways in Illinois is the legislation asked for by the Illinois Highway Improvement Association, which met in Danville Dec. 19 to dedicate the state's share of the Dixie Highway. This organization is largely responsible for past good-roads legislation, so that its deliberations have more than ordinary significance. The resolution proposes that the Legislature submit the question to the voters in November, 1918. Counties which have built or are building hard roads in the system are to receive a refund, but this refund must be spent on other roads in the county. Selection of the system is to be made by the state highway department. The Legislature was urged to appropriate funds to meet the federal aid and also to increase the license fees on large automobiles and trucks.

Interlocking Managements Prohibited by Commission

Massachusetts Commission Disapproves Overlapping Control in Construction and Managing Contracts and Will Have No More of It

In an order recently made public, the Massachusetts Gas & Electric Light Commission sets forth its disapproval of certain classes of public utility construction and management contracts in which overlapping control is a feature of the administration. The order, which is addressed to all companies under the commission's direction, states that the board has for some time viewed with concern the control of the directorates of certain of the companies under its supervision by officials and employees of engineering construction and management organizations and corporations with which the companies involved have from time to time contracted for extensions and improvements of and managerial services for their respective properties. In the opinion of the commission such practices are wrong.

Should Be in Hands of Company's Officers

The order states that whatever justification may exist for these practices in public service companies whose credit is feeble or future hazardous and uncertain, "that justification ceases when their financial position is firmly established. The management of such companies should be in the hands of directors and officers responsible solely to their stockholders and the public whom they have undertaken to serve. For reasons that are obvious companies should not have any dealings in supplies or materials or make any contracts for construction or management with another corporation, partnership or association when that company has upon its board of directors or as its president, manager, purchasing or selling officers, or as its agent in the particular transaction, a person who is at the same time a director, purchasing or selling officer, or agent of, or who has any substantial interest in, such other corporation, partnership or association, unless and except such purchases shall be made from, or such dealing shall be with, the bidder whose bid is the most favorable to such company, to be ascertained by honestly conducted competitive bidding.

"Notice is hereby given of the conclusions reached by the board to the end that no company under its supervision shall hereafter enter into contracts and relationships of the character above described save under exceptional circumstances and with the approval of the board, and that upon the expiration of existing contracts they shall not be renewed."

$8,000,000 Street Improvements Planned for Baltimore

Baltimore has for the improvement of its streets and alleys during the next few years approximately $8,000,000, available at the rate of about $2,000,000 per year. The character of the paving will be mostly sheet asphalt for the streets, and Portland cement concrete and vitrified block for the alleys. A small amount of recut granite work will also be done. The job will be advertised for bids about Jan. 15, and the contracts will range from $5,000 for alley work to $200,000 each for street work. Contractors who are equipped to do this work are invited to investigate conditions. The paving commission, the highways engineer and the commissioners for opening streets will handle the work for the city.

Oregon Commission Reports

Recommendations for the survey of approximately 3,000,000 acres of land susceptible to drainage in the state of Oregon, the enactment of a business-like road code, the eventual guarantee by the state or federal government of bonds of irrigation districts, and the conservation of the water resources of the state are contained in the annual report of the Oregon State Conservation Commission, recently made public.

Engineering Society Activities

Providence Engineering Society will meet Jan. 24 to hear W. S. Franklin, professor of electrical engineering at Lehigh University, lecture on "Some Mechanical Analogies in Electricity and Magnetism."

Municipal Engineers of the City of New York met Dec. 27 in the Engineering Societies Building. Jay Downer, engineer and secretary of the Bronx Parkway Commission, presented an illustrated paper on the Bronx River Parkway.

Albany Society of Civil Engineers held a meeting last Wednesday at which Prof. E. E. Haskell, dean of the College of Engineering, Cornell University, was the speaker. His subject was the "United States Lake Survey," with which work Professor Haskell has long been associated.

Florida State Engineering Society held an organization meeting Dec. 22 and 23 at Jacksonville.

Engineers' Club of Seattle has closed a contract for 1200 ft. of floor space in the new Arctic Club Building for the new home of the organization. The club will move from its present quarters about Jan. 15. Among the new features planned are a daily noon luncheon and a Thursday banquet. Ernest B. Hussey is president and J. Thomas Dovey, secretary.

What Engineers and Contractors Are Doing

W. J. PARKES was recently appointed highway engineer of Jefferson County, Arkansas. He succeeds H. H. Humphreys.

ROBERT E. BARRETT, formerly acting chief engineer of the Directors of the Port of Boston, is now with Fay, Spofford & Thorndike, consulting engineers, of that city. Mr. Barrett's first engineering work was with the Metropolitan Water Board of Massachusetts in 1900. Later he studied at Harvard University.

W. D. SALTER has been appointed city engineer of Boulder, Col., to succeed George R. Joslin, resigned. For the last 10 years Mr. Salter was assistant engineer in the engineering department of Denver.

JOHN SWAN, JR., brother of the late Robert Swan, succeeds Edward M. Bigelow as director of the Department of Public Works of Pittsburgh.

GORDON SUMNER, of Wauchula, Fla., was recently appointed highway engineer of Bay County, Fla. He will direct surveys and construction of a $375,000 road system.

CAPT. JOHN W. N. SCHULZ, Corps of Engineers, U. S. A., has been granted a two-months' leave of absence as assistant to the officer in charge of road construction and maintenance in Yellowstone National Park.

L. WILLIAMS is now in the valuation department of the Missouri, Kansas & Texas Railway, with office at Parsons, Kan.

R. J. AYDLOTTE, formerly with Remington & Vosbury, consulting engineers, of Camden, N. J., is now in the employ of the John M. Kelley Contracting Company, of that city. He has charge of the construction of bulkheads and shipways for the Pennsylvania Ship Building Company, of Gloucester, N. J.

A. W. DOANE has taken a position with the American Waterworks & Electric Company at Butler, Pa.

J. K. CHOATE, vice-president of the J. G. White Management Corporation, has just returned from a six weeks' trip to Nicaragua, where he inspected the property of the Ferrocarril del Pacifico de Nicaragua, which is being operated by the J. G. White Management Corporation.

T. B. SHERTZER has been elected city manager of Portsmouth, Va.

JULIUS ZIMNY, who is employed by the Robert Grace Contracting Company, is now at Hurlburt, Ind., working on overhead bridges between that city and Palmer.

D. E. HOOKER, assistant superintendent of buildings, Seattle, on Dec. 16 addressed the Pacific Northwest Society of Engineers in the assembly room of the Arctic Club. He described the second test of the Bell Street warehouse.

C. O. MANNES, of Tenino, has been appointed deputy county engineer of Thurston County, Washington, by Frank Weir, county engineer-elect. Mr. Mannes is now in the service of the Washington State Highway Department.

BARTLETT & RANNEY, consulting engineers, of San Antonio, Tex., have been retained to design and construct the 30,000-acre Eagle's Nest irrigation project in Colfax County, New Mexico. Construction has been started. The storage dam will be an arched masonry structure 140 ft. high. Neal Hanson is resident engineer on the work.

LORD COWDRAY, president of S. Pearson & Son, Ltd., of London, builders of the Pennsylvania Railroad tunnels under the East River at New York City, has been made a viscount. Lord Cowdray, whose family name is Sir Weetman D. Pearson, was made a peer June 23, 1910. He was born in 1856 at High Joyland, Yorkshire, and was privately educated at Harrogate. Aside from having been associated with the tunnel work in New York, Lord Cowdray's firm has engaged in extensive engineering enterprises in England and Mexico.

S. A. GREELEY and LANGDON PEARSE, the consulting engineers who made the original sewage-disposal experiments at Decatur, Ill., have been re-employed to assist P. T. Hicks, city engineer, in the design of an intercepting sewer. They will also help in solving such other general problems as may develop.

LUTHER B. YOUNGS, superintendent of water, Seattle, was recently reappointed for a period of three years. Mr. Youngs has held his position since 1895.

CALEB BERRY, former city engineer of Centralia, Wash., has been retained by residents of Grand Mound, to investigate the feasibility of draining land on Wanche's and Ford's Prairies.

C. H. SNYDER, consulting engineer, of San Francisco, has been appointed lecturer in civil engineering at the University of California for the coming half year.

R. M. LEE, of South Vancouver, Canada, who has been in charge of sewer work, has been appointed assistant to Municipal Engineer Bennet.

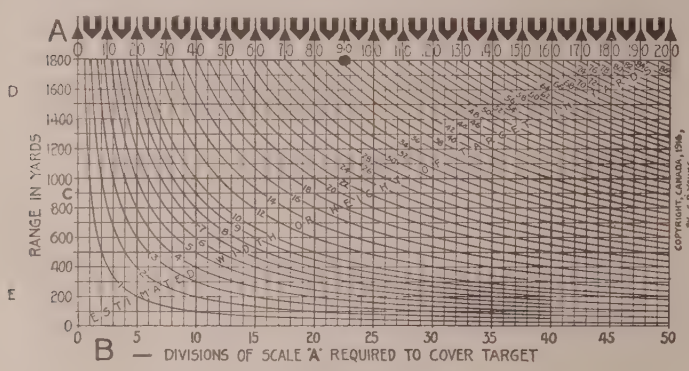
Obituary Notes

WILLIAM E. LEARD, manufacturer, of New Brighton, Pa., died recently at Southern Pines, N. C. He was born at Livermore, Pa., 74 years ago and was in Company M, 102d Pennsylvania Volunteers, during the Civil War. Shortly after the war Mr. Leard engaged in the manufacture of drill presses in Cincinnati. In 1882 he organized a plant in New Brighton, Pa., for the manufacture of connecting rods, strap joints, crankshafts and machine keys. He had not been in active charge of the work for the last eight years.

Range Finder and Slope Card Designed for Field Sketching

An inexpensive range finder and slope card which is said to have found favor among military engineers is that designed by Major C. R. Young, 98 Hilton Avenue, Toronto, Canada It is based on the principle that it is much easier to judge the size of familiar objects than it is to estimate their distance from the eye. The instrument has been used successfully on reconnaissance and field sketching work. It can also be used in making reconnaissances for railway work and approximate topographical surveys for any purposes. While the yard is the unit of distance marked on the instrument, it may be used for meters, feet or inches.

The card range finder consists of a 3 x 6-in. card of opaque white celluloid or of heavy cardboard with a string attached at a point C 25 in. from the second knot to the face of the card. This string enables the user to hold the card exactly at 25 in. from the eye, although for hurried work, or after some practice, it may be dispensed with. The face of the card contains an edge scale *A* to be superimposed upon the target and, below the scale, a diagram for the determination of the range without calculation.



RANGE FINDER IS USEFUL ON RAILROAD AND MILITARY RECONNAISSANCE — HORIZONTAL DISTANCE DETERMINED BY ESTIMATING SIZE OF FAMILIAR OBJECTS

To use the instrument, select some known dimension of the target or object at right angles to the line of sight. If no dimension is known accurately, choose the one that may be estimated with least error. Place the second knot of the string close to the eye, hold the card out at right angles to the string in the direction of the target so that the string is taut. Place the zero mark of the edge scale *A* at one extremity of the known or estimated dimension of the target and note the scale reading for the other extremity. Find on the bottom horizontal scale *B* a point having a reading equal to that obtained on scale *A*. Locate on the diagram the curve giving the estimated width, height or other selected dimension of the target. Find the point where a vertical line through the reading on scale *B* will intersect this curve. Directly opposite this point on the vertical scale at the left-hand side the desired range will be found.

White Company Holds "Factory Warming"

A motor car factory running full blast and 6000 persons present at a reception and luncheon was the unusual feature of the recent house-warming in a new manufacturing building of the White Motor Company, Cleveland. About 8000 persons attended the dance in the evening. Between dances the guests were shown motion pictures of the factory's product in unusual forms of service, as well as current feature films. The new building is 240 x 304 ft. Decorations completely obscured its industrial character.

Filter Department Changes Hands

The Blackburn-Smith Corporation of New York, through purchase of the filter department of James Beggs & Company, has acquired all patents, records, patterns and rights for the manufacture and sale of the Blackburn-Smith feed-water filter and grease extractor and the Blackburn-Smith sewage-ejector system. The engineers and agents previously identified with these products have been taken over in a body by the new corporation and will work under the direction of Irwin H. Kaufman, vice-president, who has supervised the manufacture, sale and installation of the Blackburn-Smith filter for the last ten years.

Lehigh Gets Middle West Cement Plant

The Chicago Portland Cement Company has sold its holdings at Oglesby, Ill., to the Lehigh Portland Cement Company. This gives the latter company an additional capacity of 1,500,000 bbl. in the Middle West. The mill organization is taken over as a whole; the selling end will be handled by the present Lehigh forces with the addition of a few of the Chicago's salesmen.

Wants Catalogs of All Kinds

J. N. F. Bischoff, civilian assistant at the United States naval coal depot at San Diego, Cal., wants to receive catalogs of "equipment, machinery, tools, fireproof building material, railroad track material, coal handling and conveying machinery." Considerable improvements, he says, are contemplated at the station.

Infringement Suit on Turbine Sewer Cleaner Started

Suit in a federal court has been started by the Turbine Sewer Machine Company against William J. Stevenson, alleging that the latter is manufacturing an infringing turbine sewer-cleaning machine. The case will come up for trial Jan. 1, 1917.

Trade Publications

The following companies have recently issued trade literature:

American Ingot Iron Manufacturers. Folder describing and illustrating "Armco" culverts.

Hudson & Thurber Company, Minneapolis and Omaha. Folders describing sprayers and giving price lists on brass goods and engine supplies. Catalog D, 7 x 11 in., 460 pages, illustrated. Shows and lists every conceivable hardware implement, as well as pumps, fittings and other contractors' materials.

Diamond Power Specialty Company, Detroit. Illustrated folder describing mechanical soot blower.

Newton Machine Tool Works, Philadelphia. Catalog 51, 6 x 9 in., 52 pages, illustrated. Cold saw-cutting machines.

Watson-Stillman Company, New York City. Catalog 94, 6 x 9 in., 96 pages, illustrated. Hydraulic valves and fittings.

Ingersoll-Rand Company, New York City. Forms 3130 and 8311, describing air compressors and "Little David" pneumatic riveting hammers.

Quaker City Rubber Company, Philadelphia. Catalog, 6 x 9 in., 180 pages, illustrated. Mechanical rubber goods.

Van Dorn & Dutton Company, Cleveland. "Facts About Gears."

Wyoming Shovel Works, Wyoming, Pa. Catalogs, 4 x 9 in., 68 pages, illustrated.

Philadelphia Steel & Forge Company, New York City. Tables and notes on high-grade steels.

Verona Tool Works, Verona, Pa. Catalog 11, 7 x 9 in., 64 pages, illustrated. Describes full line of Verona tools.

Good Roads Machinery Company, Fort Wayne, Ind. Complete list of road machinery, well compiled and illustrated. Bound in loose-leaf form.

Glasgow Iron Company, Pottstown, Pa. New catalog, 5 x 7 in., 112 pages, illustrated and indexed. Tables and specifications to assist in selecting steel products. Note pages in back.

American Oxygen Company, Cincinnati. Folder on oxyacetylene welding. Costs of cutting given.

Tippett & Wood, Inc., Phillipsburg, Pa. Catalog of water towers, standpipes and general plate construction.

A. B. Farquhar Company, Ltd., York, Pa. Catalog, 9 x 12 in., 78 pages, illustrated. Engines, boilers, tractors and saw-mill machinery.

Lowe Brothers Company, Dayton, Ohio. Catalog 26, on paints.

Link-Belt Company, Chicago. Bulletin 282, entitled "Link-Belt Silent Chain Transmitting Power in Dye Making Industry." Folder on coal handling.

Baldwin Locomotive Works and Westinghouse Electric & Manufacturing Company. Circular 1516 A; 64 pages and cover. Electric locomotives.

Chicago Pneumatic Tool Company, Chicago. Bulletins 34-X and K describing Giant gas engines and fuel-oil-driven compressors.

Portland Cement Association, Chicago. Bulletins "How to Maintain Concrete Roads and Streets" and "Fundamentals of Reinforced Concrete Design."

National Lime Manufacturers' Association, Pittsburgh Bulletin A-2, entitled "Hydrated Lime and Its Effect on Workability, Segregation, Uniformity, Strength and Permeability."

Pittsburgh Valve & Fittings Company, Barberton, Ohio. Catalog D, 5 x 8 in., 356 pages, illustrated. Bound in leather. Lists all kinds of valves, castings and fittings. Tables of properties of saturated steam, weights of pipe, and formulas for design. Complete index. Handy reference book.

Cochran Pipe Wrench Company, Chicago. Folder describing spring oiler for trucks.

Samuel L. Moore & Sons Corporation, Elizabeth, N. J. Bulletin 103, devoted to industrial electric trucks.

Shepard Electric Crane & Hoist Company, Montour Falls, N. Y. Bulletin M-1, describing ¼, ½ and 1-ton hoists.

American Manganese Steel Company, Chicago. Bulletin 72, listing sand and gravel pumps and wearing parts for pump dredges.

Goulds Manufacturing Company, Seneca Falls, N. Y. Bulletin 113, devoted to rotary pumps.

Chicago Pneumatic Tool Company, Chicago. Bulletin E-44 on Duntley portable electric tools.

B. F. Sturtevant Company, Boston, Mass. Bulletin 228, 8 x 11 in., 100 pages, illustrated. Devoted to multivane fans. Dimensions, capacities, horsepower, etc.

Thwing Instrument Company, Philadelphia. Catalog 8, 8 x 11 in., 46 pages. Electrical pyrometers.

C. H. & E. Manufacturing Company, Milwaukee. Catalog of contractors' equipment listing mixers, saws, hoists, pumps, etc.

John F. Byers Machine Company, Ravenna, Ohio. Bulletin 1004. Describes Byers auto-crane.

New Design for Pump Reduces Weight and Eliminates Parts

Improvements in the design of the Emerson steam pump have resulted in the elimination of seven working parts, a 10-per cent reduction in weight and a 20-per cent increase in capacity. A new form of steam valve is used which requires no lubricant and operates on ½-lb. steam pressure.

The field of usefulness of the pump is asserted to have been considerably increased, and the device is now said to be suited for pumping water in railway tanks, drinking fountains and dye and pulp vats. The improvements can easily be added to the old-style Emerson pumps.

The Emerson Pump & Valve Company, Alexandria, Va., will soon introduce two new pumps of 100 and 180 gal.-per-min. capacities.

Report Conditions of Lumber Markets in South America

A new report on the markets for lumber in Chile, Peru, Ecuador, Colombia, Venezuela, Trinidad and Curaçao has been prepared by the Bureau of Foreign and Domestic Commerce at Washington. Among the topics treated are domestic resources and industry; lumber imports and their distribution; the species, dimensions, costs, prices and uses of imported lumber; business conditions and suggestions for expanding American trade.

The report, which is entitled "Lumber Markets of the West and North Coasts of South America," special agents' series 117, is for sale by the superintendent of documents, Washington, and at all district offices of the bureau.

Markets for machinery and machine tools in Argentina are described in Bulletin 116, recently prepared by the bureau and now ready for distribution.

New Officers for Cement Company

William P. Corbett has been made vice-president and J. W. Kittrell general manager of Alsen's American Portland Cement Works, New York City.

Drive 4000 Piles with One Band

The Weldless Pile Band Company, New York City, has recently put on the market a weldless pile band in sizes from 10 to 18 in. One of these bands has been used in protecting more than 4000 piles while being driven. This, according to the manufacturer, is an exceptionally good record.

Device Permits Pen Adjustment to Any Thickness of Line

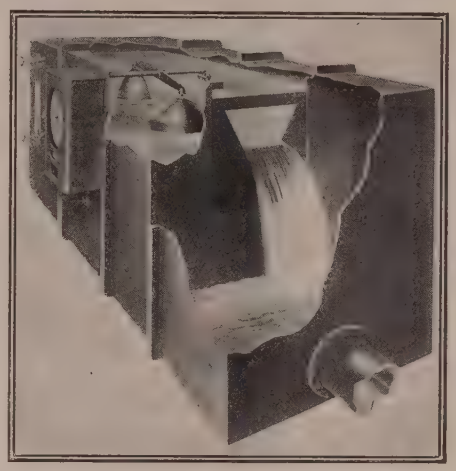
A detachable adjusting device designed to increase efficiency in the drafting room has been patented by A. E. Norman, of Portland, Me. The attachment is made so that any of three line widths may be selected. The pen can be set for heavy lines, readjusted for thin ones and then reset for the heavy line without the usual testing to make sure that the second line will be the proper width. The use of the device necessitates no change in the ordinary ruling pen.

Bureau Issues Report on South American Tariffs

Report 34, dealing with the tariff systems of South American countries, has just been completed by the Bureau of Foreign and Domestic Commerce. The document is on sale by the superintendent of documents at Washington and the district offices of the bureau. The report covers surtaxes, the recent Chile tariff revision and practically every new tariff development in South America.

Weir Meter Gives Accurate Data for Wide Range of Flow

A weir meter has been designed by the Bailey Meter Company, Boston, in which the principle used in recording and integrating the flow is said to be different from those on which the designs of other meters are based. The general arrangement of the working parts is shown in the illustration. As the water level is raised the short displacing member rises with the water and the long member is pushed deeper into the water to such an extent that the buoyant force on the two displacing members is automatically maintained equal. These two members are properly shaped in accordance with the flow curve, so that the recording pen and integrator move in direct proportion to the rate of flow. The simplicity of this meter, it is asserted, obviates a multiplicity of adjustments.



SIMPLE CONSTRUCTION SAID TO ELIMINATE NECESSITY FOR MAKING MANY ADJUSTMENTS

A record of the water temperature is also made on the same chart with the rate of flow. This is accomplished by means of a recording thermometer having its bulb located in the flowing water. If a temperature record is not desired the full pen motion on a 12-in. chart may be had. Modified forms of this meter are also made for measuring blowoff and to show leakage, while another form is designed for irrigation work.

Business Notes

W. H. Murphy, managing director of the K. M. Concrete Steel Company, Ltd., of Melbourne, Australia, specialist in concrete reinforcing, is in the United States endeavoring to find a suitable line of mild steel bars for reinforcing purposes. He is also interested in securing the agency for some good concrete mixer and in anything pertaining to the concrete construction industry. He may be reached for a limited time at the Bureau of Foreign and Domestic Commerce in Chicago.

Harry S. Fate has taken charge of the business of the J. D. Fate Company of Plymouth, Ohio, succeeding his deceased brother, Harley H. Fate, as president.

The Dixie Culvert & Metal Company has taken new executive offices in the new Healy Building, Atlanta, Ga. The export offices will be removed from New York City to Atlanta.

F. A. Peckham & Company have opened an office in the Leader-News Building, Cleveland, and in addition to the regular line of contractors' equipment will handle motor trucks, specializing on one machine especially designed for contractors. Frederick Peckham will give his personal attention to the management of the Cleveland office for the next few months.

G. A. Luckey has been made resident manager of the new office of the Edison Storage Battery Supply Company at New Orleans. Mr. Luckey is a graduate of Franklin Military Academy and the Bliss Electrical School. He had ten years' experience with the Safety Car Heating & Lighting Company. He joined the Railway Utility Company's sales force in 1911 and in 1912 became a member of the Chicago office of the Edison Storage Battery Company, where he has been employed until his recent appointment.

Trade Publications

The following companies have recently issued trade literature:

Waterbury Company, New York City. New catalog and price list of Waterbury wire rope. 100 pages, 3½ x 5 in.; neatly bound, convenient book.

Vulcan Process Company, Minneapolis, Minn. Catalog 5, 6 x 9 in., 54 pages. Gives complete information about Vulcan process of oxyacetylene welding and cutting of metals.

E. E. Johnson, St. Paul. Catalog 16, 5 x 7 in., 32 pages. Shows brass well screen, jacket ribbon and winder, demon grip steel pump-rod coupling and Polhard bottom; tables of discharge capacity of screens and other data. Illustrations of conditions met in installation.

James B. Clow & Sons, Chicago. Catalog, 6 x 9 in., 104 pages. Clow foundry products.

Pawling & Harnischfeger Company, Milwaukee. Bulletin 9, 6 x 9 in.; 20 pages. P. & H. pipe-line excavators.

Sullivan Machinery Corporation, Chicago. Bulletin 70C, 6 x 9 in., 16 pages. Describes Sullivan "DR-6" mounted water hammer drill and illustrates use.

Ingersoll-Rand Company, New York City. Bulletin 9023, 6 x 9 in., 24 pages. Describes Imperial tie-tamping outfits. Bulletin 3026, devoted to Ingersoll-Rogler class PRE air compressors, and Bulletin 3312, describing imperial BX duplex power-driven compressors.

Chicago Pneumatic Tool Company, Chicago. Bulletin E39, 6 x 9 in., 8 pages. Duntley electric grinders. Bulletin 34-Q gives a few applications of Giant gas and fuel oil engines.

Fairbanks Steam Shovel Company, Marion, Ohio. Catalogue, 7 x 10 in., 114 pages. Devoted to steam, gasoline and oil operated dipper and hydraulic dredges, steam and gasoline-oil shovels and Scotch marine and locomotive firebox boilers. Beautifully illustrated with pictures of machines in operation showing adaptability of different types. Tables of yardage in ditches with different slopes.

American Steel Dredge Company, Fort Wayne, Ind., Catalog 11, 8 x 11 in., 16 pages. Describes American steel dredges and sectional steel hulls. Photographs of machine under actual working conditions.

American Pulverizer Company, East St. Louis, Ill. Catalog 21, 8 x 9 in., 12 pages. Describes pulverizer for brick, Portland cement and coke manufacturers and air separators for discharging dust from disintegrating machinery.

Roller-Smith Company, New York City. Bulletin 200, 6 x 9 in., 4 pages. Describes Roller-Smith portable direct-reading bond testers and shows diagram of connection.

Norwood Engineering Company, Florence, Mass., eight-page folder describing the improved "Walker" fire hydrant with rubber-faced gate, bronze mounted. Well illustrated, showing all parts, with detailed description and explanation of special features. Includes also "Holyoke" standard fire hydrants and parts.

National Lumber Manufacturers' Association, Chicago, engineering bulletin 1, 20 pages. A general article on timber for structural purposes. A card accompanying the first issue states that nine bulletins will follow on such subjects as standard mill construction, the selection and general characteristics of structural timber, and physical properties and strength values.

Construction Work Should Show Steady Improvement

It Is Always Late to Develop in Prosperous Periods—Astonishing Gain in Foreign Trade for May and Recessions from Top Steel Prices Features of Business—Banking Conditions Excellent

ALTHOUGH many conditions indicate that the volume of general business is approaching a maximum and that no further great improvement in conditions may be expected, it should be remembered that construction work always develops late in a period of prosperity, and that in the present instance several factors have operated to retard this development until later than normal. The chief of these factors, which has been referred to before by this journal, is the uncertainty over the wage demands of the union railway employees, which has held back the railroads at a time when normally they would have undertaken considerable construction work. Among the things which show the beginning of a tendency to overextend in general business are the continued large volume of new incorporations and the general increase in our scale of living, evidenced by the record sales of pleasure automobiles and the unusually prosperous condition of the theater, jewelry, candy and clothing industries.

A tendency to overextension is also reflected in the extraordinary increase in imports of foreign merchandise, a new high record of $229,000,000 having been set for May. This is partly offset, however, by the still more remarkable growth of our exports, which in May reached the extraordinary sum of $472,000,000, eclipsing by $61,000,000 the high record set last March. The month of May also showed a net inward gold movement of more than $15,000,000.

According to the *Iron Age*, pressure on the steel industry is decreasing, and prices for immediate delivery have tended during the month to approach those for later shipments. Prices of metals and commodities generally are showing declines. Though this movement may be checked to some extent in the event of war with Mexico, as soon as it becomes general, construction work on a larger scale may be expected.

The monetary situation has taken a decidedly stronger turn during the last month. Although the recent statements of the New York banks would in earlier years have indicated an overextended condition, it must be remembered that our new banking system and the seasonal demand for money in the interior have combined to greatly reduce New York bank reserves. Federal bank reserves are large, and the resources of our new banking system have as yet hardly been drawn upon. It is thought in some quarters that the low rates on short time loans so noticeable this year have been due to the tendency on the part of many investors to wait until the expected rise of money rates at the close of the war before investing in long-term securities, and to the large amount of money on deposit here for use in paying for exports, which the banks could loan only on short-time notes. Our enormous trade balance, which must be financed in large part here, the possible need of our own government for funds, and the increasing demand of European governments for further loans are factors which can hardly fail to strengthen money rates. However, it is thought that there is as yet little danger of any serious stringency.

Iron and Steel

Steel Products.—The steel mills have had further opportunity to catch up, and deliveries in many lines are easier to secure. Premiums for immediate delivery have correspondingly declined. It is possible, however, that a war with Mexico, followed by a heavy demand for many steel products for government use, would operate to restore the unusual conditions of the past spring. Prices of steel products, per 100 lb., f.o.b. the points named, follow.

	Immediate delivery	Future delivery	Warehouse
Pittsburgh:			
Structural material	...	$2.50	$4.00
Plates	$4.00	2.75	...
Steel bars	2.75	2.50	3.00
Iron bars	2.65	2.50	...
Rivets	4.00	...	...
New York:			
Structural material	2.75	2.50	3.50
Plates	4.17	2.92	4.50
Steeel bars	3.17	2.92	3.10
Iron bars	2.67	2.67	3.10
Chicago:			
Structural material	2.69	2.69	3.10
Plates	4.00	3.09	3.50
Steel bars	3.18	2.69	3.10
Iron bars	2.35	2.35	3.10
Rivets	...	3.50	3.50
San Francisco:			
Plates	...	...	4.75
Steel bars	...	3.50	4.00
Iron bars	...	3.50	4.00

Sheets.—The price for No. 28 sheet has declined for both black and galvanized. Prices per 100 lb., f.o.b. the points named, are as follows.

	Black	Galvanized
Pittsburgh	$2.90	$4.60
Chicago	3.10	5.40

Cast-iron Pipe.—The market for cast-iron pipe continues steady. Prices per ton at the points named are as follows:

	Class A and gas pipe	Class B and heavier
New York	$31.50	$30.50
Chicago	31.00	32.00
San Francisco	36.00	37.00

Wrought Pipe.—The market for lap-welded iron and steel pipe showed no price change during the month. Prices per ton in carload lots at Pittsburgh are as follows:

	Black	Galvanized
Steel pipe, 2½ to 6-in.	$64.00	$103.00
Iron pipe, 2½ to 6-in.	86.00	126.00

Concrete Materials

Cement.—Price per bbl., large lots, to contractors, without containers, f.o.b. points named:

Boston	$1.52	New Orleans	$1.85
New York	1.32	Memphis	1.74
Cleveland	1.54	Duluth	1.66
Cincinnati	1.69	St. Paul	1.73
Pittsburgh	1.41	Cedar Rapids	1.65
Detroit	1.55	Kansas City	1.52
Chicago	1.46	Denver	2.12
Atlanta	1.64	Phoenix	2.85
Jacksonville	1.60		

Sand.—Price, washed and screened, in large lots to contractors, per cubic yard, f.o.b. points named:

Boston	$0.65	Detroit	$1.35
New York	.50	St. Paul	.50
Cincinnati	.94	Kansas City	.40
Chicago	.85	Denver	1.00
New Orleans	1.00	Phoenix	1.00

Gravel and Crushed Rock.—Prices in large lots to contractors, per cu. yd., f.o.b. points named:

	Gravel		Crushed Rock	
	1½-in.	¾-in.	1½-in.	¾-in.
Boston	$0.90*	$1.00*	$0.85	$0.90
New York	.90	1.00	1.00	1.15
Cincinnati	1.00	.88	1.13	1.13
Chicago	.85	.85	.875	.875
New Orleans	1.40	1.70	2.00	2.00
Detroit	1.35	...	1.30*	...
St. Paul	1.00	1.00	1.50	1.50
Kansas City	2.00	2.00	1.25	1.25
Denver	1.50	1.50	1.75	2.25
Phoenix	1.50	2.00	1.75	1.75

*Price per ton.

Brick and Paving Materials

Brick.—Price per 1000, wholesale, f.o.b. the points named:

	Common	Paving
Boston	$11.50	.....
New York	7.50	$24.00
Cincinnati	7.50	20.00
Chicago	6.50	22.50
New Orleans	7.00	25.00
Detroit	9.50	24.00
St. Paul	12.00	19.50
Kansas City	7.00	20.00
Denver	8.50	15.00
Phoenix	8.00	.....

Granite and Wood Paving Blocks.—Price in large lots, per sq. yd. to contractors, f.o.b. points named:

	Standard granite block	4-in. wood block
New York	$2.15	$2.00
Cincinnati	2.30	1.75
Chicago	1.80	1.75
New Orleans	1.43	1.58
Detroit	*2.15	.....
St. Paul	†1.79	1.48
Kansas City	2.00	1.58

*Local delivery. †Sandstone.

Asphalt.—Price per ton, wholesale, f.o.b. points named:

	Kind	Price
Cincinnati	Trinidad	$20.50
New Orleans	Texaco	14.70
St. Paul	Standard Oil	15.00
Kansas City	Trinidad	23.00

Lumber

Yellow Pine.—Wholesale prices per 1000 ft. b. m., f.o.b. cities named:

	1 x 10 rough	2 x 10 D & M	8 x 8 —20	12 x 12 —20
New York	$22.50	$22.00	$30.00	$35.50
Cincinnati	31.00	22.00	30.00	30.00
Chicago	.....	25.00	.....	.....
New Orleans	26.00	25.00	22.00	25.00
Detroit	34.00	31.80	28.90	34.00
St. Paul	22.50	44.00	26.00	45.00

Fir.—Wholesale prices per 1000 ft. b. m., f.o.b. points named:

	1 x 10 rough	2 x 10 D & M	8 x 8 —20	12 x 12 —20
Detroit	.....	$34.00	.....	.....
St. Paul	$22.50	33.00	$26.00	$30.00
Kansas City	27.00	*32.00	26.00	27.00
Denver	20.00	.....	24.00	25.00
Phoenix	38.00	38.00	34.00	34.00

*Price on 2 x 16—16 ft.

Spruce and Hemlock.—Prices, wholesale, per 1000 ft. b. m., f.o.b. points named:

	Hemlock		Spruce
	1 x 10 rough	8 x 8 —20	8 x 8 —20
*New York	$27.00	.....	$36.00
Detroit	25.50	$27.70	28.90
St. Paul	23.00	26.00	31.00
Kansas City	27.00	.....	.....

*Hemlock, 2-in.; spruce, 3 x 12.

Sewer Pipe and Tile

Sewer Pipe.—Prices in large lots to contractors, per lin. ft., f.o.b. points named:

	3-in.	5-in.	8-in.	12-in.	24-in.	36-in.
*Boston	60	60	60	60	60	44
New York	$0.07	$0.115	$0.154	$0.28	$0.91	$2.87
Cincinnati	.065	.104	.143	.26	1.04	3.08
New Orleans	.037	.058	.108	.204	.78	3.25
*Detroit	65	65	65	65	59	57
St. Paul	.055	.082	.138	.248	.87	....
Kansas City	.05	.09	.15	.30	1.25	2.50
Phoenix	.08	.135	.25	.40	1.40	3.50

*Per cent discounts from list price.

Hollow Building Tile.—Prices in large lots to contractors, per 1000, f.o.b. points named:

	4x12x12	8x12x12	12x12x12
New York	$47.50	$63.00	.....
Cincinnati	43.00	75.00	$100.00
Chicago	72.50	123.25	166.75
New Orleans	65.00	112.50	155.00
Detroit	52.40	93.25	133.00
St. Paul	48.00	85.00	122.00
Kansas City	60.00	100.00	140.00
Denver	70.00	120.00	160.00
Phoenix	90.00	180.00	.....

Miscellaneous

Oil.—Price per bbl. of 50 gal. to contractors, local delivery:

	Fuel	Black	Red engine	Steam cyl.	Gasoline
New York	$2.50	$7.00	$10.00	$15.00	$14.00
Cincinnati	2.50	5.00	9.00	16.00	12.00
Chicago	3.25	4.00	9.50	8.50	9.25
New Orleans	1.19	5.50	10.50	18.50	10.25
Detroit*	2.00	5.00	9.00	25.00	10.00
St. Paul	...	4.95	10.20	30.00	9.75
Kansas City	5.15	7.50	10.35	16.35	8.65
Denver	...	8.00	15.50	22.00	12.00
Phoenix	1.65	9.00	11.50	20.00	12.25

*Prices f.o.b.

Manila Rope.—Price per lb., full coils, ¾, 1 and 1½-in., local delivery:

New York	$0.19	Detroit*	$0.1825
Cincinnati	.20	St. Paul	.19
Chicago	.185	Phoenix	.22
New Orleans	.19		

*For ¾-in. only.

Lead.—The price of lead continued to decline during June, and recently reached $6.85 per 100 lb. spot at New York, for 25-ton lots, and $6.75 at East St. Louis.

Copper.—The market for copper is quiet at present, after a decline during the month from top prices to 27 cents per pound for electrolytic at New York. The Mexican situation is apt to produce a reaction also in this metal.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Leominster, Mass.—Construction of a sewer system in North Leominster and Whalom sections of city being considered. James H. Johnston, Supt. Streets.

Lenoxdale, Mass.—The State Bd. of Health approved plans for construction of a sewage disposal system. Address Town Clerk.

Quincy, Mass.—Reported extensions to water mains contemplated at cost of $10,000. Address City Clerk.

Woburn, Mass.—Construction of a stand pipe and automatic pump on Menchin's Hill section contemplated. Cost, about $10,000. Address City Clerk.

Providence, R. I.—Council Finance Committee sold $1,000,000 bonds for constructing water system at Scituate.

Hartford, Conn.—Water Commissioners voted to extend 6-in. main on Terryville Avenue, lay 2300 ft. 6-in. main and 1000 ft. 2-in. main.

Brooklyn, N. Y.—Nelson P. Lewis, Ch. Engr. Bd. of Estimate, recommends construction of sewers in Flatbush and New Lots Rd. section; cost about $850,000.

Hudson Falls, N. Y.—Construction of water works contemplated. Address City Clerk.

Oneida, N. Y.—Installation of new water system contemplated. Address City Clerk.

Warsaw, N. Y.—Election will probably be held to vote on bond issue of $200,000 for construction of sewerage system and pavements.

Bogota, N. J.—The Bogota Water Co. will install new pumps.

Caldwell, N. J.—Construction of municipal water works contemplated. Address City Clerk.

Clinton, N. J.—Clinton Water & Supply Co. contemplates laying water mains through Lebanon and connect with Clinton Reservoir.

Cranford, N. J.—Rahway, Cranford, Union, Springfield, Garwood and Hillside have decided to construct a joint trunk sewer and joint sewage disposal plant at tide water to cost about $800,000.

Keyport, N. J.—City Council considering waterproofing the flooring of filter beds.

Newark, N. J.—Morris R. Sherrerd, Chief Engineer of the Newark Board Street & Water Commissioners, has been elected engineer of the Northern Jersey Water Commissioner, whose temporary quarters are in the Spingarn Building, Jersey City.

Riverdale, N. J.—The Butler Water Co. of Butler considering extension of lines from Bloomingdale to Riverdale.

Arnold, Pa.—Citizens voted to issue $35,000 bonds for constructing sewers and pavements. Address City Clerk.

Mt. Pleasant, Pa.—The Mt. Pleasant Water Co. will install filtration plant at lower Bridgeport dam.

Quarryville, Pa.—Election will be held in November to vote on purchasing present water works and construction of reservoir to increase gravity pressure.

Summithill, Pa.—Farley Gannet, Engineer, Telegraph Building, Harrisburg, engaged to report on improvements to the supply for borough of Summit Hill, Carbon County, for the Summit Hill Water Company.

Wilmington, Del.—Water bonds for $300,000 reported will be sold, also paving bonds for $200,000, July 1, by City Council.

Chapel Hill, N. C.—Trustees of University of North Carolina have authorized expenditure of $42,000 for heating plant, water works and electric light system. J. B. McCrary, Engineer, Atlanta, Ga.

Swainsboro, Ga.—Construction of water works and sewerage system contemplated. Address City Clerk.

Lafayette, La.—Construction of sewerage system is contemplated. Address City Clerk,

Columbus, Miss.—J. L. Ludlow of Winston-Salem, N. C., in a report to city recommends installation of additional 12-in. main leading to city from water works and additional filteration equipment; cost about $16,500.

Pontotoc, Miss.—Construction of water works contemplated. Address McCrary Water Works Co. of Atlanta, Ga.

Potts Camp, Miss.—Bd. of Aldermen will issue $8,000 water bonds.

Marion, Ky.—City Council voted to construct sewer and septic tank near creek at Boston's planing mill; cost $70,000.

Columbus, Ohio.—City Council voted to construct a water main to Camp Willis in Upper Arlington; cost $6,000.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Alliance, Ohio—State Board of Health has approved the plans of Winthrop Pratt, Hippodrome Bldg., Cleveland, for the changing of the present sewage disposal plant into the Imhoff system.

Columbus, Ohio.—Plans about completed by Alvord & Burdick, 8 South Dearborn Street, Chicago, Ill., for detention basins on Scioto and Olentangy Rivers. Main channel Scioto River to be deepened to 25 ft.; about 1,000,000 cu. yd. earth and rock to be removed. Address Franklin County Conservancy Board.

Lancaster, Ohio.—Council ordered sewers constructed in Storm Water Sewer District No. 5.

Medina, Ohio.—Waterworks bonds for $25,000 will be sold July 10 by O. O. Van Deusen, Village Clerk.

Middletown, Ohio.—In a report to City Commission, William C. Morrison, City Engineer, estimates cost of constructing sewer on Third Street at $47,500.

Portsmouth, Ohio.—Sewer bonds for $42,000 will be sold July 25 by Louis A. Zucker, City, Aud.

Springfield, Ohio.—Construction of a combined sewer system for North Side contemplated; estimated at about $31,000. About 22,400 ft. of sewer pipe varying in sizes from 6 to 30 in. required. M. J. Bahin, City Engineer.

Zanesville, Ohio.—Construction of a sanitary sewer in Seventh Ward being considered. Address City Clerk.

Crystal Falls, Mich.—All bids opened June 19 by City Clerk for constructing water works extension rejected.

Highland Park, Mich.—William C. Hoad, University of Michigan, Ann Arbor, submitted plans to City Council for storage reservoir and filtration plant; estimated cost $344,740. Reservoir to be 1270 ft. long, 276 ft. wide and 15 ft. deep, 40,000,000 gal. capacity, cement construction. Filtration plant to care for 26,000,000 gals. of water.

Chrisman, Ill.—A storm sewer system is to be constructed in Chrisman at a cost of $10,000. C. P. Lycon of Paris, Engr. Frank McCuddy, City Clerk.

Matteson, Ill.—Construction of sewerage system contemplated. A. Allen Fox, Chicago Heights, Engr.

Rock Island, Ill.—Council has appropriated $40,000 for southwest storm drain system. Address City Clerk.

Wyanet, Ill.—Citizens voted to spend $8,000 for constructing water works.

Claremont, Iowa.—Citizens voted $18,000 bonds to construct water works.

Kelly, Iowa.—Citizens on June 12 voted to construct water works. J. L. Johnson, City Clerk.

Malvern, Iowa.—Town Council voted to construct sewers on a number of streets and alleys.

Oelwein, Iowa.—City Council voted to extend sewerage system. Address City Clerk.

Oskaloosa, Iowa.—City Council about to let contracts for extending Penn College and Forest Cemetery sewer outlets one mile east of present outlet.

Claremont, Minn.—Contract will be let as soon as plans are completed for extending the sewers to the river, a distance of 400 ft., also for erecting septic tank, Imhoff pattern. J. F. Druar, Engineer, 312 Commercial Bldg., St. Paul; A. C. Hinckley, Village Recorder.

St. Paul, Minn.—All bids opened June 5 for high-service reservoir rejected as city was not able to secure additional ground at site. New bids will be asked after site is secured by condemnation proceedings.

Concordia, Kan.—Plans being prepared for extension to water system. Address City Clerk.

Topeka, Kan.—City reported considering constructing a 500,000-gal. receiving basin. Address City Clerk.

Wichita, Kan.—City Commission considering constructing sewerage system in North End District; cost $175,000. Bert Wells, City Engineer.

Fremont, Neb.—The city is considering constructing sewage disposal plant. Probable cost, $50,000.

Johnson, Neb.—Citizens voted $9,000 bonds for constructing water works. Address Clerk Village Board.

Wymore, Neb.—City Council adopted plans for constructing sewer system, cost $16,500. Election to be held to vote bonds for improvement. John L. Hershey of Beatrice, Engineer.

Milbank, S. D.—City is considering installing filter plant. F. L. Thompson, Mayor.

Bozeman, Mont.—About $305,000 water and sewer bonds sold by city.

Glasgow, Mont.—W. B. Shoemaker, County Clerk Valley County, Glasgow, reports Commissioners have granted to Town of Hinsdale (unincorporated) permission to create a special improvement district and to issue bonds for the installation of a water works plant to cost $26,700. H. H. Alvis, Glasgow, preparing plans for the system.

Hysham, Mont.—Citizens voted to construct electric light plant and water works. Address City Clerk.

Lovell, Mont.—City Engineer directed to prepare plans and specifications for construction of water works and sewerage system. About $60,000 bonds for improvements sold.

Kansas City, Mo.—Construction of a pumping station contemplated. Address W. W. Harnden of Fire and Water Board. Board of Public Works directed to engage engineer to prepare plans for sewers.

Paris, Mo.—Engineers engaged to submit a report on estimate of cost of constructing filtration plant. James T. Moss, City Clerk.

Malvern, Ark.—City Council approved organization of Improvement Dists. 12 and 13 for construction of water works and sewers.

Bryan, Tex.—City will build a $35,000 sewage disposal plant and several miles of sewer extensions some time this summer, also an incinerator plant to cost $6,000. A. S. Adams, City Engineer.

Ft. Worth, Tex.—Dr. W. B. Collins, State Health Officer, V. M. Ehlers, State Sanitary Engineer, and Mayor Tyra considering constructing sewage disposal plant. Election will probably be held to vote on $350,000 bond issue.

Greenville, Tex.—The Attorney General approved a bond issue of $100,000 for constructing sewers in Greenville. A. D. Duck, City Engineer.

Kingsville, Tex.—The question of constructing municipal water works is under consideration. Henry C. Porter, City Engineer.

Lockhart, Tex.—Henry E. Elrod, Dallas, is consulting engineer for sewer system to be installed here.

Port Arthur, Tex.—City Commission accepted plans for improving local sewerage system. D. K. Miller, City Engineer, and J. F. Coleman, Consulting Engineer, appointed to investigate conditions and report on extending sewerage and water system of city.

Terrell, Tex.—City Commission granted permission to Charles Newman of Terrell to lay water mains on North Adelaide Street.

Blanchard, Okla.—Construction of municipal water works and light plant contemplated. Address City Clerk.

Bromide, Okla.—Plans being considered by city for construction of water works and electric light plant. Address City Clerk.

Crowder, Okla.—McIntosh-Walton Company, Oklahoma City, are engineers for water works; an election to be held July 18 to vote $30,000 bonds for same.

McCloud, Okla.—Election will be held July 10 to vote $15,000 water bonds. Address City Clerk.

Sand Springs, Okla.—Benham Engineering Co., Oklahoma, engaged to prepare plans for a storm and sanitary sewer system costing $50,000.

Las Cruces, N. M.—Bonds will be sold July 5 for extending and improving the water works and sewer system at a cost of $20,000. F. H. Todd, Engineer, El Paso, Tex.; J. B. Dunard, City Clerk.

Blaine, Wash.—Election will be held to vote on issuing bonds for municipal water works.

Seattle, Wash.—City Engineer, A. H. Dimock and Supt. of Water L. B. Youngs, in a report to City Council, recommended utilization of Swan Lake as storage reservoir, replacement of wood-stave pipe lines Nos. 1 and 2 with steel, construction of new reservoirs in West Seattle and additional units in Volunteer Park and Lincoln Park. Tentative plans call for development of system to capacity of 150,000,000 gals. a day, entire project to cost $8,183,000; without Swan Lake would cost $10,127,000; with reconstruction of pipe lines Nos. 1 and 2 $7,727,000.

A. H. Dimock, City Engineer, in a report submitted to Bd. of Public Works, estimates cost of constructing sewers in West and North Forty-fifth Streets, at $15,168.

Merrill, Ore.—Citizens voted $6,000 bonds for constructing water system.

Auburn, Cal.—Contract about to be let for constructing septic sewage disposal plant. Plans of Solon Pierce of Sacramento adopted.

Fresno, Cal.—Plans under way for tile drainage systems for 2,000 acres of Kearney Vineyard. Walter Wibeir, Drainage Engineer.

Los Angeles, Cal.—Citizens June 6 voted down the proposition to construct a sewage treatment plant costing $1,800,000. Homer Hamlin, City Engineer.

Stockton, Cal.—Reported West Side Irrigation District has adopted final plans for the proposed system and submitted them to State Engineer for approval. If approved, an election will be held July 15 to vote on constructing the system, which is estimated to cost $285,000. W. G. Hunter, Engineer.

Pocatello, Idaho.—City has approved a $450,000 bond issue for purchase of the water works system.

Winnipeg, Man.—District Board decided to lay reinforced concrete pipe from Deacon to Red River, a distance of 10 miles.

Calgary, Alta.—City Council considering installing sewage disposal plant at cost of $300,000.

Mailiardville, B. C.—Contract will soon be let by City Council for constructing water works.

BIDS DESIRED.

Skowhegan, Me.—Until July 15, by Clyde H. Smith, Chmn. Trus. of Woman's Reformatory, for furnishing material and constructing a pipe line for bringing water a distance of about 3900 ft. to building site for Reformatory at Skowhegan.

Boston, Mass.—Until July 6, by Edw. F. Murphy, Comr. Public Works, for constructing circular concrete conduit, pipe sewers and surface drains in Richwood and Center Streets and outlet in Roslindale Branch of Stony Brook, Willow Street and land of N. Y., N. H. & H. R. R., West Roxbury.

Woonsocket, R. I.—Until July 13, by Board Sewer Commissioners, for constructing 8, 10 and 12-in. sewers, advertised in Engineering Record. Frank H. Mills, City Engineer.

Brooklyn, N. Y.—Until July 5 by L. H. Pounds, Borough Pres., for furnishing material and constructing sewers in Pacific Street, in all about 4200 lin. ft. 30 to 78-in. brick sewer, 2071 ft. 8 to 24-in. pipe sewers, together with manholes, basins, etc. Security $50,000. Also separate bids same time and place for constructing sewers in Bath Avenue, Seventy-sixth Street, Beverly Road and Benson Avenue. Security $4,800.

New York, N. Y.—Until July 11, by Douglas Mathewson, Pres. Bronx Borough, for furnishing and erecting complete 535 malleable c. i. street signs, frames type A, and 1485 malleable c. i. street sign frames type B, each frame to contain two enamel street signs at various locations. Security $3,500. For paving with bituminous concrete on cement-concrete foundation portions of E. 193d Street with granite block on concrete foundation portions of E. 138th Street, in all about 11,400 sq. yd. redressed granite block on concrete foundation laid with asphaltic cement joints outside railroad area and keeping in repair for one year, and 4700 sq. yd. redressed granite block on concrete foundation inside railroad area, together with curbing, etc. Security $17,000. For laying sidewalks, building inlets, guard rails, etc., on East 184th Street. Security $500. Constructing sewers in Bainbridge, Jerome, Gifford Avenues and East 177th Street and a number of other streets. Total security $23,000. Constructing storm water drains in East Twenty-third Street, Boston Road and other streets. Security $13,000. Constructing sewers and appurtenances in East 177th Street. Property of the N. Y., N. H. & H. R. R., Bronx Park Avenue, Morris Park Avenue and other streets. Engineer's estimate 5257 lin. ft. single concrete sewer, 764 lin. ft. vitr. pipe 12 to 30 in., 20,000 cu. yd. rock excavation, together with basins, etc. Security $100,000.

New York, N. Y.—See "Excavation, Dredging and Drainage."

Jersey City, N. J.—Until July 11 by City Commissioners for cast-iron pipe. M. I. Fagen, City Clk.

Erie, Pa.—Until July 14, by city, for a 20,000,000 gal., turbine driven pumping unit to be used as an auxiliary at the main pumping station of the city water works. Chester & Fleming, Engineers, Pittsburgh.

Little Falls, N. J.—Until July 12, by Harry Eike, Chmn. Township Committee, for constructing a sewage disposal plant. H. J. Hardin, Engr., 140 Market Street, Paterson.

Newark, N. J.—Until July 18 (readvertisement) by Passaic Valley Sewerage Commission, Essex Building, Clinton Street, Newark, for constructing Section No. 22, Lawrence Street branch intercepting sewer, advertised in Engineering Record.

Jacksonville, Fla.—Until July 6 by Bond Trustees (W. M. Bostwick, Chmn.) for 2624 ft. 6, 8 and 20-in. pipe, 5 tons Class B fittings, etc.

Miami, Fla.—Reported desired until Aug. 3 for constructing sewers. Amount available $25,000. B. H. Klyce, City Engr.

Baldwyn, Miss.—Until July 12 by Town for furnishing material and constructing water works and pumping station, to include reservoir, etc. Xavier A. Kramer, Consulting Engr., Magnolia.

Macon, Miss.—Reported desired until July 8 for constructing water works. Jno. A. Tyson, Chancery Clk.

Akron, Ohio.—See "Roads and Paving."

Ironton, Ohio.—Until July 11, by Director Public Service (F. A. Ross, Clk.), for improving and enlarging water works. J. F. Witmer Co., Engrs., Buffalo, N. Y.

Sylvania, Ohio.—Until July 12 by Park Wagonlander, Village Clerk, for furnishing material and constructing sanitary sewers in Ottawa, Erie and Summit Streets, advertised in Engineering Record.

West Park, Ohio.—Until July 24, by Fred Feuchter, Village Clerk, for constructing sanitary sewers in Lorain Avenue, and Riverside Drive.

Berwyn, Ill.—Until July 11, by Secy. Board Local Improv. (Oscar N. Lindahl, Secy.), for constructing 12-in. c. i. water supply pipe in Thirtieth Street and Oak Avenue, also in Wesley Avenue. Probable cost $11,651.

Mendota, Ill.—Until July 6, by Board Local Improvements (J. G. Reul, Secy.), for 11,500 lin. ft. vitr. sewer pipe, 11,500 ft. trenching and refilling for connecting catch basins and sewers and 110,000 ft. concrete curbing.

Sparta, Ill.—Until July 10, by James F. Swain, City Clerk, for constructing sanitary sewer and disposal plant, advertised in Engineering Record.

Oskaloosa, Iowa.—Reported desired until July 10 (readvertisement) by J. J. Carroll, City Clerk, for sewer system and disposal plant. Black & Veatch, Engineers, Kansas City, Mo.

New Hampton, Iowa.—Until July 7, by F. B. Strike, City Clerk, for constructing sewers and sewage disposal plant.

Pipestone, Minn.—Until July 10, by S. W. Funk, City Clk., for constructing storm water sewers and appurtenances in city.

Red Lake Falls, Minn.—Until July 17, by Jos. Perrault, City Clk., for constructing sewers, in all about 6626 lin. ft. 8 to 20-in. pipe, together with flush tanks, etc. J. A. Wallace, Consulting Engr., Crookston, Engr.

St. Paul, Minn.—Until July 3, by H. W. Austin, Purchasing Agent, for constructing sewer on Milford, Sanford, Kilbourne and Ryde Streets.

Thief River Falls, Minn.—Until July 11, by A. H. Fasel, City Clk., for constructing sewers in city.

Bellwood, Neb.—Until July 12 by Village Board (J. P. Delaney, Clk.) for pipe line, air pressure tank, 17 hydrants, 6493 ft. 6 and 4-in. pipe. Engineer's estimate $8,000. Alano Engine & Supply Co., 1122 Farnam Street, Omaha.

Sheridan, Mont.—Until July 14, by Frank Carey, City Clerk, for constructing water works to cost $28,000. G. E. Baker, Engineer, Whitehall.

Harvey, N. D.—Reported desired until July 3, by L. W. Miller, City Aud., for making water connections and laying lead water pipe for a period of one year.

Stanberry, Mo.—Reported desired until July 17, by City Clerk, for constructing sewer system. Probable cost $25,000. Black & Veatch, Engrs., 507 Inter-State Building, Kansas City, Mo.

Troup, Tex.—Until July 12, for purchasing material for constructing water works, including c. i. water pipe fittings, hydrants, valves, water tower pumping machinery, engines, etc. J. D. Collier, City Secy. M. Griffin, O'Neill & Sons, Engineers, Dallas.

Oregon City, Ore.—Until July 29, by Water Commission for constructing a concrete lined reservoir having a capacity of 5,000,000 gals., together with appurtenances. Rands & White, Engineers, 921 Electric Building, Portland.

Covina, Cal.—Until July 6, by City Trustees, for drilling of one or more 14 and 20-in. wells 300 ft. deep. F. E. Trask, Consulting Engr., Union Oil Bldg., Los Angeles, Cal.

Halifax, N. S.—Until July 19, by Clerk of Works for Water Meters, advertised in Engineering Record. H. W. Johnston, Acting City Engineer.

Toronto, Ont.—Until July 4, by register post only addressed to T. L. Church, Mayor, Chmn. Board Control, for 4-in. stop valves for high level pumping station.

Toronto, Ont.—Until July 4, by registered post only addressed to T. L. Church (mayor), Chmn. Board Control, for constructing sewers in Ivy Ave. and 1st Lane, also for asphalt pavement on Vine Ave. and concrete pavement on portions of Albertus Ave., Bersford Ave. and other streets and Rocmac macadam on Spruce Hill Road.

Saskatoon, Sask.—Reported desired until July 13, for work in connection with the forced mains. C. J. Yorath, City Comr.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Huntington, Mass.**—Contracts for constructing 5700 ft. 8 and 24-in. sewers (bids opened by Prudential Com. Bd. Commissioners Huntington Fire Dist.), awarded as follows: Frank D. O'Connor of Holyoke, and to Fred P. Stanton of Huntington.

Fairview, N. Y.—All bids opened by Mayor and City Council June 12, for laying 36-in. vitrified drain in Ninth Street, rejected, being in excess of estimate cost, $10,000. McClave & McClave, Borough Engineer.

★**New York, N. Y.**—Contract awarded on bids opened June 13 by Board Water Supply, for constructing 2 gate chambers, substructures, balustrades and brick paving and miscellaneous work at Silver Lake Reservoir, Borough Richmond, Contract 144, to P. T. Cox, Manhattan Bridge Plaza, Canal Street and Bowery, New York, at $40,923.

Newark, N. J.—All bids opened by Passaic Valley Sewerage Commission June 13 for constructing Lawrence Street branch of intercepting sewer in Paterson, according to reports, rejected, and new bids to be received.

★**Ridgefield Park, N. J.**—Contract for constructing sewers, treatment works, etc., for sewer diversion and treatment awarded by Bd. of Commissioners (bids opened May 23) to Curtin Bros. of Guttenburg at $77,254. Other bidders: Cavanaugh Constr. Co., $95,415; J. T. Shanley, $106,154; Day & Zimmerman, $116,516, and Tietgen, Gray & Wahlberg, $117,-142. Lederle & Provost, 39 West Thirty-eighth Street, New York, N. Y., Engrs.

★**Philadelphia, Pa.**—Contract for installing motors and pumping equipment in Shawmont and Roxborough Pumping Station awarded by Director Dept. Public Works to Francis J. Boas, 201 North Broad Street, at $67,300.

★**Richmond, Va.**—Contracts for constructing the Bacon Quarter Branch Sewer, including cement and pipe furnished by the city (bids opened June 15), awarded as follows: Section 3, Plan "A," to Elkan & Tafts, Macon, Ga., at $75,992, including cement and pipe; Section 5, Plan "A," Ocean Construction Company, Richmond, $48,749; Section 4, Plan "A," A. W. Maynard, Richmond, $47,857; Section 5A, Plan "A," Louis Hankins, Richmond, $45,678; Section 5B, Plan "A," Van Doren Brothers, Richmond, $69,471. Charles E. Bolling, City Engineer.

★**Lexington, Ky.**—Following are unit figures of Carey Reed Company, Lexington (successful bidder), for constructing of single ring segmental block tile, outfall sewer (bids opened June 20): 4250 cu. yd. earth excavation in open cut, 50 cts.; 200 cu. yd. earth excavation in tunnel, $1.50; 2400 cu. yd. rock excav. in open cut, $2.75; 30 cu. yd. rock excavation in tunnel, $8; 30 ft. 12-in. vitr. pipe drain, 60 cts.; 1100 ft. 18-in. vitr. pipe sewer, 60 cts.; 87 tons 18-in. c. i. pipe sewer, Class "B," $42.50; 36-in. monolithic concrete sewer with vitr. tile invert aqueduct and overflow chamber, $2,250; 160.34 ft. 36-in. monolithic concrete sewer with vitr. tile invert, $4; 4703 ft. 39-in. segmental block tile sewer, $3.25; 59 tons 42-in. c. i. pipe, Class B, $47.50; 1 junction manhole, Manchester Street, $50; 1 junction manhole, L. & N.-Q. & C. trestle, $75; 10 brick manholes on 18-in. pipe line, $40; 14 manholes, 39 and 42-in. sewer, $50; 6 M ft. sheathing and bracing left in place, $30; 5 exp. joints, 36-in. monolithic sewer and overflow chamber, $25; 14 exp. joints, 36-in. monolithic sewer, $25; 20 cu. yd. class "B" concrete, $8; extra reinforced steel furnished in place, 6 cts.; limestone screenings, in place, $2; total, $36,309. Total on other materials, Monolithic concrete pipe, $41,362; and vitr. pipe, $42,188. Solomon Norcross Company, Consulting Engineer, Atlanta, Ga.

★**Alliance, Ohio.**—Contract awarded by Bd. of Control for constructing pumping station at sewage plant to Henderson Constr. Co. of Youngstown, at $36,440.

★**Cincinnati, Ohio.**—Contract for constructing Avondale Relief sewers awarded by Bd. of Control of Michael McCarthy, 2910 Woodburn Avenue, at $16,-820.

Dayton, Ohio.—Only bid received by City Service Dept. for constructing Eaker Street storm sewer submitted by Welling & Frantz of Cincinnati; engineer's estimate $30,000.

No bids submitted to City Service Dept. for constructing N. C. R. sewer and Bolender Avenue sewer; estimated cost $18,000.

★**Everett, Wash.**—Following are unit figures of four lowest bids opened June 5 by Louis Lesh, City Clerk, for Contract No. 1, general construction of water works: (a) Holt & Jeffery, Seattle, $151,000; (b) Washington Paving Co., L. C. Smith Building, Seattle, $158,937 (awarded contract); (c) Pacific Coast Pipe Co., Seattle, $159,500; (d) Harrington Peters Co., Seattle, $163,500.

Item		(a)	*(b)	(c)	(d)
1	Dam and headworks, lump sum	$15,000.00	$11,000.00	$20,000.00	$13,000.00
	275 cu. yd. (a) solid rock excavation	3.00	4.50	11.50	1.75
	650 cu. yd. (b) loose rock excavation	1.50	1.25	1.15	0.50
	150 cu. yd. (c) earth excavation	0.70	0.50	0.60	0.50
	215 M ft. (d) lumber in logs	15.00	15.00	22.00	10.00
	42 M ft. (e) dimension lumber	25.00	35.00	46.00	22.00
	2,600 cu. yd. (f) loose rock and gravel fill	0.80	0.50	2.30	1.25
	1,050 cu. yd. (g) earth fill	0.50	0.50	1.15	0.50
	19,500 lb. (h) steel bolts, reinforcing bars, etc.	0.08	0.08	0.07	0.08
	40 cu. yd. (i) concrete	15.00	15.00	23.00	15.00
2	60,000 cu. yd. earth excavation, grading	0.45	0.50	0.39	0.40
3	3,200 cu. yd. solid rock excavation,				
4	300 cu. yd. fill, grading	0.50	0.50	1.15	0.50
5	46,000 lin. ft. backfill	010	0.15	0.0925	0.10
6	1,300 lin. ft, pile trestle	2.00	2.00	2.00	1.00
7	1,760 lin. ft. tunnel	7.50	9.00	9.20	8.00
8	100 cu. yd. concrete in tunnel portals	15.00	20.00	23.00	18.00
9	300 lin. ft. timbered railroad tunnels.	4.50	6.00	5.75	5.00
10	100 lin. ft. 12-in. pipe culvert	2.00	1.75	1.50	1.50
	100 lin. ft. 18-in. pipe culvert	2.50	2.00	2.00	2.25
	100 lin. ft. 24-in. pipe culvert	3.00	2.40	2.50	3.00
	100 lin. ft. 30-in. pipe culvert	3.50	3.50	3.00	3.75
11	7,600 pipe cradles	0.50	0.45	1.15	0.40
12	480 short piles to be driven in swamps	4.00	4.00	3.45	4.00
13	95 air valve housings	25.00	40.00	23.00	36.00
14	7 manholes	60.00	40.00	57.50	60.00
15	5,000 ton hauling	4.50	5.00	6.90	3.00
16	100 lin. ft. concrete road crossing	7.00	5.00	5.75	7.00

★**Everett, Wash.**—Following are unit figures of four lowest bids opened June 5 by Louis Lesh, City Clerk, for Contract No. 2, furnishing and laying wood stave pipe: (a) Washington Paving Co., L. C. Smith Building, Seattle, $192,252 (awarded contract); (b) Nettleton Bruce Eschbach Co. of Seattle, $194,650; (c) Sound Construction & Engineering Co. of Seattle, $197,630; (d) Pearson Construction Co., Seattle, $198,920.

	*(a)	(b)	(c)	(d)
12,095 lin. ft. 28-in. wood pipe, 0 to 40 ft.	$0.95	$1.05	$1.11	$1.10
2,391 lin. ft. 28-in. wood pipe, 40 to 50 ft.	0.97	1.07	1.13	1.12
2,035 lin. ft. 28-in. wood pipe, 50 to 60 ft.	1.04	1.08	1.20	1.19
5,661 lin. ft. 28-in. wood pipe, 60 to 70 ft.	1.12	1.20	1.27	1.26
7,270 lin. ft. 28-in. wood pipe, 70 to 80 ft.	1.12	1.28	1.35	1.35
10,512 lin. ft. 28-in. wood pipe, 80 to 90 ft.	1.29	1.35	1.39	1.43
8,325 lin. ft. 28-in. wood pipe, 90 to 100 ft.	1.36	1.42	1.49	1.50
4,750 lin. ft. 28-in. wood pipe, 100 to 110 ft.	1.45	1.50	1.57	1.60
5,165 lin. ft. 28-in. wood pipe, 110 to 120 ft.	1.51	1.60	1.67	1.66
3,570 lin. ft. 28-in. wood pipe, 120 to 130 ft.	1.61	1.66	1.71	1.73
2,603 lin. ft. 28-in. wood pipe, 130 to 140 ft.	1.70	1.72	1.78	1.80
1,727 lin. ft. 28-in. wood pipe, 140 to 150 ft.	1.77	1.80	1.86	1.89
2,850 lin. ft. 28-in. wood pipe, 150 to 160 ft.	1.85	1.88	1.92	1.96
1,835 lin. ft. 28-in. wood pipe, 160 to 170 ft.	1.93	1.95	2.00	2.04
2,540 lin. ft. 28-in. wood pipe, 170 to 180 ft.	2.00	2.06	2.00	2.13
2,190 lin. ft. 28-in. wood pipe, 180 to 190 ft.	2.10	2.13	2.15	2.20
1,795 lin. ft. 28-in. wood pipe, 190 to 200 ft.	2.18	2.22	2.23	2.28
2,425 lin. ft. 28-in. wood pipe, 200 to 210 ft.	2.25	2.30	2.30	2.36
1,425 lin. ft. 28-in. wood pipe, 210 to 220 ft.	2.35	2.41	2.40	2.45
1,100 lin. ft. 28-in. wood pipe, 220 to 230 ft.	2.43	2.45	2.45	2.50
450 lin. ft. 28-in. wood pipe, 230 to 240 ft.	2.53	2.55	2.55	2.61
1,975 lin. ft. 28-in. wood pipe, 240 to 250 ft.	2.60	2.59	2.60	2.68
2,508 lin. ft. 28-in. wood pipe, 250 to 260 ft.	2.67	2.67	2.67	2.74
1,987 lin. ft. 28-in. wood pipe, 260 to 270 ft.	2.75	2.74	2.74	2.81
2,100 lin. ft. 28-in. wood pipe, 270 to 280 ft.	2.82	2.86	2.81	2.88
1,850 lin. ft. 28-in. wood pipe, 280 to 290 ft.	3.10	2.90	3.12	3.09
535 lin. ft. 28-in. wood pipe, 290 to 300 ft.	3.18	3.00	3.22	3.18
615 lin. ft. 28-in. wood pipe, 300 to 310 ft.	3.28	3.08	3.30	3.27
1,310 lin. ft. 28-in. wood pipe, 310 to 320 ft.	3.38	3.16	3.40	3.37
2,197 lin. ft. 28-in. wood pipe, 320 to 340 ft.	3.51	3.25	3.50	3.48
750 lin. ft. 28-in. wood pipe, 340 to 350 ft.	3.74	3.36	3.66	3.60
19 2-in. air valves on 28-in. pipe	40.00	40.00	50.00	29.00
30 2½-in. air valves on 28-in. pipe	42.00	50.00	53.00	44.50
45 3-in. air valves on 28-in. pipe	44.00	55.00	54.43	46.00
73 8-in. blow-off valves on 28-in. pipe	48.00	50.00	45.00	50.00
200 lin. ft. 22-in. wood pipe, 0 to 60 ft.	0.88	0.90	0.95	0.98
300 lin. ft. 22-in. wood pipe, 60 to 70 ft.	0.92	0.94	0.99	1.01
495 lin. ft. 22-in. wood pipe, 70 to 80 ft.	0.98	0.98	1.04	1.06
485 lin. ft. 22-in. wood pipe, 80 to 90 ft.	1.03	1.06	1.09	1.10
660 lin. ft. 22-in. wood pipe, 90 to 100 ft.	1.08	1.10	1.13	1.13
370 lin. ft. 22-in. wood pipe, 100 to 110 ft.	1.15	1.15	1.18	1.23
515 lin. ft. 22-in. wood pipe, 110 to 120 ft.	1.19	1.22	1.23	1.27
1,195 lin. ft. 22-in. wood pipe, 120 to 130 ft.	1.26	1.27	1.28	1.31
430 lin. ft. 22-in. wood pipe, 130 to 140 ft.	1.31	1.32	1.33	1.36
390 lin. ft. 22-in. wood pipe, 140 to 150 ft.	1.35	1.37	1.37	1.38
365 lin. ft. 22-in. wood pipe, 150 to 160 ft.	1.41	1.41	1.43	1.46
985 lin. ft. 22-in. wood pipe, 160 to 170 ft.	1.47	1.47	1.47	1.49
585 lin. ft. 22-in. wood pipe, 170 to 180 ft.	1.52	1.52	1.51	1.53
625 lin. ft. 22-in. wood pipe, 180 to 190 ft.	1.59	1.62	1.57	1.57
1,825 lin. ft. 22-in. wood pipe, 190 to 200 ft.	1.64	1.67	1.61	1.62
2 2½-in. air valves on 22-in. pipe	42.00	40.00	53.00	44.50
4 3-in. air valves on 22-in pipe	44.00	60.00	54.43	46.00
6 8-in. blow-off valves on 22-in. pipe	48.00	60.00	45.00	50.00

★**Everett, Wash.**—Following are unit figures of four lowest bids opened June 5 by Louis Lesh, City Clerk, for Contract No. 3, furnishing and laying steel pipe: (a) H. Pederson & J. Block, Masonry & Contracting Co., Seattle, $104,900; (b) Nettleton Bruce Eschbach Co., Seattle, $19,130; (c) Sound Construction & Engineering Co., Seattle, $120,000; (d) Washington Paving Co., L. C. Smith Building, Seattle, $121,943 (awarded contract).

	(a)	(b)	(c)	*(d)
22,937 lin. ft. 28 x ¼ in. riveted steel pipe	$4.60	$5.10	$5.10	$5.25
100 lin. ft. 28 x ⅜ in. riveted steel pipe	7.00	10.00	7.65	7.75
7 2-in. air valves	30.00	40.00	50.00	48.00
1 2½-in. air valve	35.00	50.00	53.00	50.00
2 3-in. air valves	35.00	60.00	55.00	52.00
15 8-in. blow-off valves	40.00	60.00	45.00	58.00

★**Trinidad, Col.**—Following are unit figures of four lowest bids opened June 19 by W. R. Lewis, Superintendent Water Works, for constructing Sopris pipe line: (a) Allen & Murphy, Denver, Colo., $49,286 (awarded contract); (b) W. G. Rupp, Trinidad, $53,359; (c) F. C. Dreher Contracting Co., Denver, $55,624; (d) Gordon & Taylor Construction Co., Denver, $59,203.

	*(a)	(b)	(c)	(d)
26,169 cu. yd. earth excav.	$0.33	$0.525	$0.42	$0.70
1,783 cu. yd. loose rock excav.	0.40	0.80	0.66	1.75
2,681 cu. yd. solid rock excav.	0.60	1.50	1.68	2.85
300 cu. yd. borrowed earth	0.25	0.40	0.44	0.75
40 cu. yd. concrete	7.50	9.00	8.00	12.00
100 cu. yd. rubble masonry	4.50	5.50	6.50	9.00
3,466 lin. ft. steel pipe	0.60	0.30	0.70	0.35
36,900 lin. ft. wood pipe	0.96	0.87	0.96	0.74
Dry stone retaining wall	1.25	2.70	3.50	6.00
Piles	0.70	0.90	1.00	1.25

Extra work, per cent: (a) 10, (b) 10, (c) 20, (d) 15.

Contracting News Section Rearranged

Here Are the New Headings and the Kinds of Work Each Covers:

WATERWORKS AND SEWERAGE SYSTEMS
Pipe lines—sewers—ordinary size reservoirs—purification plants.

ROADS AND PAVING
Highway construction and maintenance and paving.

RAILWAYS
Steam and Electric
All railroad work, excluding stations and buildings.

INDUSTRIAL PLANTS AND WAREHOUSES
Freight terminals and sheds—grain elevators—superstructures of piers and docks—factories—mill buildings—machine shops.

BUILDINGS
Public and Private
Apartment—office—churches — hotels —banks—railway passenger stations

STEEL BRIDGE WORK
Steel tanks and towers—bridges—all special steel structures.

FOUNDATIONS, PIERS AND DAMS
Special foundations for bridges, buildings, etc.—sea walls—jetties—lighthouses—pile driving.

REINFORCED CONCRETE
All reinforced concrete jobs—bridges —viaducts—buildings with reinforced concrete frame.

TUNNELS AND SUBWAYS
Large tunnels for sewers, waterworks and railways.

EXCAVATION, DRAINAGE AND DREDGING
Harbor and river dredging—irrigation—levees.

MISCELLANEOUS
Garbage disposal—street cleaning—items that cannot be classified under other heads.

Classified according to the kinds of work handled by different contractors so that ***each contractor has his own news section.***

The headings to the left tell the story—study them.

The contractor who specializes in reinforced-concrete work need look in only one section to keep in touch with his line of work. Any reinforced-concrete items under other heads are referred to in the "Reinforced Concrete" section.

The contractor who is equipped to handle excavating, drainage and dredging will find a department devoted to his particular kind of work exclusively.

The steel jobs are all in one section—bridges, buildings, steel tanks, etc.

Railway passenger stations are separated from freight terminals and sheds; concrete bridges come under a separate head from steel bridges.

This "common sense" arrangement of contracting news items is another big step toward giving the contractor what he wants.

The Engineering Record gives the most quality items, "bids desired," and first news of proposed work, and presents them in the form most convenient to the reader.

That's why contractors say the **Engineering Record** gives

The Best Contracting News Service

★**Jasper, Ind.**—Contract for installing and equipping pressure filtration plant (bids opened June 15) awarded as follows: International Filter Co., Chicago, Ill., $5,480; Allis-Chalmers Co., Indianapolis, Ind., motor and pump, $1,128; Schmidt & Renner, Jasper, building, $2,500.

★**Calumet, Mich.**—Contract for constructing water system for Quincy Mining Co. awarded to Herman Stensrud of Marquette.

★**Carrolltown, Ill.**—Contract for one pumping unit (Aldrich), 250 g.p.m., and one 45-hp. Foss engine (kerosene) awarded to Reeves & Skinner, Chemical Bldg., St. Louis, Mo., at $2,950. A. H. Johnson, City Clerk.

★**Cedar Rapids, Iowa.**—Contract awarded W. A. Edgar, care of Anderson Land Company, 408 Masonic Temple, for constructing for the Park Avenue Realty Company sewer and water lines in Veber Woods addition; approximate cost $20,000.

★**St. Paul, Minn.**—Contract for constructing the coagulation basins (bids opened June 5) awarded W. J. Hoy & Company, St. Paul Valves, to J. B. Clow & Son, Chicago, Ill.; sluice gates, Coldwell Wilcox Company, Newburgh, N. Y.; c. i. pipe and specials to U. S. Cast Iron Pipe & Foundry Company, 122 South Michigan Avenue, Chicago, Ill., only part pertaining to coagulation of the c. i. pipe and special castings gates and sluice gates. See "Proposed Work."

★**Alliance, Neb.**—Contract for installing pump 1,500,000 capacity for water system awarded by city to Plate Iron Works Co. of Dayton, Ohio, at $6,782.

★**Columbus, Neb.**—City Council awarded contract for laying water mains on Fifteenth and Platte Streets to A. Russell & Son, of Columbia, at $3,876.

★**Omaha, Neb.**—Contract for constructing storm water sewer through Minne Lusa addition awarded to J. J. Hanighen Co. of Omaha at $57,000.

★**Pawnee City, Neb.**—Contract for constructing systems (bids opened June 15) awarded by E. T. Archer & Co., 514 New England Bldg., Kansas City, Mo., to Hamilton Bros. Constr. Co. of Cleburn, Tex., at $44,345. Other bidders: Johnson Real Estate Constr. Co., Kansas City, Mo., $44,918; Inland Constr. Co., St. Louis, Mo., $46,355, and Gordan & Taylor Constr. Co., $46,536.

Harlowton, Mont. — Following bids opened by City Council June 15 for constructing (a) water works, (b) sewerage system; R. M. Bardsen of Butte, (a) $18,697, (b) $22,376; Hayden Bros. of Great Falls, (a) $18,260, (b) $23,778; Security Bridge Co. of Billings, (a) $19,407, (b) $23,221; F. E. Evans of Great Falls, (a) $19,483, (b) $24,169. G. E. Baker, Whitehall, Engr.

★**Kansas City, Mo.**—Contract awarded by Fire & Water Board for purchase of 1,000 tons of 6 and 8-in. c. i. water pipe to American Cast Iron Pipe Company, Birmingham, Ala., at $30.95 per ton. Other bidders: U. S. Cast Iron Pipe & Foundry Company, Birmingham, Ala., $31.45, and R. D. Wood Company, Philadelphia, $38.60.

Houston, Tex.—Following bids opened July 19 by city for constructing north side sewage main from Willows Street pumping station to north side disposal plant: Horton & Horton, Houston, $92,045; H. C. Gass, $107,940; and Houston Construction Company, Houston, $110,095.

★Following are bids opened June 15 by city for constructing Paige Street storm sewer: Texas Construction Company, Houston, $52,350 (awarded contract); W. Waldo, $55,965; Horton & Horton, $56,562, and C. H. Lawson, $57,183.

★**Henrietta, Okla.**—Contract for constructing filtering plant awarded to F. D. Martin Contr. Co., at about $10,000.

★**Ft. Stanton, N. M.**—Contract for concrete lining for reservoir at U. S. Sanatorium at Ft. Stanton awarded V. E. Ware, El. Paso, at $11,600.

★**Tacoma, Wash.**—Contract for constructing county poor farm water works awarded by County Commissioners to Paine Construction Company, Tacoma, at $10,195. D. H. White, County Engineer; Thomas N. Norris, County Auditor.

★**Pasadena, Cal.**—Following bids opened recently by City Commissioners for furnishing 13,380 ft. 6-in., 8-in., 10-in. and 12-in. cast iron Class B water pipe and a quantity of Class B and Class D fittings: H. R. Boynton Co., Los Angeles, $37.50 per ton for pipe and $70 per ton for fittings; U. S. Cast Iron Pipe & Foundry Co., $37.60 per ton for pipe and total of $325 for fittings; R. E. Allen, Los Angeles, $40.20 and $41.20 per ton for pipe and $71 per ton for fittings; American Cast Iron Pipe Co., $37.60 and $38.60 for pipe, $65 and $70 for fittings (awarded contract).

Lowest bid opened June 20 by H. Dyer, City Clerk, for lining the Sheldon Avenue reservoir with 4-in. reinforced concrete submitted by A. Holloway, 471 S. Broadway, at $8,231 and $8,575.

★**Redondo Beach, Cal.**—Contract for ten carloads of 4 to 18-in. sewer pipe awarded Pacific Sewer Pipe Company, Los Angeles. C. C. Mangold, City Clerk.

★**Preston, Idaho.**—Contract for constructing water works awarded by City Council to G. A. Stowell of Preston at $7,600.

★**St. Catherines, Ont.**—Contract for constructing trunk sewers awarded to John Maguire & Sons, Spadina Road, Toronto, at $65,000. W. P. Near, City Engineer.

STEEL BRIDGE WORK

PROPOSED WORK.

New York, N. Y.—All bids opened June 5 by Public Service Commission, 120 Broadway, for structural steel for use in construction of various portions of Dual System of rapid transit rejected.

Harrisburg, Pa.—See "Buildings."

Pennsylvania—The State Water Supply Commission, Harrisburg, has approved the following applications:

Pittsburgh & Lake Erie Railroad to construct fills along left bank of Youghiogheny River above Dickerson Run, in Fayette County.

Pennsylvania Railroad to construct fill along West Branch of Susquehanna River, in Borough of Renovo, Clinton County, and one over Juniata River at Lewistown. Will replace superstructure of bridge 16 across Whiskey River, and those of bridges 17 and 18 over Wilson River and Canoe Creek. Also to construct a bridge over Kishacoquillas Creek, at Yeagertown, and to renew superstructure of bridge over Mounts Creek, on South West Branch near old Davidson Station; will construct bridge over Bull Run and make fill along north bank of Allegheny River in the Borough of Sharpsburg.

Supervisors of Genesee Township, Potter County, to construct a bridge across Ellisburg Creek, on road to Andrew, at Ellisburg, Potter County; bridge across Leadville Run, on road to Ellisburg, 1¼ miles south from Genesee, and to construct bridge across Ellisburg Creek, on road to Oswago, at Ellisburg.

Commissioners of Somerset County to construct bridge across Rush Run, on Wellersburg-Palo Alto Road, one over Buffalo Creek southwest of Berlin and another over Big Paint Creek in Borough of Windber.

Supervisors of Keating Township, McKean County, to construct bridge over north branch of Cole Creek, at Wrights Corners.

Supervisors of Lewis Township, Northumberland County, for bridge across tributary of Muddy Run, three miles south of Turbotville.

Supervisors of Gregg Township, Center County, for bridge over Penns Creek, on road to Center Hall, two miles west from Spring Mills.

Philadelphia & Reading Railway, lessee of the Schuylkill & Lehigh Railroad Company, to construct bridge over Willow Creek, 715 ft. south of Berkley station, in Ontelaunee Township, Berks County, and bridge over Schuylkill River a mile west of Tuscarora.

Atlas Nitrated Products Company, Inc., to construct fill along the Schuylkill River, 0.7 miles west of Mt. Carbon.

Supervisors of West Mahoning Township, Indiana County, to construct bridge over Sugar Camp Run, 1¾ miles northeast of Smicksburg Station, on road to Porter.

Commissioners of Allegheny and Beaver Counties to construct bridge across Reardon Run, on the Pittsburgh and Hookstown grade road, two miles north of Clinton.

Commissioners of Allegheny County to replace existing arch bridge over Little Sewickley Creek at Beaver Avenue, Edgeworth Borough.

Pottstown & Phoenixville Railway to construct bridge over Schuylkill River, 1.5 miles north of Spring City.

Supervisors of Franklin Township, Snyder County, to construct bridge over Spruce Run, 1⅛ miles northeast of Middleburg Borough.

Commissioners of Butler County to construct bridge over Connoquenessing Creek, about 1.0 mile west of Renfrew.

Meadville to construct a culvert over Dicks Run from mouth to a point 500 ft. upstream along Waelde Alley.

Gilpin Bridge Company, bridge across the Kiskiminitas River, at Hyde Park, in Westmoreland County.

Manheim Township Supervisors, Lancaster County, to construct bridge 0.75 mile west of Neffsville.

Commissioners of Lawrence County to construct bridge over Hattenbaugh Run, on Eastbrook-New Castle Road about 0.5 mile west of Eastbrook.

Commissioners of Lycoming County will construct bridge over First Fork of Larrys Creek, on Salladasburg-Toms Run Road and a rubble arch bridge across Sinking Run as well as a bridge across Caleb's Creek, near residence of Charles

Calvert, on road running from Warrenville to Rose Valley. Also to construct concrete steel bridge across Murray's Run on road leading from Field Station to Wallis Run and bridge over Laurek Run, on Picture Rocks-Huntersville Road, in Wolf Township and one over South Creek (White Deer Hole Creek) on Elimsport-Sugar Valley Road, in Washington Township.

Pittsburgh & Western Railroad to construct bridge 315 over Pine Creek, 0.2 mile east of Etna, in Allegheny County.

Commissioners of Chester County to construct bridge over Pigeon Creek, on road from Schuylkill to Snowdenville, near Parkerford, in East Coventry Township and construct bridge across Middle Branch of White Clay Creek, in London Grove Township, and one over Hopewell Run, in West Nottingham Township, and to construct bridge across Stoney Run, in East Vincent Township.

Clinton Country Club to build bridge over Fishing Creek, about ½ mile from its mouth, in Bald Eagle Township, Clinton County.

Supervisors of Liberty Township, Tioga County, to replace bridge over creek (Zimmerman Run or Texas Run), 1.25 miles northeast of Nauvoo, on Hartfield-Nauvoo Road.

Commissioners of Somerset County to construct bridge over tributary of Jennings Run, at Wellersburg.

Scranton Gas & Water Company to change section of spillway dam of Lake Scranton, on Stafford Meadow Brook, near Scranton, and to change spillway section and raise core well of a Stafford Meadow Brook in Lackawanna County.

Supervisors of Manheim Township, Lancaster County, to construct bridge a quarter mile west of Eden, on Eden Road.

Westinghouse Electric & Manufacturing Company to construct bridge over Thompson's Run, 4400 ft. above mouth, in Patton Township, Allegheny County.

Supervisors of Limerick Township, Montgomery County, to construct bridge over branch of Sanatoga Creek.

Worth Brothers Company will change course of West Branch of Brandywine Creek, south of Coatesville, Chester County.

Commissioners of Butler County to construct bridge over Slippery Rock Creek, at Hilliard.

Pittsburgh Railways Company will make a change in channel of Saw Mill Run, near Fair Haven Station, in Baldwin Township, Allegheny County.

Supervisors of Lewis Township, Northumberland County, to construct bridge over branch of Warrior Run, on Schuyler-Five Point Road.

Tarentum, Pa.—Reported the Allegheny Valley Water Co. plans to construct a steel standpipe in hill district of Tarentum.

Baltimore, Md.—See "Reinforced Concrete."

Morganfield, Ky.—Fiscal Court of Union and Crittenden Counties will construct bridge over Tradewater River joining two counties. Estimated cost $25,000. Address Clerk of Union County at Morganfield.

Akron, Ohio.—Bridge bonds for $66,990 will be hold July 12, by Board County Commissioners (U. G. High, Clk.).

Cleveland, Ohio.—See "Reinforced Concrete."

Kent, Ont.—See "Reinforced Concrete."

Kansas City, Mo.—Waddell & Son have prepared plans for viaduct near Thirty-first Street and Brighton Avenue. Estimated cost $60,000.

Ft. Worth, Tex.—Election will probably be held to vote $25,000 bonds for completion of Allen Avenue Viaduct.

Groveton, Tex.—County Court considering plans for bridge across Trinity River to cost $60,000. Address County Clerk.

Hempstead, Tex.—See "Paving and Roads."

Wichita Falls, Tex.—Citizens voted $80,000 bonds for construction of three bridges over Wichita River, one at foot of Burnett Street, one on road between Iowa Park and Seymour, and another south of Electra. Address County Clerk.

Auburn, Cal.—County Engineer will prepare plans and specifications for bridge on Lincoln-Dairy Farm Road and across Auburn Ravine Creek at Virginia Town Crossing. Address County Clerk.

Placerville, Cal.—Board of County Supervisors authorized A. V. Saph, Engineer, Berkeley, to prepare plans for $10,000 bridge to span American River at Colma. Address County Clerk.

San Francisco, Cal.—Wilbur J. Watson & Co., 1150 Leader-News Building, Cleveland Ohio, are preparing plans for viaduct across San Francisco Bay to connect San Francisco with Alameda, Berkeley and Oakland. Main part of viaduct will be 3 miles long with 2 miles of subway approaches and doubled deck with four tracks on lower deck. Estimated cost $40,000,000.

Twin Falls, Idaho.—Hinsdale Highway District No 1 voted $30,000 Hanson suspension bridge bonds. Address County Clerk.

Vancouver, B. C.—Reported Department of Public Works will soon construct steel bridge over Nechaco River at Prince George, four span, with a single span 132 ft. long, costing $25,000, and another at Vanderhoof, costing $15,000.

BIDS DESIRED.

Hastings-on-Hudson, N. Y.—Until July 11 (extension of date) by Town Board of Greenburgh, Tarrytown, for painting Warburton Avenue viaduct south of Main Street, at Hastings-on-Hudson, advertised in Engineering Record. Ward Carpenter & Company, Inc., Engineers, 95 Franklin Street, Tarrytown.

Painting Piers—New York, N. Y.—Until July 5 by R. A. Smith, Commissioner of Docks, for Contract No. 1527, painting the pier sheds on Pier A and at foot of Fiftieth Street and 129th Street, North River; Piers Nos. 27 and 33, foot of Market Street, Third Street and Twenty-fourth Street, East River, and 112th Street, Harlem River, Borough of Manhattan, and North Second Street, East River, Borough of Brooklyn.

Athens, Pa.—Until July 11, for rebuilding bridge over north Susquehanna River at Athens. Address Supt. Public Buildings and Grounds, Capitol Bldg., Harrisburg.

Hillsville, Va.—Reported desired until July 8 by County Clerk to construct steel bridge 81 ft. long over Snake Creek.

Dayton, Ohio.—Until July 20, by County Commissioners (Walter H. Aszling, Clk.), for furnishing material and constructing a steel superstructure for bridge No. 174 to consist of 200-ft. span and four 100-ft. spans with 18-ft. roadway and creosoted wood block floor.

Napoleon, Ohio.—Until July 10, by G. E. Rafferty, County Auditor, for constructing a number of walls and bridges throughout Henry County.

Aitkin, Minn.—Reported desired until July 14, by County Auditor, for constructing bridge, one 23-ft. steel beam span or two 23-ft. reinforced concrete slab spans.

Hastings, Minn.—Reported desired until July 6, for constructing a 120 ft. steel bridge. R. M. Alexander, Town Clerk.

Manhattan, Kan.—See "Reinforced Concrete."

Ainsworth, Neb.—Until July 3 by Commissioners of Keyapaha and Brown Counties at Ainsworth for the construction of a steel bridge across Niobrara River on site of McLain Bridge to be 125 ft. long.

Sidney, Mont.—Reported desired until July 13, by County Clerk, for constructing steel bridges, including two 16-ft. spans, one 16 ft. span and two 20-ft. spans. O. J. Lacy, County Surveyor.

Riverside, Tex.—See "Reinforced Concrete."

Ventura, Cal.—Until July 8, by Board of Supervisors (J. B. McCloskey, Clk.), for constructing combination steel and timber bridge, 105 ft. long, with concrete piers and abutments, also for two timber bridges 30 and 39 ft. long on Matilija Road.

PRICES AND LETTINGS.

★Indicates award of contract.

★Plainfield, N. J.—Contract reported awarded Lee Manning of Plainfield for erecting plant for American Motor Company, West Front Street, to consist of 60 x 200-ft. assembling building, 44 x 30-ft. administration building, and 30 x 50-ft. power house, all of brick and steel construction.

★Galion, Ohio.—Contracts awarded by County Commissioners at Bucyrus for bridge on Columbus Street as follows: Substructure to O. C. Morrow, Galion, at $2,682, and for superstructure, to Elkhart Bridge & Iron Co., Elkhart, Ind., at $5,478.

Galion, Ohio.—See "Reinforced Concrete."

★Tiffin, Ohio.—Contract for constructing Wolfe Creek Bridge No. 6 (bids opened June 17) awarded L. W. Dean, Tiffin. J. E. Hershberger, County Auditor.

★Indianapolis, Ind.—Contract awarded Ketler Elliott Erection Company, Chicago, Ill., for part of the steel work in connection with the elevation of tracks on Indianapolis Union Ry. through the business district; cost reported at $125,000.

★Chicago, Ill—Contract for repairing superstructure on exterior breakwater at Chicago Harbor, Ill. (bids opened June 10 by U. S. Engineer, Chicago) awarded Chicago General Construction Company, 833 Manhattan Building, at $8,527.

St. Paul, Minn.—Only bid opened June 19 by City Contract Committee for reconstructing two north spans of Mississippi Street Bridge over Great Northern tracks submitted by St. Paul Foundry Co., Como Avenue and Mackubin Street, at $18,625.

★Malvern, Ark.—Contract awarded by County Commissioners for constructing steel bridge across Ouachita River at Fisher's Ferry to Illinois Bridge Co., Chicago, Ill., at $9,900.

★Seattle, Wash.—Contract awarded by steel and iron for spans in approaches to Board of Public Works for furnishing Salmon Bay bridge, crossing Lake Washington Canal, to Hofius Steel & Equipment Co., Seattle, at $11,146.

★New Toronto, Ont.—Contract awarded McGregor & McIntyre, 1139 Shaw Street, Toronto, for steel work required in erecting $1,500,000 factory for Goodyear Tire & Rubber Company.

REINFORCED CONCRETE

PROPOSED WORK.

Salem, Mass.—George H. Fanning, 221 Essex Street, is architect for two-story, 60 x 80 ft., brick and concrete garage, to be erected for Goldberg Brothers.

Westfield, Mass.—Town Board appropriated $18,000 for concrete bridge over Little River and $6,000 for bridge over Munns Brook.

Albany, N. Y.—Contract will soon be let by State for constructing bridge over tracks of Central and West Shore railroads and barge canal at Clyde. Probable cost $150,000. W. W. Wotherspoon, State Supt. Public Works, Albany. Frank M. Williams, State Engineer, Albany.

Buffalo, N. Y.—Plans being prepared for three-story, 80 x 300 ft., reinforced concrete factory, to be erected at Elmwood Avenue and Erie Railroad, for Kittinger Company, 5 Front Avenue.

F. F. Dalley Company, Ltd., 321 Military Road, is planning to erect five-story and basement, 90 x 80 ft., reinforced concrete addition to plant.

Ithaca, N. Y.—City Council considering constructing concrete bridge at Van Natta Dam; probable cost, $8,000. John Townley, City Engineer.

Penn Yan, N. Y.—Reported contract soon to be let for erecting three-story and basement, concrete and brick lodge building on Elm Street for Temple of Keuka Lodge No. 149, Independent Order of Odd Fellows.

Syracuse, N. Y.—H. H. Franklin Manufacturing Company, 302 South Geddes St., will erect a three-story reinforced concrete factory with provisions for three additional stories to be erected as needed. Cost, including machinery, about $500,000.

Park Improvement—Jersey City, N. J.—City employees will lower reinforced concrete wall for playground No. 1. No contracts will be let. Hugh A. Kelly, Engineer, Department Parks and Public Property. Charles N. Lowrie, Engineer, 101 Park Avenue, New York, N. Y.

Connellsville, Pa.—Pennsylvania R. R. (Alex. Shand, Chief Engineer, Philadelphia) intends erecting a concrete and brick freight station at Peach Street, to cost $35,000.

Harrisburg, Pa.—County Commissioners reported having plans prepared for a reinforced concrete bridge over Swatara Creek at Hummelstown, to cost $20,000, to be constructed next year.

Harrisburg, Pa.—See "Buildings."

Philadelphia, Pa.—Revised plans being prepared by Alfred C. Blossom, 366 Fifth Avenue, New York, N. Y., and contract will be let about July 15 for erecting 13-story, 42 x 100 ft., brick, stone, concrete and steel bank building at Thirteenth and Market streets for Colonial Trust Co.

Reading Pa. — Charles F. Sanders, County Engineer, preparing plans for 60-ft. reinforced concrete bridge across Schuylkill River at foot of Bingaman Street. Address County Clerk.

Wilkes-Barre, Pa.—Contract will soon be let for erecting four-story and basement, 70 x 200 ft., reinforced concrete, brick, terra cotta and stone department store for Jonas Long's Sons. Sturdevant & Poggi, Archts., Coal Exchange Building. William H. Gravell, Engineer, Philadelphia.

Baltimore, Md.—McHenry Theater Company (Henry W. Webb, president, 1318 Fidelity Building) will erect a concrete and steel theater at Cross and Light Streets; cost about $75,000.

United Railways & Electric Company, Continental Building, has plans for $35,000 reinforced concrete or brick transformer station to be erected near Electric Park.

Columbus, Ga.—Charles Loridans, President of Southern Ferro Concrete Company, Atlanta, will erect a three-story, reinforced concrete, brick and terra cotta addition to Ralston Hotel here; cost $30,000.

Abbeville, La.—Third Ward Road District of Vermillion Parish preparing to construct concrete bridges and grading of all roads.

Cincinnati, Ohio.—County Commissioners will construct concrete bridges 240 ft. long and 18 ft. wide over Seven Mile Creek near Somerville; cost $18,000; also one at Lane's Mill and Sheard's Crossing, Milford Township; cost $10,000.

Cleveland, Ohio.—Grieble Engineering Company, Cuyahoga Building, is architect and engineer for six-story, concrete and steel building to be erected on Prospect Avenue and East Ninth Street for Thomas G. Sloane Company, 1117 Chestnut Avenue; estimated cost $220,000.

F. H. Betz, City Architect, City Hall, has completed 2 sets of plans for the convention hall providing for fireproof buildings, steel frame and reinforced concrete, gray-colored brick facing with stone trim and 3 stories high, one plan provided for a building 221 x 470 ft., with an approach covering an area 242 x 516 ft., and the other a building 189 x 440 ft. covering, with approach, an area 220 x 485 ft. Contract will probably be let in August.

Ann Arbor, Mich.—It is proposed to construct a concrete bridge over Huron River at Broadway, one span 106 ft. and one span 53 ft. M. Osgood, Ann Arbor, Engineer.

Oskaloosa, Iowa.—Contract will be let about Aug. 1 by Penn College for erecting an administration building, including laboratory and recitation rooms, fireproof brick and concrete, 290 x 50 ft.; also for a heating plant. A. T. Simmons, Bloomington, Ill., Architect.

Topeka, Kan.—Contract soon to be let by County Commissioners for constructing 2 steel concrete bridges costing $15,500 and three Baltimore truss bridges costing $38,000.

Plans completed for 90-ft. clear span reinforced concrete bridge over Shunganunga Creek. Estimated cost $15,000. A. F. Young, City Engineer.

Kansas City, Mo.—Waddell & Son have prepared plans for Park Board for constructing five-span reinforced concrete bridge in Swope Park over tracks of Missouri Pacific and Frisco Railroads. Estimated cost $200,000.

Beaumont, Tex.—City considering plans for a combination dancing pavilion and convention hall to be erected at Magnolia Park, 100 x 150 ft., of concrete and stucco construction. Address G. H. Shepherd, Commissioner.

Houston, Tex.—Missouri, Kansas & Texas R. R. (L. F. Lonnbladh, Ch. Engineer, Dallas) contemplates constructing two cotton sheds costing approximately $100,000, to be fireproof, reinforced concrete.

San Antonio, Tex.—Plans completed by Reuter & Harrington, Frost Building, for four-story, 150 x 218 ft., fireproof, reinforced concrete factory, to be erected for Brown Cracker & Candy Company on Medina Street; cost about $125,000.

Seattle, Wash.—Stephen & Stephen, New York Block, Seattle, engaged to prepare plans for concrete and brick, 110 x 113-ft. public market to be erected at Seventh Avenue and Pine Street, for Pine Street Investment Company; cost approximately $50,000. Contract for construction will soon be let.

Portland, Ore.—Plans nearly completed for proposed $200,000 brick and concrete Benson Polytechnic School. F. A. Naramore, Supt. of School Properties, Court House.

Elsinore, Cal.—Martin Longon, lessee of Lakeview Hotel, and E. Pickering, Los Angeles, reported organizing a company to erect a $50,000 concrete hotel.

Los Angeles, Cal.—Atchison, Topeka & Santa Fe Railway will expend about $300,000 in the construction of new bridges this summer on the Los Angeles-San Diego branch, including two 90-ft. girder spans on concrete piers and abutments, together with 680 ft. of trestle and a pile and timber protection dyke 650 ft. long on Tabucco Creek near San Juan Capistrano; four 100-ft. steel spans on concrete piers and abutments over San Luis Rey River (contract for substructure awarded to Sharp & Fellows Const. Co., Central Bldg., Los Angeles; steel to be furnished by American Bridge Co.); four 105-ft. deck girder spans over Santa Margarita River (same firms have similar contracts); and three 80-ft. girder spans over the Santa Ana River, near Anaheim (steel to be furnished by American Bridge Co.).

San Francisco, Cal.—Plans for the La Guna Honda Station for Municipal Railway of San Francisco provide for a concrete structure 60 x 100 ft.; cost about $250,000. M. M. O'Shaughnessy, City Engineer.

Kent, Ont.—Reported contract soon to be let by A. McArthur, Tupperville, Ont., for constructing steel and concrete bridges to cost $22,000.

BIDS DESIRED.

Flemington, N. J.—Until July 6 for constructing concrete bridge with I-beams across the Capoulon Creek at Sidney, 234-ft. span with 18-ft. roadway. Grant Davis, County Engineer, Whitehouse Station, N. J. J. J. Johnson, Dir. Board Freeholders.

Greensburg, Pa.—Until July 10, for constructing two reinforced concrete arch bridges in Donnegal Township, one over Four Mile Run, and the other over Indian Creek, each bridge to have a 20-ft. span and 16-ft. roadway. Also for a reinforced concrete girder bridge over Big Sewickley Creek of two spans, each 55 ft. 11⅝ in. John S. Sells, County Controller.

Harrisburg, Pa.—See "Steel Bridge Work."

Cocoa, Fla.—Until July 17 by Board Public Instruction, for erecting a graded and high school building of reinforced concrete and brick and fireproof construction. Edwin E. Macy, Secy. of Board, Titusville.

Knoxville, Tenn.—Reported desired until July 5, by Good Roads Committee, for constructing concrete bridge over Roseberry Creek.

Retaining Wall—Bucyrus, Ohio.—Reported desired until July 10 by County Commissioners for constructing retaining wall in Chatfield Township. Howard Keeller, Engr., Courthouse.

Jasper, Ind.—Reported desired until July 3 by Jacob H. Seng, County Auditor, for constructing concrete bridge 170 ft. long and 18-ft. roadway over Patoka River.

Marshall, Mich.—Until July 11 by J. D. Wright, City Recorder, for constructing a single-arch reinforced concrete bridge over Kalamazoo River on South Kalamazoo Avenue, to be 30 ft. wide, in clear with 5-ft. walk on one side and an 80-ft. span, advertised in Engineering Record.

Geneseo, Ill.—Until July 6 by James H. Redd, County Superintendent of Highways, Cambridge, for constructing a reinforced concrete highway bridge, estimated at 157 cu. yd., reinforcing steel 27,385 lb.

Illinois.—By State Highway Department, Springfield, for constructing following bridges:

July 5:

Kansas, Melton County Line bridge, Kansas Township, reinforced concrete or steel, 50-ft. span, 16-ft. roadway. Engineer's estimate, concrete $3,310; steel $3,350.

Lewiston, Ames and Gore, reinforced concrete bridges, 12 and 25-ft. spans, 24 and 20-ft. roadways. Engineer's estimate $4,280.

Rushville, Shafer Bridge, Buena Vista Township, reinforced concrete, 30 ft. span, 16-ft. roadway. Engineer's estimate $1,455. Huffman No. 2 Bridge, Rushville Township, reinforced concrete, 25-ft. span, 20-ft. roadway. Engineer's estimate $2,175.

July 6:

Vermont, South Masten Bridge, Oakland Township, reinforced concrete, 12-ft. span, 16-ft. roadway. Engineer's estimate $600. Sugar Creek Bridge, Eldorado Township, reinforced concrete, 30-ft. span, 16-ft. roadway. Engineer's estimate $2,480. Belvidere, Smith Bridge, Belvidere Township, reinforced concrete, 30-ft. span, 18-ft. roadway. Engineer's estimate, $2,210.

Freeport, Otto Bridge, between Forreston and Florence Township, reinforced concrete, 10-ft. span, 20-ft. roadway. Engineer's estimate $445.

July 7:

Kankakee, Klobe Bridge, Yellowhead Township, reinforced concrete, 30-ft. span, 16-ft. roadway. Engineer's estimate $920. Forberger Bridge, Monence Township, reinforced concrete, 34-ft. span, 16-ft. roadway. Engineer's estimate $1,325.

July 12:

Goldconda, 12 reinforced concrete culverts. Engineer's estimate $1,803.

Jerseyville, for constructing six reinforced concrete bridges in Jersey County. Engineer's estimate $3,875.

Chippewa Falls, Wis.—Until July 11, by City Clerk, for constructing concrete arch bridge.

Marshalltown, Iowa.—Until July 6 by Board of Supervisors for constructing 30 reinforced concrete culverts and bridges estimated to cost $30,000, advertised in Engineering Record. H. O. Hockok, County Engineer.

Argyle, Minn.—Reported desired until July 11, by School Board, for erecting a 2-story brick and concrete school. Bert D. Keck, Architect, Crookston.

Benson, Minn.—Until July 10, by Board County Commissioners, for constructing two reinforced concrete culverts in Town of Hayes and one in Town of Kerkhoven.

Northfield, Minn.—Reported desired until July 6, by City Clerk, for constructing reinforced concrete bridge.

Luverne, Minn.—Reported desired until July 11, by County Auditor, for 14 culverts on State Roads No. 5, 2 and 4, in Denver and Rose Dell Townships.

Manhattan, Kan.—Until July 12 (readvertisement), by George H. Hangerford, County Clerk, for constructing two 260-ft. steel bridges with concrete piers. J. E. Williams, Engineer, Westmoreland.

Beach, N. D.—Reported desired until July 3, by, for constructing a number of steel, reinforced concrete and wooden bridges. M. C. McCarthy, Co. Aud.

Sedalia, Mo.—Until July 8, by Commissioners Sedalia Twelve Mile Special Road District, for furnishing material and concrete 5 reinforced concrete bridges. C. A. Thomas, Superintendent.

Riverside, Tex.—Until July 10, for erecting bridge over Trinity River of steel construction with rock or reinforced concrete piers. W. A. Leigh, County Judge, Huntsville.

Los Angeles, Cal.—Until July 24, by Board Supervisors (A. M. McPherrin, Cl.), for erecting a five-story and basement reinforced concrete service building, 100 x 80 ft., at County Hospital. Probable cost $85,000. J. Schulz, Engr., Wright & Callender Bldg.

Macdonald, Ont.—Until July 8, for constructing a reinforced concrete bridge over the Boyne Ditch ½ mile north of Sterling. H. Grills, Secy.-Treas. of City.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Brooklyn, N. Y.**—Contract awarded William Kennedy Construction Company, 215 Montague Street, for erecting two-story, brick and concrete oil manufacturing plant for Pure Oil Company.

★**Johnson, N. Y.**—Contract awarded by Endicott Johnson Company to United Fireproofing Company, 8 West Fortieth Street, New York, for erecting 5-story and basement, 60 x 200 ft., reinforced concrete and brick box factory; cost $100,000.

★**Niagara Falls, N. Y.**—Contract awarded by Aluminum Company of America to Turner Construction Company, 311 Prudential Building, Buffalo, for erecting 6-story, 93 x 67 ft., reinforced concrete addition to its plant at Buffalo Avenue and Nineteenth Street.

Perry, N. Y.—Following are three lowest bids (opened June 22 by C. N. Read, Town Clerk) for constructing reinforced concrete viaduct at Perry: A. J. Shaw, Batavia, $9,712; J. F. Leary Construction Company, Rochester, $10,290; and Warsaw Construction Company, Warsaw, $11,251. C. F. Fisher, Engineer, 526 Flower City Park, Rochester.

★**Jersey City, N. J.**—Contract awarded James Mitchell, 76 Montgomery Street, for erecting four-story, 80 x 306 ft. reinforced concrete factory in South Cove for National Air Cell & Covering Company, 212 Van Brunt Street, Brooklyn; cost $100,000. John T. Rowland, Jr., Archt., 100 Sip Avenue.

★**Plainfield, N. J.**—Contract awarded Levering & Garrangues, 552 West Twenty-third Street, New York, for erecting one-story, brick, concrete and terra cotta factory for Niles-Bement-Bond Company.

★**Philadelphia, Pa.**—Contract awarded Barclay, White & Company, 1530 Chestnut Street, for erecting one-story, 540 x 220 ft. brick and reinforced concrete machine shop at Nicetown for Midvale Steel Company; cost $320,000.

★Contract awarded I. T. Shoemaker, Walnut and Juniper Streets, for erecting five-story and basement, 24 x 118 ft., stone and reinforced concrete office building at Fifteenth and Walnut Streets; cost $60,000.

★Contract awarded G. H. Thirsk & Son, 4104 Orchard Street, for erecting three-story, 185 x 60 ft., concrete addition to plant of Hulton Printing, Processing and Dyeing Company; cost $25,000.

★**Cleveland, Ohio.**—Contract awarded Boldt-Low Construction Company, 1108 Swetland Building, for erecting five-story, 240 x 120 ft., reinforced concrete warehouse, on West Eleventh Street, for Stone Brothers, 1059 West Eleventh Street; estimated cost $160,000. Christian, Schwarzenberg & Gaede, Archts., 1900 Euclid Avenue.

★**St. Bernard, O.**—Architects Tietig & Lee, 901 Fourth National Bank Building, Cincinnati, awarded the contract for excavation, cement and concrete work for the Ault & Wiborg Co.'s new coloring works plant to the Ferro Concrete Construction Co., Richmond & Harriet Sts., Cincinnati, and the brick work to Robert Fuerst, 2704 Vine St., Cincinnati.

★**Shelbyville, Ind.**—Contract awarded by County Commissioners for constructing John Burkhart bridge over Big Sugar Creek to National Concrete Co., Indianapolis, at $8,100.

★**Proctor, Minn.**—Contract awarded McLeod & Smith, Duluth, for erecting a roundhouse for Duluth, Missabe & Northern R. R., of concrete and steel, accommodating 60 stalls, 30 to be constructed at this time. Steel work to be erected by American Bridge Company, Chicago, Ill.

★**Montana.**—Contract awarded by Great Northern R. R. to Grant, Smith & Company, Henry Building, Seattle, Wash., for constructing timber snowsheds at Essex, Mont., and also for constructing concrete and brick roundhouse at Great Falls. Both projects to cost $200,000.

★**Los Angeles, Cal.**—Contract awarded F. O. Engstrum Co., Fifth and Seaton Streets, for erecting three-story reinforced concrete loft building at Twelfth and Figueroa Streets for Firestone Tire & Rubber Co.; cost about $50,000. John Parkinson, Archt., Security Bldg.

★**Modesto, Cal.**—Contract awarded by Board of Supervisors for constructing reinforced concrete bridge, 1350 ft. long and 32 ft. wide, over Tuolumne River, to E. C. Cotton, Oakland, at $110,278. (Bids opened June 13.)

★**Galt, Ont.**—Contract awarded P. H. Secord & Sons, Brantford, for erecting reinforced concrete and terra cotta telephone exchange building for Bell Telephone Company; cost $80,000.

ROADS AND PAVING

PROPOSED WORK.

Boston, Mass.—Mayor approved City Council orders authorizing him to borrow $165,000 for high-pressure water service work, $500,000 for widening and extending radial highways, and $300,000 for laying out new streets in suburbs.

Springfield, Mass.—Board of Aldermen voted $96,000 for paving South Street from Bank row to South Mountain Road. Address City Clerk.

Rome, N. Y.—Board of Public Works approved estimates for paving Ridge Street between James and George Street, at $11,589. Address City Council.

Warsaw, N. Y.—See "Water Works and Sewerage Systems."

Bayonne, N. J.—W. L. Clarkson, City Engineer, has completed plans for improving Twenty-ninth Street. Address City Clerk.

Belvidere, N. J.—Board of Chosen Freeholders authorized constructing of 3 miles of Harmony-Brainards Road. Estimated cost $13,000.

Chesterfield, N. J.—Town Council sold $12,000 road improvement bonds. Address Town Clerk.

Elizabeth, N. J.—Board of Public Works passed ordinances for paving for which City Council authorized bond issue of $297,000. Address City Clerk.

Board of Chosen Freeholders sold $66,000 road repair bonds. Address Clerk of Board.

Hoboken, N. J.—City Commissioners sold $65,000 streets improvement bonds. Address City Clerk.

Newark, N. J.—Street Commissioners will resurface with asphalt North Canal Street; 2-in. top surface, 1½-in. binder on old concrete foundation.

Trenton, N. J.—Reported City Commission is considering widening of East Hanover Street at a cost of $100,000.

Du Bois, Pa.—Contract will be let about Aug. 1 by R. Verne Bloom, City Clerk, for brick paving on North Brady and Long Avenues; cost $20,000. John H. Fulford, Engineer, DuBois.

Johnstown, Pa.—Supervisors of West Taylor Township rejected all bids opened June 22 for paving 2½ miles of Laurel Run Road. Lowest bid submitted was $66,000. C. P. Thomas, Engineer, Johnstown.

Lock Haven, Pa.—City Council will repave Henderson Street and portion of East Main Street with vitrified brick on concrete foundation. Address City Clerk.

Pittsburgh, Pa.—Council passed ordinance for repaving East Street at a cost of $24,000.

City Council passed ordinance authorizing paving Riverview Avenue from Perrysville Avenue to Riverview Park. Estimated cost $17,200. Address City Clerk.

Wilmington, Del.—See "Water Works and Sewerage Systems."

Maryland.—Contract will soon be let by State Roads Commission, Baltimore, for paving Gay Street toward Belair Road, Mount Street from North Avenue to Wilkens Avenue, and above North Avenue on Pennsylvania Avenue. Estimated cost, $250,000. R. K. Compton, Chief Engineer of Commission.

Lexington, Va.—Citizens June 20 voted $10,000 bonds for road improvements. Nothing further will be done about matter until next September after being passed on by County Court. A. T. Shelds, Clerk, Lexington.

Charleston, W. Va.—Sewell Mountain District voted $175,000 permanent road bond issue. Address Clerk of Sewell Mountain District, Charleston.

Clarksburg, W. Va.—Contract soon to be let by County Coourt for road improvements, about 18 miles, for which $240,000 bonds have been sold. W. D. Britt, Clarksburg, in charge.

Elkins, W. Va.—An election will soon be held in Beverly District to vote $100,000 road bonds. Address Clerk of Beverly District at Elkins.

Fayetteville, W. Va.—County Court of Fayette County will July 24 sell following road bonds: $600,000 Fayetteville District, $175,000 Falls, $100,000 Nuttall, and $175,000 Sewell Mountain.

Logan, W. Va.—Logan District, Logan County, voted $200,000 road bonds. F. M. Wilson, County Engineer, Logan, making surveys and preparing plans and specifications.

New Cumberland, W. Va.—County Court of Hancock County sold $125,000 Grant District road bonds, $50,000 Poe District bonds, $40,000 Clay District bonds and are having surveys made preparatory to letting contracts.

Parkersburg, W. Va.—Tigart District Road bonds for $70,000 have been sold by the Wood County Court. Work is to be done by force account under supervision of County Engineer.

Philippi, W. Va.—Citizens voted $100,000 road bonds. Address County Clerk.

Spencer, W. Va.—County Court of Roane County has sold $240,000 Spencer District road bonds.

Wellsburg, W. Va.—Citizens June 20 voted $800,000 bonds for constructing good roads. C. A. Eichelberger, Engineer, Wellsburg. Address Clerk Court, Brooks County.

West Virginia.—Citizens of Lubeck District, Wood County, New Creek District, Mineral County and Piedmont District, Mineral County, voted $385,000 bonds for road improvements.

West Union, W. Va.—County Court of Doddridge County has decided to do road work in Grant District under $175,000 bond issue by force account and has engaged Arthur Lycal, of Morgantown, engineer in charge of the work.

Atlanta, Ga.—Contract will soon be let by County Commissioners for replacing about 7 miles macadam roads with concrete. William Hansell, County Supt. Pub. Works.

Miami, Fla.—All bids opened June 15 by W. B. Moore, City Clerk, for grading and paving with asphaltic concrete with binder course on concrete foundation, with necessary curbing, etc., under Highway Improvements Nos. 46 to 51, inclusive, have been rejected as being too high. New bids will be asked.

Huntsville, Ala.—County Commissioners sold $50,000 road improvement bonds. Address County Clerk.

Abbeville, La.—See "Reinforced Concrete."

Greenville, Miss.—It is proposed to lay approximately 150 miles of permanent roads; material not yet decided upon. Cost $950,000. J. S. Allen, Engineer, Greenville.

Lexington, Miss.—Road bonds will be sold July 3, by J. H. Fuqua, Clerk Board of Supervisors, Lexington, as follows: $200,000, District No. 1; $175,000, District No. 2; $100,000, District No. 3.

Madisonville, Tenn.—Road improvement bonds for $175,000 will be sold July 8 by A. M. Swanay, Chmn. County Court.

La Grange, Ky.—County Commissioners will construct 2 miles of macadam road and reconstruct 4.7 miles of macadam road. Address County Clerk.

Cincinnati, Ohio.—In accordance with the recent referendum election, City Council has authorized the passage of the following street improvement bond issues: Central Avenue, $120,800; Fairbanks Avenue, $151,500; Freeman Avenue, $105,000; Grandin Road, $50,000; Harrison Avenue, $39,750; Hamilton Avenue, $251,250; Ludlow Avenue, $142,500; Madison Road, $142,500; Quebec Road, $175,000; Eastern Avenue, $459,750. City Engineer Frank S. Krug is preparing specifications, and contracts for the various improvements will be let some time during the summer.

Connecticut.—Following are unit figures of four lowest bids opened June 20 by Charles J. Bennett, State Highway Commissioner, Hartford, for constructing 5-span concrete bridge across Housatonic River between Derby and Huntington: (a) Arthur McMullen, 149 Broadway, New York, N. Y.; (b) C. W. Blakesles & Sons, 58 Waverly Street, New Haven; (c) H. P. Converse & Co., 88 Broad Street, Boston, Mass.; (d) The Lathrop & Shea Co., 185 Church Street New Haven.

	(a)	(b)	(c)	(d)
8,200 cu. yd. excavation below Elev. 0	$5.00	$2.75	$4.30	$3.90
4,500 cu. yd. excavation above Elev. 0	1.75	1.20	3.20	1.50
2,350 cu. yd. concrete (Class C)	8.50	12.00	7.70	13.50
2,350 cu. yd. concrete (Class B)	8.50	11.50	7.70	13.50
5,000 cu. yd. backfill piers and abutments	0.60	1.10	0.64	0.95
700 ton riprap in place around piers and abutments	1.00	3.25	2.57	2.00
4,800 cu. yd. concrete in arch rings, abutments and spandrels (Class A)	18.00	14.80	16.20	15.00
500,000 lb. steel reinforcement	0.05	0.0725	0.0496	0.06
700 cu. yd. masonry	5.00	6.25	7.70	7.50
4,600 sq. yd. waterproofing	0.75	1.00	0.64	1.30
15,000 cu. yd. backfilling of arches and drainage of arches	1.00	1.50	1.28	0.95
9,500 sq. ft. sidewalk on bridge	0.20	0.20	0.24	0.19
1,000 lin. ft. curbs	0.75	1.00	0.77	0.75
1,000 lin. ft. railing on bridge	3.00	5.25	3.00	5.00
2,400 sq. yd. paving	3.00	2.75	3.53	3.25
Supporting travel on sections of new bridge and maintaining travel on old bridge (lump sum)	7,500.00	5,000.00	*25,700.00	10,000.00
Wrecking and removing old bridge	2,000.00	7,000.00	1,200.00	7,500.00
Cleaning up at close of work	500.00	1,000.00	985.00	5,000.00

Extra work at ends of bridge in street. Cost plus 15 per cent.

*Substitute bid for constructing temporary bridge.

Cleveland Heights (P. O. Warrensville), Ohio.—Paving bonds for $67,163 will be sold Aug. 7 by H. H. Canfield, Village Clerk.

Eaton, Ohio.—City Council sold $18,500 bonds for paving Barron Street. Address City Clerk.

Greenfield, Ohio.—Contract will not be let until about July 15 for brick and macadam paving. E. M. Conner, Village Clerk.

Lakewood, Ohio.—Paving bonds for $10,900 will be sold July 17 by B. M. Cook, Director of Finance.

Massillon, Ohio.—City Council plans paving about 1 mile of Canal and Third Streets. Address City Clerk.

New Philadelphia, Ohio.—It is proposed to pave with brick on concrete foundation, including concrete curb, on East Front and East Ray Streets. George E. Arnold, Engineer, New Philadelphia. A. I. B. Williams, City Auditor.

Norwood, Ohio.—H. E. Englehardt, Mayor, plans paving with wood block, brick or granite every highway leading into the city. Address Director Public Service.

Toledo, Ohio.—George Champe, Engineer, 610 Nasby Building, estimates cost of paving Broadway and Waite Avenue at $44,220, including 19,354 sq. yd. pavement, 10,581 lin. ft. straight curb, 11,400 lin. ft. 4-in. drain tile, etc., and Kingsbury Street, 2626 sq. yd., cost $4,412.

Columbus, Ind.—County Commissioners accepted plans and specifications for Marr Road, Columbus Township, concrete; estimated cost $79,801. Address County Clerk.

Madison, Ind.—Report of viewers and engineer for 5 miles of county road out of North Madison recommend to County Commissioners that the road be built of concrete at an estimated cost of $77,000.

Lansing, Mich.—Contract will soon be let by Ingham Road Commission for construction of 1⅛ miles on concrete road between Lansing city limits and East Lansing; cost $14,000 per mile.

Ypsilanti, Mich.—No bids opened june 19 by city for paving Forest Avenue, on account of a change in specifications. Sumner Dennon, City Clerk.

Champaign, Ill.—Ordinance for paving East Park Avenue and Third Street adopted by city council. Engineer's estimate, $25,874.

Galesburg, Ill.—Issuing of $1,000,000 bonds for improving hard roads is under consideration. Address County Clerk.

Illinois.—State Highway Department, Springfield, intends paving about 13,669.5 sq. yd. with concrete on Sections E, F, G, H, I and J, Bureau County, Princeton, Ill., costing about $28,235.

Lewiston, Ill.—Board of Supervisors adopted resolution to construct state-aid road to cost $23,000.

Pekin, Ill.—County Supervisors contemplate holding an election next spring to vote on $1,000,000 bonds for constructing hard roads. Address County Clerk.

Rock Island, Ill.—City Council considering paving Seventeenth Avenue from Twenty-fifth to Thirtieth Street; probable cost $16,345. Wallace Treichler, City Engineer.

Watseka, Ill.—Supervisors passed resolution to appoint committee to investigate hard roads. Plans to bond county for $1,500,000. Voters in Stockland Township decide to build 6½ miles of roads. Plans call for 9-ft. road. Contract will be let as soon as preliminary work is completed and bonds are sold.

Columbus, Wis.—Board of Public Works plans constructing 12,000 yd. asphaltic concrete, 7600 lin. ft. curb and gutter and 2300 sq. yd. excavation. Address City Clerk.

St. Paul, Minn.—City Council authorized paving of West Minnehaha Street from Lexington Avenue to Fairview Avenue. Construction will probably not begin until next year.

Kansas City, Kan.—City Commissioners adopted resolutions to pave part of Baltimore Avenue with concrete.

Billings, Mont.—Contract will be let about August 1 by E. M. Sneckenberger, City Engineer, for paving Yellowstone and Clark Avenues and adjacent streets, involving 25,000 sq. yds., including lateral storm sewers, gutters, etc. Bids will be considered on gravel bitulithic, bituminous concrete, concrete and asphaltic macadam.

Great Falls, Mont.—Reported City Council adopted resolutions for paving, draining, etc., First Avenue N. Bids will be considered on bitulithic costing about $43,400; 7-in. asphalt concrete, $39,440, and 8-in. Montana Paving Co.'s pavement, $40,810. W. H. Harrison, City Clerk.

Joplin, Mo.—City Council ordered estimates for paving Main Street, from Tenth to Twentieth, with wood blocks, and with brick Twentieth from Main to Anna Baxter Streets.

Kansas City, Mo.—Upper House of City Council voted to pave streets in residence district.

Mena, Ark.—Plans completed by State Highway Engineer for 60 miles of proposed hard roads. A. E. Ware, Mena, County Judge.

Newport, Ark.—Engineers appointed to survey proposed 16-mile road from Newport to Grubbs. W. D. McLain, County Judge.

Bay City, Tex.—Bay City Road District sold $300,000 bonds.

Beeville, Tex.—County Commissioners petitioned to call an election to vote $300,000 bonds for constructing good roads throughout the county.

Brenham, Tex.—Citizens of Precinct No. 3 defeated $300,000 road bonds. Address County Clerk.

Canton, Tex.—Citizens of Caldwell Road District No. 2 voted $10,000 road bonds. Address County Clerk.

Clarksville, Tex.—Attorney General at Austin approved issuing $28,000 road bonds in District No. 4, $16,500 in District No. 2 and $42,500 in District No. 3.

Corsicana, Tex.—Citizens of Dawson Good Roads District voted $100,000 road improvement bond issue. Address County Clerk.

Gilmer, Tex.—Citizens voted $100,000 road improvement bonds. Address County Clerk.

Greenville, Tex.—Election to be held July 22 to vote $1,400,000 bonds to construct additional good roads in Hunt County.

Hempstead, Tex.—Citizens voted $25,000 road and bridge bonds. Address County Clerk.

Lockhart, Tex.—Attorney General, Austin, approved $10,000 road improvement bond issue for Road District No. 2.

Mount Vernon, Tex.—Citizens voted $75,000 road improvement bonds. Address County Clerk.

Stratford, Tex.—County Commissioners will grade 8 miles and repair several miles of road. Address County Clerk.

Stephenville, Tex.—City Council authorized issuing $10,000 bonds for improving of city streets. Address City Clerk.

Sallisaw, Okla.—Citizens June 7 voted $24,000 bonds for road improvements. C. Wheeler, Engineer, Sallisaw, Okla. Address County Clerk.

Sand Springs, Okla.—Contract soon to be let for paving, costing about $60,000; plans being prepared by Benham Engineering Co., Oklahoma.

Blaine, Wash.—Contract will soon be let for constructing 1½ miles of road connecting with Pacific Highway north. J. C. Hills, City Engr.

Goldendale, Wash. — Reported County Commissioners plan to hard surface 15 miles Snowden Road out of White Salmon. Lyman W. Ward, County Engineer.

North Yakima, Wash.—Reported County Commissioners authorized O. E. Brashears, County Engineer, to make surveys for highway extending from White Swan to within 4 miles of Glenwood. Address County Clerk.

Pasco, Wash.—J. W. Hamilton, County Engineer, directed to prepare plans for paving in Eltopia District, costing $12,500 and connecting Fourth Street with permanent highway north of city, $12,000, and improving road out of Kahlotus, south of Pasco, $10,000.

Port Orchard, Wash.—Charles I. Signer, Engineer State Highway Department, completed survey for construction of 10 miles of Navy Yard Road. Estimated cost $70,000. James Allen, State Highway Commissioner, Olympia.

Seattle, Wash.—Contract soon to be let by Board Public Works (C. B. Bagley, Secy.) for paving Rose Court. A. H. Dimock, City Engineer.

A. H. Dimock, City Engineer, has filed estimates with Board of Public Works for paving West Alaska and other streets. Estimated cost, $31,440.

Spokane, Wash.—County Commissioners passed resolutions for constructing 2 miles of paved highway on Green Bluff Prairie. Estimated cost $10,000. J. W. Strack, County Engineer.

Walla Walla, Wash.—Contract soon to be let by City Council for grading and paving North Ninth Street. W R. Rehorn, City Engineer. M. A. Power, City Clerk.

It is proposed to pave Chase and Newell Streets with bithulithic or asphaltic concrete, about 20,000 sq. yd., and 7000 lin. ft. combined curb and gutter; cost $40,000. W. R. Rehorn, City Engineer. M. A. Power, City Clerk.

Portland, Ore.—City Council plans improving portions of East Glisan Street and East Forty-eighth Street. Estimated cost $44,523. Philip Dater, City Engineer.

Salem, Ore.—Reported City Council will pave South Church Street with 6-in. two-course concrete. Address City Clerk.

Eureka, Cal.—City Council plans paving 3½ miles of streets. Address City Clerk.

Placerville, Cal.—Paving bonds for $30,000 for paving Main Street will be sold July 3 by O. E. Bailey, City Clerk.

San Luis Obispo, Cal.—Board of Supervisors has ordered survey for road across mountains to Kern County line, distance about 50 miles.

South Pasadena, Cal.—G. E. Hill, City Engineer, preparing plans for about 2 miles of 5-in. concrete pavement with ⅜-in. surface on Fremont Avenue.

Election will probably be held to vote $50,000 bonds for resurfacing streets. Address City Clerk.

Flagstaff, Ariz. — Reported Arizona Navajo Copper Company will spend $20,000 in highways between Flagstaff and White Messa mining property, 110 miles northeast of Flagstaff. Robert Mitchell, Manager.

Tucson, Ariz.—J. D. Matthews, Division Engineer of the Southern Pacific R. R., Tucson, appointed a member of the advisory road board of Pima County to determine expenditure of $300,000 road bond issue.

Salt Lake City, Utah.—City Commission will pave 14,290 ft. of Beck Street extending north from warm springs to connect with present concrete road in Davis County. Estimated cost $35,000. Address City Clerk.

Boise, Idaho.—City Council passed resolutions for paving, grading, surface draining certain streets. Estimated cost $20,500. Address City Clerk.

Citizens voted $30,000 bonds for paving Harrison Boulevard, Sixteenth, Jefferson and Eighth Streets. Address City Clerk.

Idaho Falls, Idaho.—City reported considering 40,000 sq. yd. paving, part concrete and part bitulithic. J. H. Wilson, City Engineer.

Montreal, Que.—City Council has rescinded resolution calling for bids for asphalt paving. Work is to be done by Chief Engineer Mercier, City Hall. About $150,000 of roadway will be laid.

Bridgeburg, Ont.—County Council plans spending $140,000 for roads. Address County Clerk.

London, Ont.—City Council will construct additional asphalt pavements. Estimated cost $30,000. Address City Clerk.

Toronto, Ont.—Plans being prepared for constructing asphalt pavements costing $37,000, and bitulithic pavements $14,000. R. C. Harris, Comr. of Works.

BIDS DESIRED.

Boston, Mass.—Until July 3 (readvertisement) by Commissioner Public Works for paving Bardwell, Halifax and other streets.

Massachusetts.—Until July 5, by Massachusetts Highway Commission (Wm. D. Sohier, Chmn.), State House, Boston, for surfacing section of State Highway as follows: North Adams, about 6400 ft.; Marlborough, about 1000 ft.; Dartmouth, about 5700 ft.; Mattapoisett, about 6000 ft.; Northbridge, about 6600 ft.

Brooklyn, N. Y.—Until July 5 by L. H. Pounds, Pres. Brooklyn Borough, for constructing sidewalks on portions of Atlantic Avenue, Bay Thirty-eighth, E. Fourteenth, and other streets, and for paving with asphalt portions of W. First Street, Third Avenue and Fourth Avenue and other streets. Total security, $55,550.

Rhode Island.—Until July 12, by State Board Public Roads, at State House, Providence, for constructing 2550 ft. state highway in Barrington, to include 6200 sq. yd. amisite.

New York, N. Y.—See "Excavation, Dredging and Drainage."

New York, N. Y.—See "Waterworks and Sewerage Systems."

Bound Brook, N. J.—Until July 18 by Mayor and Borough Council for regulating and paving with vitr. brick and granite block on certain streets advertised in Engineering Record. F. A. Dunham, Clarin Company, Engineers in Charge, 109 Park Avenue, Plainfield, N. J.

Clifton, N. J.—Until July 8, for paving Clifton Avenue and Second Street. Address Town Clerk.

Elizabeth, N. J.—Until July 6, by Board Public Works, for 25,500 sq. yds. new granite block pavement, 40,000 sq. yds. asphaltic concrete pavement, and 20,500 sq. yds. of recut trap block. Thos. E. Collins, City Engr.

Jersey City, N. J.—Until July 11 by City Commissioners for paving Merritt Street with Belgian blocks. M. I. Fagen, City Clerk.

Until July 13, by County Board Chosen Freeholders (Walter O'Mara, Clk.), for repairing Paterson Plankroad, Meadow Section, in town of North Bergen and Borough of Secaucus with granite block on concrete foundation, in all about 16,000 sq. yd.

Lakewood, N. J.—Until July 8 by Township Committee for bids for paving 13,433 sq. yd. on Clifton Avenue and Second Street. Alternate bids on three kinds of pavements. Geo. H. Hurlburt, Township Clk., 248 Second Street, Lakewood. Vermeule & Bishop, Engrs., 203 Broadway, New York City.

Montclair, N. J.—Until July 10 by Town Council for constructing concrete pavement on Pine Street, advertised in Engineering Record. Henry Ware Jones, Acting Town Clerk.

Newark, N. J.—Until July 13, by Committee on Roads, Assessments and Speedways, Board Chosen Freeholders (Wm. Cardwell, Chmn.), for furnishing and laying 100,000 sq. yd. more or less of liquid asphalt.

Westfield, N. J.—Until July 17 by Town Council for improving sections of Stanley, Tremont, South, Mountain and North Avenues, advertised in Engineering Record. Charles Clark, Town Clerk.

Beaver Falls, Pa.—Until July 10, by Carl S. Donaldson, Borough Engineer, for paving and improving Seventh Avenue, approximately 13,500 sq. yd., advertised in Engineering Record.

Bedford, Pa.—Until July 6 by G. R. Shuck (readvertisement), Clerk County Commissioners, for reconstructing 1.6 miles of road in Woodbury Township.

Greensburg, Pa.—Reported desired until July 3, by Borough Council, for improving portions of Jefferson Street, Perry Avenue and Steck Street. J. Neal, City Engr.

Harrisburg, Pa.—Until July 3, by W. H. Lynch, Supt. of Streets and Pub. Improv., 309 Commonwealth Trust Co.'s Bldg., 222 Market Street, for paving portions of May, Green, Swarara and other streets, in all about 10,150 sq. yd. sheet asphalt and 7044 lin ft. curbing.

Pennsylvania.—Until July 19, by State Highway Commissioner at Harrisburg for constructing following roads:

Allegheny County, reconstructing 16,582 lin. ft. reinforced concrete pavement, in South Fayette Township.

Washington County, 19,318 lin. ft. reinforced concrete pavement in Cecil and North Stratbane Townships.

Cambria County, 32,923 lin. ft. reinforced concrete pavement and vitr. block pavement, in Jackson and East Taylor Township.

Chester County, 32,214 lin. ft. of either bituminous cement concrete or bituminous reinforced concrete, in Penn Upper Oxford and Lower Oxford Townships.

Delaware County, 4250 lin. ft. vitr. block pavement in Nether Providence Township.

Forest County, 5,385 lin. ft. waterbound macadam road in Hickory Township.

Pittsburgh, Pa.—Until July 7, by City Controller, for grading, paving and curbing portions of Landwehr, Windsor, Winslow Streets and North Negley Avenue, and repaving portions of East, Butler, Wyoming and other streets. Robert Swan, Dir. Pub. Wks.

Wilkes-Barre, Pa.—Reported desired until July 6 for paving with brick and Belgian block in Plains Township. Parson & Morgan, Township Engrs., Second National Bank Building, Wilkes-Barre.

York, Pa.—Until July 14, by City Clerk, for paving on several streets, advertised in Engineering Record. C. F. W. Wallow, City Engineer; C. A. Boyer, Superintendent Streets & Public Improvements.

Maryland.—Until July 18, by State Roads Commission, 601 Garrett Building, Baltimore, for constructing 8 sections of state highway, aggregating about 15.59 miles, and one bridge, advertised in Engineering Record. William L. Marcy, Secretary of Commission.

Rockville, Md.—Until July 11 by County Commissioners for constructing the Muncaster Mill Road, along the county road between Norbeck and near Redland, a distance of about 5 miles.

Rockville, Md.—Until July 18 by County Commissioners at Rockville for constructing a section of State Aid highway about 4½ miles long, advertised in Engineering Record. Berry E. Clark, County Clerk.

Harrisonburg, Va.—Until July 5 by City Clerk for approximately 18,000 sq. yd. vitr. block and asphalt block pavement. E. A. Zigler, Chmn. Street Committee.

Washington, N. C.—Reported desired until July 3 by County Commissioners (W. E. Swindell, Chmn.) for constructing 1½ to 2 miles concrete roads.

Atlanta, Ga.—Until July 15 by C. M. Holland, Purchasing Agent, 507 Court House, Atlanta, for concrete road, in all about 104,000 sq. yd., advertised in Engineering Record.

Alexander City, Ala.—Until July 10, by W. W. Robinson, Engineer, Alexander City, for grading about 80 miles of road, including 5 bridges and 34 concrete culverts. Cost $130,000.

Guntersville, Ala.—Until Aug. 1, by Court of County Commissioners, for grading, draining and graveling of four miles of the Guntersville and Huntersville Road. W. S. Keller, State Highway Engr., Montgomery, Ala.

Dothan, Ala.—Reported desired until July 10, by A. C. Crawford, Chmn. Board of Revenue, for constructing 20 miles of public roads. W. R. Koonce, County Engr.

Wetumpka, Ala.—Until July 24, by Court of County Commissioners, for road work for year. M. D. Still, Probate Judge.

New Orleans, La.—Until July 10, by Highway Department of the Board of State Engineers of Louisiana, Room 104, New Orleans, Court Building, New Orleans, for constructing with gravel section of Hammond Smith Highway, 9.2 miles, and section of Amite Covington Highway, 1.3 miles, all in Road District No. 3, Tangipahoa Parish, La. W. E. Atkinson, State Highway Engineer, New Orleans.

Louisville, Miss.—Reported desired until July 3 by for road improvement in three districts. Xavier A. Kramer, Engr., Magnolia.

Snowden, Miss.—Reported desired until July 5 by County Commissioners for constructing 18 miles of macadam roads. Snowden & Hauser, Engrs., Columbus.

Tupelo, Miss.—Until July 5, by Road Commissioners Fourth Supervisors Dist. (J. B. Metcalf, Clk.), for Plantersville and Richmond Road, a distance of about 6½ miles, Plantersville and Andrew Chapel Road a distance of about 1½ miles, on Verona and Plantersville Road about 2 miles, and other smaller roads.

Dyersburg, Tenn.—Until July 12, by L. E. Carne, Mayor, for paving various streets, advertised in Engineering Record.

Hazard, Ky.—Until July 12 by W. M. Pursifull, Mayor, for concrete paving on several streets, advertised in Engineering Record, about 21,000 sq. yd.

Maysville, Ky.—Reported desired until July 3 by Mayor J. Wesley Lee, for paving Second and Carmel Streets with brick.

Mt. Sterling, Ky.—Until July 5 by H. M. Ringo, Clerk, for paving with brick, asphalt tarvia or bitulithic on High, Locust and W. Main Streets, about 10,000 sq. yd. on concrete foundation. Cost $20,000. J. W. Bosley, Engineer, Ashland, Ky. C. K. Oldham, Mayor.

Versaille, Ky.—By City Council, for 4000 sq. yd. vitr. brick pavement on concrete base, grading of street and about 1400 lin. ft. concrete curb. Harry C. Taylor, Mayor; Charles E. Collins, Engineer, Drexel Building, Philadelphia, Pa.

Akron, Ohio.—Until July 8, by Director Public Service (H. A. Backderf, Clk.), for paving portions of Mallison, Webster Avenue and Charlotte and Aqueduct Streets, and for constructing sewers in Bellevue, Fern and other streets.

Ashtabula, Ohio.—Until July 10, by J. W. Prine, City Manager, for paving with brick on a 6-in. concrete base 11,650 sq. yds. on Ann and Depot Streets; cost, $35,000. L. A. Amsden, City Engineer, Ashtabula.

Batavia, Ohio.—Reported desired until July 15, by County Commissioners, for grading and paving with waterbound macadam portions of Cincinnati and West Union Road, in Tate Township, and Millsford-Hallsboro Road, in Miami and Stonelick Townships.

Cleveland, Ohio.—Until July 5, by Director Public Service for paving with bituminous concrete wearing surface on concrete foundation on Bulkley Boulevard. Cost $20,000. Samuel Newman, Park Engineer.

Defiance, Ohio.—Reported desired until July 10, by D. S. Mier, Dir. Pub. Service, for grading, curbing and paving Juliet, Third and Jackson Streets. Probable cost $59,500. C. A. Smith, City Engr.

Defiance, Ohio.—Until July 12, by Director Public Service, for furnishing material and improving portions of Jackson, First and Third Streets.

Jefferson, Ohio.—Until July 10, by F. C. Brown, Village Clk., furnishing material and paving portions of Walnut Street and Fellows Avenue with vitr. brick, asphalt concrete, asphalt block, creosoted or kerosene wood block.

Sylvania, Ohio.—Until July 12 by Park Wagonlander, Village Clerk, for paving with single course concrete on Blank and Indiana Streets, advertised in Engineering Record. W. J. Sherman Company, Engineers, Toledo.

Reading, Ohio.—Until July 7 by Board County Commissioners (Albert Reinhardt, Clk., Cincinnati), for improving Reading Road through the village of Reading.

Utica, Ohio.—Until July 8, by B. J. Smith, Village Clerk, for improving 6 streets with brick on concrete foundation, about 13,700 sq. yds. C. W. Irwin, Engineer, Newark.

Waynesville, Ohio.—Reported desired until July 15, by A. F. Basil, Village Clk., for grading and paving to cost $24,000. J. H. Meyers, Engr., Wapakoneta.

Gary, Ind.—Until Aug. 1, by A. S. Hess, Commissioner Public Works, for paving Virginia Street with asphalt macadam, waterbound macadam or concrete. W. J. Fulton, City Engineer.

Howell, Mich.—Until July 11, by City Council for paving portions of Walnut and Division Sts., in all about 11,319 sq. yd. paving, together with curbing, manholes, catchbasins, etc. Bids desired on vitr. block, asphaltic concrete, or reinforced concrete. Lyle J. Pettibone, City Clerk.

Indiana.—By County Commissioners, for constructing roads as follows:

Until July 5:

Noblesville, roads in Adams, Washington and White River Townships. W. O. Horton, Co. Aud.

Lebanon, roads in Washington, Jefferson and Sugar Creek Townships. Cleve Goodwin, Co. Aud.

Monticello, roads in Monson, Montgrove and Liberty Townships. A. G. Fisher, Co. Aud.

Logansport, road in Washington Township. A. P. Flynn, Co. Aud.

Until July 6:

Indianapolis, roads in Center Township. Leo. K. Fesler, Co. Aud.

Until July 14:

New Albany, road in New Albany Township. Arthur F. Wolf, Co. Aud.

Fremont, Mich.—Until July 3, by Township Board of Dayton Township, for constructing gravel road in all about 5½ miles. John M. Rottier, Clk.

Berwyn, Ill.—Until July 11, by Board Local Improv. (Oscar M. Linthal, Secy.), for paving portion of Wesley Avenue with asphaltic concrete, together with curbs, gutters, etc.; probable cost $20,646.

Illinois.—Until July 5, by State Highway Commission, Springfield, for constructing the following county roads:

Manlius, Bureau County, Sect. E, 1950 ft. concrete; engineer's estimate $4,959.

Tiskilwa, Bureau County, Sect. F, 2258 ft. concrete; engineer's estimate $4,686.

Ohio, Bureau County, Sect. G, 2350 ft. concrete; engineer's estimate $4,600.

Malden, Bureau County, Sect. H, 2175 ft. concrete; engineer's estimate $4,806.

Ladd, Bureau County, Sect. I, 2436 ft. concrete; engineer's estimate $4,613.

Neponset, Bureau County, Sect. J, 2500 ft. concrete; engineer's estimate $4,571.

Urbana, Champaign County, Sect. F, brick, 5175 ft; engineer's estimate $11,689.

Savoy, Champaign County, Sect. H, brick, 5340 ft.; engineer's estimate $11,647.

Bonnersville, Champaign County, Sect. I, 5425 ft. brick; engineers estimate $11,682.

Oquawka, Henderson County, Sect. A, 2700 ft. waterbound macadam; engineer's estimate $4,296.

Cambridges and Geneseo, Henry County, Sect. C, 31,050 oil earth; engineer's estimate $23,379.

Kankakee, Kankakee County, Section F, 5272 ft. brick; engineer's estimate $18,689.

Lehigh, Kankakee County, Sect. G, 5280 ft. waterbound macadam; engineer's estimate $9,072.

Havana, Mason County, Sect. A, 34,900 ft. oil earth; engineer's estimate $10,160.

Higgins, Richland County, Sect. B, 4720 ft. earth; engineer's estimate $1,584.

Claremont, Richland County, Sect. C, earth, 5500 ft; engineer's estimate $1,579.

Milan, Rock Island County, Sect. C, 5300 ft. gravel; engineer's estimate $5,322.

Watertown, Rock Island County, Sect. D, 3000 ft. gravel; engineer's estimate $6,424.

Sciota, Stephenson County, Sect. D, waterbound, 5600 ft.; engineer's estimate $11,995.

Mendota, Ill.—See "Waterworks and Sewerage Systems.

Mendota, Ill.—Until July 6, by Board Local Improvements (J. G. Ruel, Secy.), for paving portions of Fifth, Fourth and Third Streets, Twelfth Avenue and a number of other streets.

Madison, Wis.—Reported desired until July 5 by F. F. Goss, City Clerk, for 7000 sq. yd. brick to be relaid and 15,000 sq. yd. paving and 103,000 lin. ft. concrete curb and gutter.

Portage, Wis.—Reported desired until July 5, by F. F. Goss, City Clk., for 7000 yd. old vitr. brick pavement and 15,000 sq. yd. new pavement, 2800 ft. sewers, etc., on East Cook and West Canal Streets.

West Allis, Wis.—Until July 15, by E. G. Orbert, City Engineer, for concrete pavement on 75th Avenue, about 5748 sq. yds. pavement and 1334 cu. yds. excav.

Burlington, Iowa.—Until July 6, by Robert Kroppoch, City Clerk, for paving with cement concrete on 6 blocks of Market Street. C. W. Waterhouse, City Engineer.

Dubuque, Iowa.—Reported desired until July 15 for 3400 yd. macadam, 5400 yd. excav., etc. J. J. Shea, City Recorder.

Waterloo, Iowa.—Until about July 10, by C. T. Wilson, City Engineer, for 26 blocks of paving.

Northfield, Minn.—Until July 6, by city, for approximately 13,000 sq. yd. paving creosoted block, concrete or bitulithic, also for constructing a reinforced concrete retaining wall a distance of approximately 165 ft. along the river bank in the city. C. E. Hoppin, City Recorder.

Pipestone, Minn.—Until July 10, by S. W. Funk, City Clerk, for constructing concrete pavement. Also separate bid for curbing, etc., throughout the city.

Fargo, N. D.—Reported desired until July 5, by A. R. Watkins, County Auditor, for paving and curbing on 6th Ave. with either sheet asphalt Portland cement concrete, bitulithic, bituminous concrete, vitr. brick and wood creosoted block.

Princeton, Mo.—Until July 3, by J. A. Lieuallen, City Clerk, for 7333 sq. yds. concrete or cement paving on Oak Street and 4397 sq. yds. on Broadway.

Port Orchard, Wash.—Until July 6 by R. E. Gordon, County Auditor, for constructing Permanent Highway No. 1 B, 1 mile long. S. H. Berry, Co. Engr.

Lynden, Wash.—Reported desired until July 7 by R. B. Cocq, City Clk., for paving certain streets.

Fullerton, Cal.—Until July 5, by City Clerk, for furnishing a 12-ton road roller and scarifier.

Riverside, Cal.—Until July 5, by City Clerk, for 35,200 sq. yd. concrete pavement on North Main Street. A. P. Campbell, Engineer, City Hall.

San Jose, Cal.—Reported desired until July 3 by Board County Supervisors for 18,952 lin. ft. concrete pavement and 750 lin. ft. brick pavement on Saratoga and Los Gatos Highway.

Moscow, Idaho.—Until July 7, by J. R. Strong, City Clk., for paving, curbing and laying storm sewers on portions of Main Street, in all about 8029 sq. yd. paving and 4672 lin. ft. curbing. Bids desired on brick, asphalt, sheet asphalt, bitulithic, Hassam, concrete, asphalt concrete macadam, Dolarway, Hassamite or any standard pavement.

Toronto, Ont.—See "Waterworks and Sewerage Systems."

PRICES AND LETTINGS.

★Indicates award of contract.

★Albany, N. Y.—Contracts awarded by Board of Contract and Supply for repaving Lark Street from Madison to Washington Avenue, and Hudson Avenue from Lark to Willett Street, to Cramond Construction Corporation, Troy, at $37,647; improving Broadway, Hamilton Street South and Pruyn Street, Broadway West, to William F. Campion, Troy, at $19,029 (bids opened June 19).

Albany, N. Y.—Following are low bids, opened June 26, by State Highway Commission, Albany, for improvements of public highways by State aid:

Rep. Con. No. 974, Albany County, 1.06 miles (3 bids): Sewage Disposal & Water Plant Co., Schenectady, $18,548; Heisler & Luke J. Devlin, Albany, $18,577; Martin Murray & Co., Troy, $21,122.

Rep. Con. No. 980, Albany County, 3.91 miles (4 bids): Greece Constr. Co., Rochester, N. Y., $18,978; John Doyle Albany, $19,435; George H. McEvoy, Creek Locks, $20,163; H. A. Schaupp, Guilderland, $20,994.

Rep. Con. No. 964, Cayuga County, 2.76 miles (4 bids): W. F. Hill & Co., Fulton, $17,306; Flood & Van Wirt Co., Hudson Falls, $17,755; Richard Hopkins, Troy, $18,313; Dana W. Robbins, Inc., New York City, $19,556.

Rep. Con. No. 962, Cortland County, 7.11 miles (4 lowest): Chas. E. Hanney, Camillus, N. Y., $29,242; McGreevey, McGuigan & Baum Constr. Co., Elmira, $31,905; John R. Burchill, Syracuse, $32,764; John H. Weidman, Syracuse, $33,761.

Rep. Con. 982, Cayuga County, 3.29 miles: Flood & Van Wirt Co., Hudson Falls, $19,458.

Rep. Con. No. 963, Cortland County, 2.70 miles (4 lowest): Rowland E. Wright, Cortland, $12,672; McGreevey, McGuigan & Baum Constr. Co., Elmira, $12,692; Chas. E. Hanney, Camillus, $13,071; Flood & Van Wirt Co., Hudson Falls, $13,123.

Rep. Con. No. 959 Delaware County, 1.57 miles. No bids received.

Rep. Con. No. 984, Essex County, 10.93 miles (2 bids): Kellogg Boynton, Keeseville, $3,588; The Defiance Corporation, Ticonderoga, $3,883.

Rep. Con. No. 970, Herkimer County, 9.91 miles (4 lowest): Phelan & Sullivan, Utica, $49,087; J. L. Richmond, Hinkley, $49,932; Spellman Oliver Co., Chateagay, $49,943; Sullivan Constr. Co., Syracuse, $51,369.

Rep. Con. No. 960, Livingston County, 0.57 mile (2 bids): Schroeder-Hicks Contr. Co., Rochester, $4,804; McCarthy & Wall, Mt. Morris, $4,992.

Rep. Con. 973, Montgomery County, 4.66 miles (4 bids): H. A. Murphy, Albany, $10,099; P. F. Herlihy, Glen Falls, $10,333; D. I. Snell Co., Canajoharie, $10,864; Richard Hopkins, Troy, $11,412.

Rep. Con. 967, Niagara County, 3.19 miles (4 bidders): Chas. E. Hanney, Camillus, N. Y., $16,159; Cold Springs Constr. Co., Buffalo, $18,364; Greece Constr. Co., Rochester, $18,927; Bison City Eng. & Contr. Co., Buffalo, $19,063.

Rep. Con. 975, Oneida County, 4.74 miles (3 bidders): Harry W. Roberts & Co., Utica, $35,967; Federal Asphalt Corporation, New York City, $43,274; Chas. O. McComb, Syracuse, $43,883.

Rep. Con. No. 968, Onondaga County, 0.88 mile (one bid): Dana W. Robbins, Inc., New York City, $8,350.

Rep. Con. No. 965, Onondaga County, 3.70 miles (3 bids): John R. Burchill, Syracuse, $16,753; Dale Eng. Co., Utica, $17,821; Lane Constr. Corp, Meriden, Conn., $17,981.

Rep. Con. 966, Onondaga County, 3.30 miles (4 lowest): Chas. E. Hanney, Camillus, $13,102; John R. Burchill, Syracuse, $14,764; Guy B. Dickinson, Syracuse, $15,187; Phelan & Sullivan, Utica, $15,229.

Rep. Con. No. 961, Onondaga County, 6.24 miles (lowest): John R. Burchill, Syracuse, $9,318.

Rep. Con. No. 979, Onondaga County, 0.60 mile (2 bids): Mondo Constr. Co., Inc., Syracuse, $15,953; Guy B. Dickinson, Syracuse, $15,960.

Rep. Con. No. 976, Onondaga County, 4.84 miles (4 lowest): Harry W. Roberts & Co., Utica, $38,268; Lane Constr. Cor., Meriden, Conn., $42,029; Wm. P. McDonald Constr. Co., Mt. Vernon, $45,065; Warner-Quiland Constr. Co., Syracuse, $45,755.

Rep. Con. No. 870, Rensselaer County, 4.34 miles (3 bids): John B. Dower, Ballston Spa, $33,665; C. S. Mathusa, Albany, $34,825; Thos. H. Karr, Troy, $40,285.

Rep. Con. No. 981, Rensselaer County, 3.11 miles (3 bids): Gifford Constr. Co., Jamaica, $12,845; Flood & Van Wirt Co., Hudson Falls, $13,355; Thos. H. Karr, Troy, $14,725.

Rep. Con. 977, Sullivan County, 2.65 miles (3 bids): Jackson Bros., Cuddebackville, $14,963; Geo. H. McEvoy, Creek Locks, $15,967; Nathan E. Young, Cuddebackville, $16,593.

Rep. Con. No. 971, Westchester County, 15.13 miles (2 bids): H. A. Murphy, Albany, $23,429; Rich. Hopkins, Troy, $23,648.

Broken Stone Con. No. 70, Essex County (only bid): John Anderson, Jr., Newcomb, $10,320.

Road No. 1098, Eagle Bay, Sixth Lake, Hamilton County, 4.32 miles. No bid received.

Road No. 1302, Morris-Oneonta Otsego County, 12.66 miles (3 bids): Frank D. Van Horn, New York City, $116,754; J. L. Richmond, Hinkley, N. Y., $147,300; Fulton Engr. Co., Inc., Albany, $148,953.

Road No. 976, Java Village, Wales, 3.52 miles (2 bids): Bison City Eng. & Contr. Co., Buffalo, $30,347; F. J. Mumm Contr. Co., Inc., Buffalo, $36,078.

★Dolgeville, N. Y.—Contract awarded Nash & Griffin. Norwich, for improving Faville Avenue (bids opened June 17 by Board of Village Trustees), at $21,799. Other bidder, R. D. Cooper, Little Falls, $25,076. W. H. Bacon, Clerk.

Long Island City, L. I., N. Y.—Following are detail bids of lowest and total of next three lowest bidders on bids opened June 22 by Maurice E. Connolly, President Queens Borough, for paving:

Asphaltic concrete paving on Tenth and other streets: Cleveland Trinidad Asphalt Company, Flushing N. Y., 11,950 lin. ft. cement curb with steel nosing and 1-yr. maintenance, 58 cts.; 2880 cu. yd. concrete, $4.85; 17,270 sq. yd. paving (5-yr. maintenance), 82 cts.; 20 sq. yd. wood block paving, 50 cts.; 50 sq. yd. stone gutters relaid, 50 cts.; total, $35,095. Barber Asphalt Paving Company, Woolworth Building, New York, $40,041; Borough Asphalt Company, 1301 Metropolitan Avenue, Brooklyn, $40,923; Uvalde Asphalt Paving Company, 1 Broadway, New York, $43,636.

Second and other streets with asphaltic concrete: Cleveland Trinidad Asphalt Company, Flushing, 10,520 lin. ft. cement curb with steel nosing and 1-yr. maintenance, 60 cts.; 2350 cu. yd. concrete, $4.95; 14,070 sq. yd. paving, 5-yr. maintenance, 87 cts.; 100 sq. yd. wood block, pavt. relaid, 50 cts.; total, $30,235. Barber Asphalt Paving Company. Woolworth Building, New York, $33,242; Borough Asphalt Company, 1301 Metropolitan Avenue, Brooklyn, $34,895; Uvalde Asphalt Paving Company, 1 Broadway, New York, $36,722.

Sixth Avenue and other streets with asphaltic concrete: Cleveland Trinidad Asphalt Company, Flushing, 11,900 lin. ft. cement curb with steel nosing and 1-year maintenance, 58 cts.; 2720 cu. yd. concrete, $4.85; 16,280 sq. yd. paving, including 5-year maintenance, 77 cts.; total, $32,630; Barber Asphalt Paving Company, Woolworth Building, New York, $38,290; Borough Asphalt Company, 1301 Metropolitan Avenue, Brooklyn, $39,844; Uvalde Asphalt Paving Company, 1 Broadway, New York, $40,577.

New York, N. Y.—Following are four lowest bids opened June 22 by F. J. H. Kracke, Commissioner Plants and Structures, for furnishing paving blocks (a) water, gas and oil treatment, (b) light oil treatment, (c) heavy oil treatment: U. S. Wood Preserving Company, 165 Broadway (a) $39,744, (b) $43,776, and (c) $41,440; J. Leopold & Company, Inc., 233 Broadway (a) $49,360, (b) $50,160, (c) $48,560; American Creosoting Company, 17 Battery Place (a) $40,464, (b) $45,104, (c) $42,064; Barber Asphalt Paving Company, Woolworth Building (a) $43,264, (b) $50,848, (c) $49,056.

★Troy, N. Y.—Contract awarded by Board of Contract and Supply for repaving Remsen Street with split block to Langan Construction Co., Albany, at $24,263.

Yonkers, N. Y.—Following bids opened June 19 by Board of Contract and Supply for improving about 2 miles of North Broadway: John J. Hart, 4 S. Division Street, Peekskill, for sheet asphalt, at $156,478; Warren Bros. Paving Co., 50 Church Street, New York, bitulithic pavement on old macadam, $106,334, bitulithic on concrete base, $139,502, and bitulithic on bituminous, $128,568; O'Rourke Engineering & Construction Co., Battery Place, New York, asphalt block, $156,790.

★Contract awarded by Board of Contract and Supply to James A. Kellock, Saunders Dike, for curbing, guttering and constructing sidewalks on Hyatt Avenue and First Street at $9,552 and $10,166 respectively.

★**Belvidere, N. J.**—Contract awarded by Board of Chosen Freeholders for improving 23 miles of road from Port Colden to Phillipsburg and Belvidere to Phillipsburg to Salmon Bros., Netcong, at $49,926.

★**Milburn, N. J.**—Osborne & Marsilles Company, Upper Montclair, have secured contract for paving Hobart and Highland Avenues (bids opened June 12 by Township Committee) at about $17,000.

★**New Brunswick, N. J.**—Contract awarded by Board of Chosen Freeholders for constructing Section 4 of Cranbury-New Brunswick Turnpike to H. N. Scott Contracting Company, Cranbury, at $64,-472. Other bids: Mainwaring & Cummings, Philadelphia, $66,982; T. H. Riddle, New Brunswick, $64,752 and Liddle & Pfeiffer, Perth Amboy, $65,819.

★**Paterson, N. J.**—Contracts awarded by Board of Chosen Freeholders for road improvements as follows: To Abner W. Gill, Hackensack, for 8-in. macadam on Cannon Ball Road, at $6,673; bituminous macadam on Haledon Avenue, $7,233; bituminous concrete, Totowa Avenue and East Sixty-first Street, at $12,724 and $4,490 respectively; to Union Building & Construction Co., Passaic, for granite block on concrete base on Bloomfield Avenue, $20,488, and bituminous concrete on Van Houten Avenue, $38,646; George F. Brackett, bituminous concrete on Madison Avenue, at $49,977; E. C. Humphrey Co., Hackensack, for asphalt on concrete base, on Vreeland Avenue, at $25,229; Harrop & Sauerbutt, Garfield, for bituminous concrete, Wesel Road, at $19,045. (Bids opened June 14.)

★**Cresson, Pa.**—Contract for paving with brick on Keystone and Ashecroft Avenues and other streets (bids opened June 19 by borough) awarded Gregory Paving Company, Lewistown, at $45,052. Frank A. Kerner, Borough Clerk.

Philadelphia, Pa.—Following are low bidders on paving on 6-in. concrete base and contingent work opened June 15 by Department Public Works, Bureau of Highways:

Schedule "A," grading, about 25,105 sq. yd., average price 39.9 cts. per cu. yd.; total, $10,036: A. W. McIlhenny, 1230 S. Twenty-eighth Street; J. J. McHugh, 1430 S. Penn Square; E. H. Vare, Lincoln Building.

Schedule "B," asphalt paving, average low bids $2.245 per sq. yd.: Eastern Paving Company, Penn Square Building; Barber Asphalt Paving Company, Land Title Building; Newton Paving Company, Finance Building; Mack Paving & Construction Company, Twentieth and Sedgley Avenue.

Schedule "C," vitr. block pavement, average low bid $2.667 per sq. yd.: Mack Paving & Construction Company, Twentieth and Sedgley Avenues; and Alpha Engineering & Construction Company, Heed Building.

Schedule "D," granite block paving, average price $4.18 per sq. yd., total $14,307: J. J. McHugh, 1430 S. Penn Square.

Schedule "E," asphalt repaving, average bid $2.503 per sq. yd., average low bid $40,186; Newton Paving Company, Finance Building; Philadelphia Paving Company, 1345 Arch Street; and Barber Asphalt Paving Company, Land Title Building.

Schedule "F," vitr. block repaving, average bid $3.115 per sq. yd.; total $10,435: Philadelphia Paving Company, 1345 Arch Street.

Schedule "G," granite block repaving, total $67,613: J. Meihan & Company, 915 W. Dauphin Street; and Philadelphia Paving Company, 1345 Arch Street.

Schedule "H," wood block repaving, total $4,794: J. J. McHugh, 1430 S. Penn Square.

Schedule "I," asphalt resurfacing, total $13,574: Mack Paving & Construction Company, Twentieth and Sedgley Avenue.

Schedule "J," surfacing, waterbound macadam, total $18,836: Curtis Brothers, Torresdale Avenue and Magee Street; P. J. Snyder & Company, Bailey Building; Anders & Snyder, Heed Building; and H. F. Brown, 4600 Main Street.

Schedule "K," painting and repairing bridges, total $5,587: M. & J. B. McHugh, 892 W. Market Street.

★**Sewickley, Pa.**—R. V. Baldwin, Coraopolis, secured contract for paving with vitr. brick on portions of Fountain, Elizabeth and Grimes Streets and Locust Place (bids opened June 20) at a total of $8,500. Edward E. Duff, Jr., Borough Engineer.

★**Sharpsville, Pa.**—Contract awarded by Borough Council for paving Mercer Avenue to William McIntyre, Sharon, at $1.74 sq. yd. (bids opened June 20).

★**Hinton, W. Va.**—Contract awarded by County Court of Summers County for 8 miles of asphaltic concrete road to Central Engineering Company, Charleston. F. K. Hader, Lewisburg, and Philip J. Knorad, Kanawha Falls, Engineers in charge.

★**New Orleans, La.**—Contract for constructing 12 miles of earth roadway in Grant Parish, bids opened June 12, awarded Smith Brothers, Coushatta, La., by State Highway Department of Louisiana, New Orleans.

★**Canton, Miss.**—Contract awarded June 22 to Merrill Paving & Improvement Company, Chattanooga, Tenn., for about 5000 sq. yd. sheet asphalt pavement, and to S. A. Gano, Jackson, Miss., for about 4 miles of graveled streets, 2½ miles of concrete curb and gutter, and for storm sewers. Walter G. Kirkpatrick, Birmingham, Ala., Engineer.

★**Cincinnati, Ohio.**—City Board of Control awarded contract for improvement of Elland Avenue from Erkenbrecher to Burnet Avenues with brick and wood block to the Kirchner Construction Co., 221 West Ninth Street, at $22,532.

★City Board of Control awarded contract for oiling streets of four city districts to Citizens' Road Preserving Co., 4 Temple Court, at the following prices: District No. 1, 41,400 yd., at $1,858.86; District No. 2, 152,900 yd., at $6,865.21; District No. 4, 132,100 yd., at $5,931.29; District No. 5, 102,200 yd., at $4,588.78.

★**Eaton, Ohio.**—Contract awarded by City Council for paving Barron and other streets to Strodbeck Bros., Middletown, at $81,000.

Elmore, Ohio.—A. Witte, Elmore, bid $10,000 for improving Augusta and Lytle Streets (bids opened June 19 by William Haley, Clerk).

★**Lima, Ohio.**—Contracts awarded by Board of Control for paving Ewing Avenue, from West to Baxter Streets, to Jameson & Blosser, at $15,482.

★**Lisbon, Ohio.**—Contracts for paving (bids opened June 20, 21 and 22) awarded by County Commissioners as follows (H. C. Armstrong, County Surveyor): J. D. Paxson, Salem, Ohio, Salem-Canfield, 1.32 miles, 14 ft. brick (monolithic const.), $22,166; Jones Const. Co., Mt. Vernon, Ohio, Damascus-Valley, 1.54 miles, 10 and 14 ft. brick (monolithic const.), also .96 mile, 14 ft. waterbound slag at $33,314, also Lisbon-Salem Road, 3.40 miles, 14 ft. brick (monolithic const.), also 3.40 miles, 14 ft. bituminous macadam, at $9,654; Rhinehart Bros., East Liverpool, O., Park Boulevard, .58 mile, 18 ft. brick (monolithic const.), $14,522; George B. Patterson, Wellsville, Ohio., Wellsville-Oak Grove-Calcutta, .61 mile, 14 ft. brick (mon. con.), $11,451; J. C. Devine, Alliance, Ohio, Salem-Goshen, 1.41 miles, 14 ft. waterbound slag, $13,449; Campbell Bros., Youngstown, Ohio, Wellsville-Lisbon, 6.18 miles, 14 ft. bituminous macadam, $76,664; Hepburn & McLane, Lisbon, Ohio, Lisbon-Bayard-Canton, 1.92 miles, 14 ft. bituminous macadam, $28,768; F. L. Cox, Kensington, Ohio, Kensington-Carrollton, .45 mile, 14 ft. bituminous macadam, $4,718; M. P. Connelly & Son, Youngstown, Ohio, Thomas Road, 2.02 miles, also East Liverpool-Cannons Mill, 2 miles, 14 ft., both brick (mon. con.), at $37,560 and $38,135 respectively; Rhinehart Bros., East Liverpool, Ohio, Calcutta-Fredericktown, 1.15 miles, 10 ft. brick (mon. con.), $18,305; Hinton & Cunningham, East Liverpool, Ohio, Park Way-Lisbon-Smiths Ferry, 2.65 mile, grading only, $11,536; Campbell Bros., Youngstown, Ohio, Wellsville-Lisbon, .87 mile, 14 ft. bitminous macadam, $11,146; M. P. Connelly & Son, Youngstown, Ohio, Salem-Winona, 1.48 miles, 10 ft. brick (mon. con.), $22,161; McLane & Hepburn, Lisbon, Ohio, Rogers-East Fairfield, .52 mile, 14 ft. waterbound slag, $5,390; Hinton & Cunningham, East Liverpool, Ohio, East Liverpool-Cannons Mill, 3.48 miles, grading only, $24,170.

★**Upper Sandusky, Ohio.**—Contract for paving with Hocking and Metropolitan block Hazel, Bigelow and Walker Streets (bids opened June 12 by L. M. Russell, City Engr.) awarded Modern Construction Company, Fremont. Charles V. Read, Clerk.

Zanesville, Ohio.—Lowest bids submitted to City Council for paving Market Street by Adams Bros., Zanesville, at $21,000 for tar filler, $20,857 for cement filler, and $21,816 for mastic filler.

★**Bloomington, Ind.**—Contract awarded by County Commissioners for constructing Dixie Highway through Washington Township to Blair & Kerr, Bloomington, at $22,000.

★**Indianapolis, Ind.**—Contracts awarded by County Commissioners for road improvements to Thomas, Bennett & Thomas, Mount Vernon, at $21,900, and Arthur W. O'Keefe, Plymouth, at $12,000.

★**Indianapolis, Ind.**—Contract awarded by County Commissioners for improving Sixteenth Street and Sherman Drive to R. E. M. Construction Co., Evansville, at $28,989.

★**Rising Sun, Ind.**—Contract awarded by County Commissioners for constructing stone road in Randolph Township to O. W. Pegee, Versailles, at $14,100 (bids opened June 5).

★**Van Wert, Ohio.**—Contracts for paving (bids opened June 16 by W. T. Mitchener, Dir. Pub. Ser.) awarded as follows: West Main Street, to Federal Asphalt Co., Hamilton, $26,448; also South Chestnut Street at $5,332; North Wayne and East Ridge Road, McArthur & Fox, Kent, $16,900.

★**Winamac, Ind.**—Following are totals of bids opened June 12 by Clarence Barnett, City Clerk, for 32,350 sq. yd. paving and 19,000 ft. combined curb and gutter: Palmer & Moore, Logansport, $48,919 (awarded contract), Ironstone or Poston brick; A. F. Cohee & Company, Frankfort, $49,009, Townsend brick, or $49,656, Knobstone brick; Gross Brothers, Laporte, $49,711, South Webster brick.

★**Belding, Mich.**—Contract awarded by City Council for paving with Metropolitan wire cut block, concrete foundation, on North and South Bridge Streets, to A. H. Prange, Grand Rapids, at $36,973.

★**Fremont, Mich.**—Contract awarded Maraman & Green, Grand Rapids, for paving 10,000 sq. yd. of Division and Mercrants Avenues with reinforced concrete. James R. Rumsey, Engineer, Grand Rapids.

Kalamazoo, Mich.—Bessemer Limestone Company submitted lowest bid June 5 to C. L. Miller, City Clerk, for 600,000 paving brick at $21.50 for repressed or wire lug cut 40 to the sq. yd.

★Contract for 25,000 sq. yd. asphaltic concrete pavement (bids opened June 5) awarded Globe Construction Company, Kalamazoo; kind of asphalt not yet determined.

★**Racine, Wis.**—Contract for 15,167 sq. yd. concrete pavement in Caledonia awarded Christ Nelson, 141 Howe Street, at $15,008. (Bids opened June 20 by James Mullen, State Highway Comr. at Madison.)

★**Superior, Wis.**—Contracts awarded by Board of Public Works for constructing 12 miles of cement sidewalks, about $30,000 in all, as follows (price given per sq. ft.): To Edward Johnson, Superior, for walks in Seventh, Eighth and Ninth Wards at 11.99 cts., 11.73 and 12.49 cts. respectively; Russell Construction Co., Superior, for walks in Third, Fourth and Fifth Wards at 10.9 cts. each ward; and Edward Swanson, Superior, for walks in First, Second and Tenth Wards at 11.24 cts., 11.23 cts. and 11.49 cts. respectively.

★**Des Moines, Iowa.**—Contract awarded by City Council for paving about 17,-752 sq. yd. on Washington, East First and other streets to Des Moines Paving Company, Des Moines, at $1.84½ per sq. yd.

★**Mt. Pleasant, Iowa.**—Contract for paving with bitulithic, 5-in. base (bids opened June 16) awarded by city to William Harrabin, Iowa City, at $1.89 per sq. yd., total $69,965.

★**St. Paul, Minn.**—Contract awarded by City Council for grading Waseca, Page, Morton, Bellows, Louisa and Elizabeth Streets to Keough Bros., Hamline and Otto Avenues, at $13,600.

★Contract awarded by County Commissioners for constructing Jefferson-Cretin Highway to O'Neill & Preston, St. Paul, at $34,196.

★**Peabody, Kan.**—Contract awarded by City Council for paving 22,000 yd. with natural asphalt to A. Jaicks Company, Kansas City, Mo., at $36,000 (bids opened June 20).

★**Lincoln, Neb.**—Contract awarded by City Council for paving to Abel Construction Co., Lincoln, at $40,000.

★**Denton, Mont.**—Contract awarded by City Council for constructing about 100,-000 sq. ft. concrete walks and about 15,000 ft. concrete curbs to Two Miracle Company, Great Falls.

★**Higginsville, Mo.**—Contract awarded by City Council for paving 11,000 sq. yd. and 6000 ft. of curb and gutter to F. R. Martin Contracting Co., Kansas City, Mo., at $25,000.

★**Kansas City, Mo.**—Contract awarded by Jackson County Court for grading, draining and macadamizing Wood Chapel Road to Kansas Construction Company, Des Moines, Iowa, at $73,953. Work includes 53,750 sq. yd. macadam, 90,300 cu. yd. of dirt excav., 7700 yd. solid rock, an overhaul of 50,000 equivalent yd., 7000 sq. yd. rip-rapping, 200 cu. yd. reinforced concrete, 10,300 ft. 4 and 12-in. drain tile. Other bidders: Robert E. O'Brien, Kansas City, $74,764; Davidson Construction Company, Kansas City, $86,256.

★**Bay City, Tex.**—Contract awarded by County Commissioners for constructing about 40 miles of shell roads to W. D. Haden, Galveston, at $102,000.

★**Bryan, Tex.**—Contract for 53,000 sq. yd. asphaltic concrete paving, using Tarvia asphalt, awarded Kaw Paving Company, Topeka, at $1.35 per sq. yd.; also for 47,000 sq. yd. Uvalde rock asphalt from Bryan to College Station at $1, not including excavation.

★**Ft. Worth, Tex.**—Contract awarded by City Council for repaving Main Street with creosoted wood block, to H. K. McCollum Construction Co., Ft. Worth, at $86,701.

Galveston, Tex.—Lowest bid submitted June 15 to Board of Commissioners of Public Properties for paving in West End by Cleveland Trinidad Paving Co., Cleveland, Ohio, at $66,120 for vitrified paving blocks and at $75,376 for wood block pavement.

Houston, Tex.—Following are four lowest bids opened June 19 by E. B. Bonney, City Secy., for paving Montrose Boulevard from Main to Richmond Streets: Talbot Company, Houston, Portland cement concrete, $36,513; Eureka Paving Company, Houston, asphalt concrete, $41,581; Southern Paving Company, Houston, sheet asphalt, $37,258; Horton & Horton, Houston, Uvalde rock asphalt, $49,491.

★**Mexico.**—Contract awarded Russell Grader Manufacturing Company, Minneapolis, Minn., for furnishing the Government for use on Mexican border in construction of roads, two carloads of machines consisting of elevating graders, Russell Mogul road machines, with 12-ft. blades and road plows.

★**Blaine, Wash.**—Contract awarded by City Council for paving 1½ miles of road connecting with Pacific Highway south to Ledintwell & Cooper, Vancouver, B. C.

★**Everett, Wash.**—Contract awarded by County Commissioners for constructing Arlington-Silvana Road to Reinseth Bros., Everett, at $13,940 (bids opened June 26).

★**Montesano, Wash.**—Contract awarded by County Commissioners for paving Olympic Highway through McCleary with asphalt on concrete base, to Olympic Paving Co., Hoquiam, at $15,490.

★**Seattle, Wash.**—Reported contract awarded by Board of Public Works for paving with concrete Eloise Terrace to Hellenthal & Company, Northern Bank Building, at $9,589.

Following are four lowest bids, opened by County Commissioners, for constructing Permanent Highway between Kent and Des Moines, with (a) county design for bridge involved construction, (b) Luten design: Charles G. Huber, Central Bldg., (a) $30,985, (b) $29,495 (contract awarded on b); M. P. Zindorf, Alaska Bldg., (a) $32,347, (b) $33,200; Erickson, Anderson & Stranck, Downs Bldg., (a) $36,-000, (b) $36,200, and A. J. Baumgartner, 711 Sixteenth Avenue, (a) $34,500, (b) $35,200.

★Following four lowest bids, opened June 19 by County Commissioners, for constructing Black Diamond-Maple Valley Highway, (a) road without grade separation, (b) with grade separation: Henry Brice, 4234 Densmore Avenue, (a) $44,188, (b) $46,372 (awarded contract on b); Barbo Bros., Seattle, (a) $45,380, (b) $57,140; George Banderet, Seattle, (a) $47,679, (b) $49,423; Booker, Kiehl & Whipple, Seattle, (a) $52,194, (b) $54,694.

★**Tacoma, Wash.**—Contract awarded by County Commissioners for resurfacing Buckley-Sumner Highway with Warrenite, to Washington Paving Co., Smith Bldg., Seattle, at $37,843.

Astoria, Ore.—Folowing bids opened by City Council for paving with (a) bitulithic on crushed rock base, (b) asphaltic concrete on concrete base, (c) sheet asphalt on concrete base, (d) brick on concrete base: Western Paving Co., Astoria, (a) $32,670, (b) $32,695, (c) $33,662, (d) $41,-864, and Warren Construction Co., Portland, (a) $33,474.

★**McMinnville, Ore.**—Following are four bids opened June 13 by A. C. Chandler, City Recorder, for 21,000 sq. yd. asphaltic concrete pavement: Montague O'Reilly Company, Portland, $28,207 (awarded contract); V. R. Dennis Company, McMinnville, $28,905; Clark Henery Company, Portland, $29,110; Avenz Construction Company, Salem, $30,516.

★**Portland, Ore.**—Contract awarded by City Council for paving with basalt stone blocks East Oak Street from East Water to Union Avenue to Montague-O'Reilly Co., Portland, at $15,902.

★Reported contract awarded by County Commissioners for constructing Canyon Road to E. T. Johnson Co., Portland, at $20,029.

Salem, Ore.—Lowest bid submitted to State Highway Commission at Salem for constructing highway near Bend by Joseph Rock, Bend, at $19,800.

★**Los Angeles, Cal.**—Contract awarded Ford & Stout, Bradbury Building, for asphalt paving on Dayton Avenue at about $40,000.

★Contract awarded by Board of Supervisors for constructing macadam and concrete pavements on 1.24 miles of Texas Street and Roy and Craig Avenues, La Canda, to E. A. Baker, 407 Hellman Bldg., at $10,885.

Following four lowest bids opened by Board of Supervisors for constructing 2.12 miles of concrete paving on Olive Street: Fred Hoffman, 111 East Twelfth Street; Long Beach, $20,500; Coast Construction Co., Los Angeles, $21,000; S-C Contracting Co., Los Angeles, $21,124, and Rogers Bros. Co., Los Angeles, $21,787.

Manhattan Beach, Cal.—Lowest bid submitted to City Council for paving with concrete and asphalt Marine Avenue by California-Arizona Construction Co., 1700 East Washington Street, Los Angeles, at $30,000.

Salt Lake City, Utah.—Lowest bid submitted to City Commission for paving Eighth East Street from South Temple to Fourth South Street and Fourth South Street from Seventh to Tenth East by Parrott Bros., Salt Lake City, at $91,712. (Bids opened June 13.)

★**Sandpoint, Idaho.**—Contract awarded by City Council for paving Pine Street to Spokane Bitumass Co., Spokane, at $13,530.

★**Ottawa, Ont.**—Contract awarded by City Council for constructing asphalt pavements to Union Construction Co., Bank Street Chambers, at $41,160.

RAILWAYS
Steam and Electric

PROPOSED WORK.

Boston, Mass.—New York, New Haven & Hartford R. R. (Edward Gagel, Chief Engineer, New Haven, Conn.) has submitted to Boston authorities for approval plans for the enlargement of the cut leading to the freight terminals at $829,000, and the directors of the New Haven have authorized the improvement.

New York, N. Y.—See "Buildings."

New York.—See "Steel Bridge Work."

New York, N. Y.—See "Tunnels and Subways."

New York, N. Y.—Contracts recently awarded by Public Service Commission for First District, 120 Broadway, for constructing Livonia Avenue elevated extension of Eastern Parkway subway, Route 31, Borough of Brooklyn, has been rescinded.

Pennsgrove, N. J.—Plans being considered for construction of an electric railway from Pennsgrove to Atlantic City. Address Chamber of Commerce of Pennsgrove for further information.

Bath, Pa.—Lehigh & New England Ry. (R. W. Wilbur, Gen. Mgr., 437 Chestnut Street, Philadelphia) having surveys made for a line to be built from Bath via Chapman Quarries to Benders Junction, about 8 miles, eliminating about 10 grade crossings.

Pittsburgh, Pa.—Baltimore & Ohio R. R. (F. L. Stuart, Ch. Engr., Baltimore, Md.) is reported interested in the Long Fork R. R., which plans constructing a railroad 30 miles in Kentucky on left bank of Beaver River.

Wheeling, W. Va.—B. M. Langhead, 375 South Main Street, Washington, Pa., appointed as locating engineer of the Pennsylvania R. R. to survey a line from Wheeling, W. Va., to Marianna, Pa., by way of Wheeling Creek, Short Creek and Tenmile Creek.

Pensacola, Fla.—The State Legislature passed a bill authorizing George H. Hervey of Pensacola, to construct and operate an electric railway on Ft. Barrancas and Ft. McRae Military reservations.

Sewickley, Pa.—Pennsylvania R. R. Lines West of Pittsburgh (Alex. C. Shand, Ch. Engr., Philadelphia) has applied to Public Service Commission at Harrisburg for approval of contract between the boroughs of Sewickley and Edgeworth, near Pittsburgh, providing for a change of its main line tracks now running through the center of the two towns so that the tracks will run along Ohio River. The change will permit of the construction of six additional tracks; improvement to cost $1,000,000.

Tampa, Fla.—Reported plans being considered for constructing an electric railway from St. Petersburg to Tampa, about 20 miles, including a bridge 3½ miles long over Old Tampa Bay. George Gandy, Sr., and Lewis B. Brown of St. Petersburg interested.

Edenwold, Tenn.—Surveys made by Nashville-Gallatin Interurban for an extension of the line from Edenwold to Springfield, about 18.4 miles.

Akron, Ohio.—The Northern Ohio Traction & Light Co. plans to spend about $1,955,300 for improvements. Double tracking A B C line to Falls and north end of Bedford, improvements from Bedford to Newburg, double track between Canton and Massillon, extension to Mahoning line in Canton, Massillon extension, extension on Wooster Avenue, Akron, double track line between Blue Point and Springfield Lake, 3.83 miles double track from Akron terminal over iceway to gorge, 2¾ miles contemplated.

East Liverpool, Ohio.—The East Liverpool Traction & Light Co. will reroute one of its lines, about 1½ miles of track and overhead lines will be relaid.

Oil City, Pa.—Pennsylvania R. R. (Alex. C. Shand, Chief Engineer, Philadelphia, Pa.) and city reported considering several street improvements, including bridges, etc. Expect to build piers and abutments this year. Bridge work estimated at $800,000; city will let contracts for all street changes and work affecting city property. B. B. Weber, City Engineer.

Kansas City, Kan.—Election to be held July 6 to vote on granting a franchise to Kansas City Terminal Ry. Co.; said franchise includes the erection of three viaducts and one or two stations costing $100,000 each.

Kalispell, Mont.—Reported Northern Pacific Ry. Company (W. L. Darling, Ch. Engr., St. Paul, Minn.) plans constructing a branch line from Kalispell to Polson.

Missoula, Mont.—Chicago, Milwaukee & St. Paul Ry. Co. (C. F. Loweth, Ch. Engr., Chicago, Ill.) is considering extending line from Missoula to Blackfoot.

Kansas City, Mo.—Preliminary to paving of Main Street from Twelfth to Nineteenth Streets, with creosoted wood blocks, the Kansas City Railways Company will lay new track over this distance, bringing same to grade. Type of construction will be a base of 20 in. of solid concrete, sawed oak ties, 95-lb. "T" steel rails, welded joints, sub and surface drained, paved between tracks, 18 in. outside of the outside rails and in strip with heavy granite blocks.

Houston, Tex.—Construction work will begin about July 15 on constructing Houston, Richmond and Western Traction Co.'s line between Houston and San Antonio. C. C. Godman, Kansas City, Pres.

Roseburg, Ore.—Reported City Council will soon ask bids for constructing the proposed railroad, for which $300,000 bonds have been voted. Line will be about 24 miles.

Los Angeles, Cal.—Reported Pacific Electric Ry. Co. will extend line from Los Angeles to San Diego via Fullerton, Anaheim and Santa Ana.

Riverside, Cal.—County Board of Supervisors has asked State Railroad Commission for permission to construct a $15,840 concrete bridge over the Southern Pacific Railway tracks.

San Francisco, Cal.—Railroad Commission of California, Sacramento, has approved the reorganization plan of the Western Pacific Ry. Co., San Francisco, to the Western Pacific R. R. Co., with power to construct about 350 miles of branch lines. C. M. Levey, Pres., San Francisco.

Duncan, Ariz.—Carlisle Mining Company (H. K. Welch, Manager, Steeplerock, N. M.) is reported planning construction of an electric power plant here, also building an electric railway from Duncan to its mines at Steeplerock, a distance of 13 miles. Is also planning enlargement of mill.

Flagstaff, Ariz. — Reported Arizona Navajo Copper Company is planning constructing a railroad from Flagstaff to White Mesa mining property, 110 miles northeast of Flagstaff. Robert Mitchell, Manager.

Warren, Ariz.—State Commission has granted permission to Tucson, Cornelia & Gila Bend R. R. Company to issue $100,000 stock to provide funds for rolling stock and equipment. Main office, Warren.

East Mill Creek, Utah.—Emigrant Canyon Ry. (H. E. Grant Young, Jr., Chief Engineer, Salt Lake City, Utah) plans constructing an extension south to East Mill Creek about 3 miles.

Lewiston, Idaho. — Reported Oregon-Washington R. R. & Navigation Company, Portland, Ore., plans constructing a branch line into Clearwater District, running from Spalding to mouth of Reed's Creek, about 70 miles; estimated cost $2,000,000.

St. Johns, N. B.—Canadian Pacific Ry. (J. M. R. Fairbairn, Asst. Ch. Engr., Montreal, Que.) is preparing plans for spending over $100,000 in yards here, including a modern coal plant, relaying all old rails with new 85-lb. ones, and construction of 20,000-gal. water tank.

Winnipeg, Man.—Reported Canadian Pacific Ry. (Grant Hall, Gen. Mgr., Winnipeg) plans constructing 7 miles of road from Vantages to Weyburn Assiniboia; also extending line operating between Stirling Alta to Fourways, 10 miles to Manyberries.

Vancouver, B. C.—The Pacific Great Eastern Ry. (John Callaghan, Ch. Engr., Vancouver) plans a new line between Clinton and St. George, about 4,000 M ft. of bridge timber will be required.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**New York, N. Y.**—Public Service Commission for the First District, 120 Broadway, New York, has approved awarding of contract by New York Municipal Ry. Corporation to Lewis H. Woods, 2355 Jerome Avenue, New York, for track laying and electrical equipment on the Jamaica extension of the Broadway elevated line in Brooklyn from Crescent Street to Cliffside Avenue. Bids were taken on four types of construction ranging from $136,947 to $149,820.

★**Cincinnati, Ohio.**—Contract awarded by Pennsylvania Lines west of Pittsburgh for track elevation between Delta and Stanley Avenues to Henkel & Sullivan, 710 Mercantile Library, Bldg., at $106,673.

★**Wild Rose, N. D.**—Contract for grading, bridging, etc., Wild Rose Branch of Great Northern R. R. (H. H. Hogeland, Ch. Engr., St. Paul, Minn.), from Wild Rose, a distance of 36 miles, awarded Morris Shepard & Dougherty, St. Paul, Minn.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Manchester, N. H.—Reported F. R. Atwood Box & Wood Manufacturing Company of Henniker has decided to remove its plant here and will erect a two-story factory at Valleyview, to cost $40,000.

Boston, Mass.—Plans approved for $1,500,000 sugar refining plant to be erected on Medford Street, Charlestown, for United Fruit Company, 900 Board of Trade Building, to consist of six steel and concrete buildings.

Mansfield, Mass.—Plans being prepared by Frost & Chamberlain, Slater Building, Worcester, for four-story, 60 x 150 ft. factory addition for S. W. Card Manufacturing Company.

Fall River, Mass.—Luther Manufacturing Company, 240 Hartwell Street, intends erecting one-story 64 x 69 ft. brick weave shed addition.

Milford, Mass.—Regal Shoe Company, Milford, is having plans prepared for a new power house and power plant to be erected at their factory.

Willimantic, Conn.—American Thread Company will erect a 5-story factory addition to connect Buildings Nos. 5 and 6.

Buffalo, N. Y.—Plans being prepared by G. Morton Wolfe, Henkel Building, for factory, 160 x 60 ft., with wing 60 x 40 ft., brick and mill construction, to be erected at Niagara Street and Forest Avenue, for Acme Pattern & Machine Company (Adam Shabtac, President), 38 Letchworth Street.

Lockport, N. Y.—Lockport Glass Company, Michigan Street, intends erecting one and two-story, 60 x 400 ft., steel, concrete and brick addition on South Niagara Street; cost $50,000.

Reported Elderfield-Hartshorn Hardware Company of Niagara Falls, proposes erecting manufacturing plant here.

Olean, N. Y.—Plans completed for car shop, storehouse and office building to be erected for Union Tank Line (Thomas Beaghein, General Manager), 26 Broadway, New York, on site adjoining Pennsylvania Railroad shops.

Elizabeth, N. J.—Waclark Wire Company, Bayway, has applied for a permit to erect three buildings, to consist of a 290 x 63 ft. mill; 57.4 x 82 ft. office building and 52 x 141 ft. machine and carpenter shop.

Gloucester City, N. J.—Reported plans completed for addition to plant of John M. Rogers' Drill Works, to be used for manufacture of aeroplanes.

Utica, N. Y.—Utica Spinning Company (R. Hatfield, Pres.) will erect a three-story, 50 x 100 ft., spinning mill on Whitesboro Street; estimated cost $25,000.

Jersey City, N. J.—Eagle Printing Ink Company, 267 Gates Avenue, will erect a two and four-story brick addition to plant.

Newark, N. J.—General Leather Company, 422 Frelinghuysen Avenue, has applied for permit to erect brick factory to cost about $155,260.

Beaver Falls, Pa.—Moltrop Steel Products Company, First Ave. and 14th St., will enlarge plant at cost of $150,000.

Bethlehem, Pa.—W. S. Barstow & Company, 50 Pine Street, New York, N. Y., are designers and engineers in charge of a 1-story factory, 315 x 60 ft., to be erected in Bethlehem by the Silvex City (Bethlehem, Pa.) manufacturers of spark plug and shock absorbers. A basement will extend under one end 150 ft. back. Capacity 10,000 spark plugs per day, with sufficient capacity to increase output 50 per cent; also have a capacity of 10,000 shock absorbers per year.

Oil City, Pa.—W. O. Teets, Odd Fellows Temple, preparing plans for a wholesale grocery building for Reddom Brothers of Butler.

Steelton, Pa.—Plans completed for proposed $500,000 improvements to plant of Pennsylvania Steel Company (Quincy Bent, General Manager), to include remodelling Stack No. 3, constructing new ore bridge, addition of two gas blowing engines and ore yard extension.

Baltimore, Md.—John Freund, Hoffman Building, is architect for a one and three-story addition to plant of E. H. Koester, West Lexington Street.

Jacksonville, Fla.—Plans completed for packing plant to be erected here for Armour & Company, 310 West Bay Street

Andalusia, Ala.—Reported plant of Sessoms Wholesale Grocery Co., recently destroyed by fire, will be rebuilt.

Cincinnati, Ohio.—Elzner & Anderson, 136 Ingalls Building, preparing plans for a two-story factory extension covering almost an acre of ground at Gest Street, for the F. H. Lawson Co.

Zettel & Rapp, 607 Johnston Building, commissioned to prepare plans for a 50 x 100-ft. addition to Cincinnati Coffin Co.'s plant at Carr and Fillmore Streets. Part of the equipment of the new structure will be a ten-ton traveling crane.

Newark, Ohio.—Reported officials of Panhandle R.R. Co. (R. Trimble, Ch. Engr. Maintenance of Way, Pittsburgh, Pa.) have authorized the construction of a freight depot on Fifth Street and tracks in this city to cost $146,000.

Indiana Harbor, Ind.—Mark Manufacturing Company of Milwaukee, Wis., contemplates erecting a steel plant at Indiana Harbor. Ferdinand Schlesinger, 477 Lafayette Place, Milwaukee, Wis., reported interested.

Chicago, Ill.—Oliver M. Burton, 2024 Racine Avenue, has secured site at Forty-seventh Street and Archer Avenue on which he intends erecting a $300,000 plant.

Irene, Tex.—Farmers & Merchants Gin Company, recently reorganized, will erect a new cotton gin mill and install electrically operated machinery.

Tulsa, Okla.—Reported Frisco R.R. Co. (F. G. Jonah, Ch. Engr., Frisco Building, St. Louis, Mo.) contemplates erecting roundhouse at cost of about $200,000.

Seattle, Wash.—E. A. Williams, Jr., President of Garford Motor Truck Company of Lima, Ohio, has selected site here for a distribution and assembling plant and will erect a 3-story fireproof factory.

Astoria, Ore.—Reported C. E. Mack, of Portland, and C. E. Fox, of the Seattle-Astoria Iron Works, Seattle, Wash., have purchased plant of Astoria Machine Company, Astoria, and plan enlarging same at cost of $25,000.

Oregon City, Ore.—Reported Hawley Pulp & Paper Company of Oregon City, is having plans prepared for a second unit to be erected to plant.

Chloride, Ariz.—Reported Pilgrim Mining & Milling Company is planning installation of mill to handle gold ores.

Globe, Ariz.—Old Dominion Copper Mining & Smelting Company (P. G. Beckett, General Manager) will erect a tile hospital building and also intends installing additional equipment at concentrator and power house, including grinding mills and flotation machines.

Buhl, Idaho.—Reported Oakley Milling & Elevator Company (John Southworth, President) of Oakley, will erect a 150-barrel capacity flour mill here.

Moncton, N. B.—J. A. Marven Biscuit Company has purchased buildings of Dominion Textile Company and will install machinery for biscuit making.

St. John, N. B.—City Council reported considering site for proposed grain elevator of 1,000,000 bushels capacity, which the Government contemplates erecting on east side of harbor.

Beauceville, Que.—Foundry of Marcoux & Poirier, destroyed by fire, will be rebuilt and new machinery installed.

Quebec, Que.—Premier Feature Film Company of Canada, 81 Bridge Street, is planning to erect new plant to cost $50,000.

New York, N. Y.—Following are unit figures of the four lowest bids opened June 26 by Public Service Commission for First District, 120 Broadway, for constructing the 180th Street Yard of Route No. 18, a part of the White Plains Road Rapid Transit R.R.: (a) Thomas J. Buckley Construction Co., 303 Fifth Avenue, $269,222; Rodgers & Hagerty, Inc., Hudson River and 152d Street, $297,195; (c) Flick-Manuell Construction Co., Inc., 29 Broadway, $315,840; (d) Oscar Daniels Co., Woolworth Building, $321,630.

Item			(a)	(b)	(c)	(d)
1	10,600	cu. yd. earth excavation above m. h. w.	$0.65	$3.75	$2.00	$1.00
1E	180,000	cu. yd. railroad embankment in place	0.42	0.40	0.62	0.50
1L	2,500	cu. yd. top soil for railroad embankment	1.50	1.50	0.85	2.00
1M		Removing trees, etc., from 180th Street Yard	1,500.	200.00	100.00	36,000.
6	16,500	cu. yd. concrete masonry in place	5.90	8.00	7.10	7.50
6B	8,000	sq. yd. tooling of concrete surfaces	1.00	0.70	1.15	0.50
9	20	cu. yd. brick masonry in place	25.00	15.00	19.00	15.00
9D	10	cu. yd. removal of old masonry	20.00	20.00	4.00	8.00
12	5,000	lin. ft. timber piles in place	0.75	0.35	0.45	0.35
13	2	M ft. timber foundations	100.00	60.00	30.00	40.00
14	5,000	cu. yd. broken stone in place	2.00	0.05	1.75	0.40
15	800	sq. yd. (a) 1-ply waterproofing	0.75	0.30	0.35	0.40
	100	sq. yd. (c) 3-ply waterproofing	1.50	1.00	1.15	1.20
15C	8,500	sq. yd. waterproofing without fabric	0.60	0.20	0.20	0.30
17	1,100	lin. ft. (e) 4-in. vitrified pipe	0.30	0.40	0.45	0.25
20	40	ton steel beams and shapes	90.00	80.00	80.00	70.00
21	360	ton steel rods and bars	82.00	88.00	73.00	90.00
25	2	ton miscellaneous iron castings	100.00	100.00	75.00	50.00
26	1,000	lb. special wire forms	0.15	0.10	0.25	0.20
27D	2,650	lin. ft. wrought-iron pipe railing	0.80	0.80	0.75	1.00
30	100	sq. yd. (h) street surface restored	2.00	1.50	0.75	1.00
31	50	sq. yd. park surface restored	3.00	1.00	0.75	2.00
31B	400	Bolleana poplar trees	3.00	2.00	3.00	1.00
31C	2,650	California privet hedge	0.25	0.10	0.10	0.10
42	220	ton cast-iron sewer pipe	75.00	1.00	28.00	24.50
43	10	ton cast-iron sewer pipe, special	100.00	1.00	79.00	40.00

Berlin, Ont.—Plans being prepared for rolling mill and factory to be erected here for Carbo Corporation of Chicago Heights, Ill.; cost $35,000.

Chatham, Ont.—Plans being prepared by Adams & Adams, Market Building, for $30,000 factory to be erected for American Textile Company.

St. Thomas, Ont.—Reported Neal London Bread Company of London, Ont., planning erecting $40,000 factory here.

Leamington, Ont.—H. J. Heinz Pickle Company will erect a two-story, 200 x 250-ft. cement block addition to cost $35,000.

Vancouver, B. C.—Canadian Northern Pacific Railway (M. H. MacLeod, Gen. Manager and Ch. Engr., Winnipeg, Man.) is planning to erect roundhouse and freight shed to cost $200,000. A new terminal to cost $1,000,000 is also contemplated.

BIDS DESIRED.

Seattle, Wash. — See "Foundations, Piers and Dams."

Transcona, Man.—See "Foundations, Piers and Dams."

PRICES AND LETTINGS.

★*Indicates award of contract.*

Brooklyn, N. Y.—See "Reinforced concrete."

★**Buffalo, N. Y.**—Contract awarded by International Agricultural Corporation, 61 Broadway, New York, to Hugger Brothers, Marine Bank Building, Buffalo, for rebuilding fertilizer reduction plant at Kennedy Road and the Lehigh Valley Railroad, destroyed by fire.

★**Falconer, N. Y.**—Contract awarded Jamestown Construction Co., Jamestown, for erecting three-story, 175 x 75 ft. factory for Chautauqua Worsted Mills; cost $45,000. Freeburg & Fidler, Archts., Jamestown.

★**Niagara Falls, N. Y.**—Buffalo Structural Steel Company, Dart Street, Buffalo, secured contract for steel work for four-story and basement, 170 x 50 ft. factory, to be erected at Buffalo Avenue and Adams Street, for Niagara Electro Chemical Company.

★**Watervliet, N. Y.**—Contract awarded Samuel Austin & Son, 14230 Euclid Avenue, Cleveland, Ohio, for erecting rolling mill and melting department buildings, 70 x 360 ft. and 41 x 300 ft., each one story, for Ludlum Steel Company. Thornton W. Price, Archt., Woolworth Building, New York.

★**Elizabeth, N. J.**—Contract for building shipyard for S. L. Moore & Sons Corporation awarded Anderson & Wheeler, 1553 Richmond Terrace, West New Brighton, Staten Island, N. Y.

Jersey City, N. J.—See "Reinforced concrete."

★**New Brunswick, N. J.**—Contract awarded by Cheesebrough Manufacturing Company to Levering-Garrigues Company, 552 West Twenty-third Street, New York, for erecting 35 x 135-ft. addition on Sheridan Street; cost about $45,000.

★**Paterson, N. J.**—Limonze & Brothers, Weehawken, have secured contract to erect mill for Dunlop Estate; cost $90,000.

Plainfield, N. J.—See "Reinforced concrete."

Plainfield, N. J.—See "Steel Bridge Work."

★**Anderson, S. C.**—Contract for erecting freight depot for Charleston & Western Carolina Railway reported awarded Jamieson & Morris of Greenville; cost about $40,000.

★**Cincinnati, O.**—Architects Stegner & Hughes, 1014 Commercial Tribune Building, awarded contract for brick work on new plant of American Tool Works Co. to David Hummel Building Co., 2629 Spring Grove Ave.

★**Longueuil, Que.**—Contracts for $750,000 addition to rolling mills of Armstrong Whitworth Company awarded Morgan Engineering Company, Alliance, Ohio, for machinery; Dominion Bridge Company, Lachine, Que., for steel, and J. Quinlan & Company, 4412 St. Catherine Street, Montreal, for masonry.

New Toronto, Ont.—See "Steel Bridge Work."

★**Winnipeg, Man.**—Contracts in connection with $250,000 grain exchange awarded as follows: Masonry, Carter Halls Aldinger Company; steel, Dominion Bridge Company; electrical work, Schumacher Gray & Company (bidders all of Winnipeg).

BUILDINGS
Public and Private

PROPOSED WORK.

Livermore Falls, Me.—William G. Bunker, Augusta, is architect for the high school. E. H. Webber, Clerk, Livermore Falls.

Peterboro, N. H.—Town meeting June 10 voted to issue $60,000 bonds to erect new town hall. Address Town Clerk.

Amherst, Mass.—Sum of $250,000 has been given to Amherst College for erecting a brick and limestone library as a memorial to Clyde Fitch.

Pittsfield, Mass.—H. Neil Wilson, Pittsfield, is architect for addition to the school. Address Superintendent of Schools.

Putnam, Mass.—Plans prepared for 5-story brick convent addition to be erected for St. Mary's Parish. Rev. C. Y. Berard, Pastor.

Somerville, Mass.—Plans completed by Walter T. Littlefield, 9 Hamilton Place, Boston, for 13-room 141 x 81 ft. fireproof brick and terra cotta Junior High School to be erected on Holland Street, West Somerville; appropriation $84,000.

Worcester, Mass.—All bids, opened June 21 by Mayor George M. Wright, for erecting police headquarters building, exceeded the appropriation, which is $150,000. New bids will probably be asked.

Hartford, Conn.—Isaac A. Allen, Jr., 904 Main Street, engaged to prepare plans for proposed $250,000 high school addition.

Hartford, Conn.—Preliminary steps being taken to erect new edifice at Albany Avenue and Lenox Street for North Methodist Episcopal Church; probable cost $30,000.

New Haven, Conn.—See "Reinforced concrete."

New Haven, Conn.—Plans completed for a $70,000 brick and concrete building for the Little Sisters of the Poor.

New Haven, Conn.—Plans for the new Yale armory have been modified to reduce cost to $50,000.

Buffalo, N. Y.—Plans being prepared by Colson & Hudson, 35 Dun Building, for two-story, 94 x 150 ft., brick, stone and terra cotta store and loft building, to be erected at Delaware Avenue and Johnson Park for Mitchel & Parker, 767 Main Street; estimated cost $80,000.

Dunkirk, N. Y.—Board of Education taking steps to erect 16-room fireproof school in First Ward; cost $75,000.

Elmhurst (P. O. Flushing), L. I., N. Y.—Mizpah Lodge No. 738, F. and A. M., contemplate erecting $25,000 temple.

New York, N. Y.—Plans filed for erecting following buildings: 9-story fireproof apartment at 42 West Tenth Street for Hyman Schroeder, cost $250,000, Rouse & Goldstone, Archts., 38 West Thirty-second Street; 6-story brick tenement at 261 West Twenty-second Street for Gold Theater Corporation, cost $60,000, J. M. Felson, Archt., 1133 Broadway; 14-story fireproof apartment and bank building at 815 Park Avenue for Trauts Realty Corporation, cost $400,000, Rouse & Goldstone, Archts., 38 West Thirty-second Street; 13-story fireproof apartment at 872 Park Avenue for E. A. L. Apartment Management Company, cost $500,000, Rouse & Goldstone, Archts., 38 West Thirty-second Street; 13-story fireproof apartment at 584 West End Avenue for 584 West End Avenue Corporation, cost $240,000, Rouse & Goldstone, Archts., 38 West Thirty-second Street; 12-story fireproof apartment at 680 West End Avenue for Six-Ninety West End Avenue Corporation, cost $500,000, Rouse & Goldstone, Archts., 38 West Thirty-second Street; 14-story fireproof apartment at 127 East Seventy-second Street for Julius Tishman & Sons, Inc., cost $700,000, Schwartz & Gross, Archts., 347 Fifth Avenue; 8-story fireproof apartment at 115 East Eighty-second Street for 115 East Eighty-second Street Corporation, cost $200,000, Emery Roth, Archt., 119 West Fortieth Street; 9-story fireproof apartment at 140 West Fifty-eighth Street for E. A. L. Realty Company, cost $250,000, Schwartz & Gross, Archts., 347 Fifth Avenue; 14-story fireproof studio apartment and hotel building at Thompson Street and Washington Square for Elena Realty Company, cost $400,000, Charles W. Buckham, Archt., 307 Fifth Avenue; 13-story fireproof store, office and apartment building on Forty-seventh and Forty-eighth Streets and Madison and Park Avenues, for New York & Harlem Railroad and New York Central Railroad Companies, cost $2,500,000, Warren & Wetmore, Architects., 16 East Forty-seventh Street, building to be erected by Vanderbilt Avenue Realty Company, of which Dr. Charles V. Paterno is President, 2255 Fifth Avenue; two 5-story brick tenements at Vyse Avenue and Home Street for Galveston Building Company, total cost $110,000, Kreymborg Architectural Company, Architects, 1029 East 163d Street; 5-story brick tenement at Harrison Avenue and 181st Street for 181st Street Building Corporation, cost $70,000, M. W. Del Gaudio, Archt., 401 Tremont Avenue; 5-story brick tenement at 190th Street and Davidson Avenue for Hopewell Building Company, cost $50,000, J. M. Felson, Archt., 1133 Broadway.

New York, N. Y.—Reported sum of $100,000 available for proposed $150,000 memorial library to be erected at City College. Lee Kohns, Chairman Memorial Library Committee.

Rochester, N. Y. — Reported Directors of Labor Temple Association (Andrew Agren, President) considering plans for proposed $140,000 Labor Temple to be erected on North Fitzhugh Street.

Asbury Park, N. J.—Thomas W. Lamb, 644 Eighth Avenue, New York, is architect for moving picture theater which Henry & Walter Rosenberg propose erecting at St. James Place and Cookman Avenue; probable cost $150,000.

Camden, N. J.—Plans being prepared by George E. Savage, Witherspoon Building, Philadelphia, Pa., for one-story, stone edifice to be erected for Parkside Methodist Episcopal Church; cost $50,000.

Jersey City, N. J.—Reported Hebrew Institute of North Hudson will erect an annex to cost $30,000.

Jersey City, N. J.—Isidor Yulinsky, Jersey City, will erect a 64-room apartment house on Bergen and Bramhall Avenues.

Newark, N. J.—Plans filed by Market & Beaver Realty Co. for remodeling Newark Theater at cost of about $115,000. Thomas W. Lamb, Archt., 644 Eighth Avenue, New York, N. Y.

Newton, N. J.—Revised plans being prepared by Wayland & Rasmussen, 1133 Broadway, New York, for proposed high school. Address Board of Education.

Trenton, N. J.—Reported Y. M. C. A. will erect new home on East State Street to cost $250,000.

Reported St. Paul's Methodist Church will erect new edifice at West State Street and Fisher Place; cost $50,000.

Plans prepared by William W. Slack, American Mechanics' Building, for a $25,000 edifice to be erected on Greenwood Avenue for Gethsemane Baptist Church.

Trenton, N. J.—City will build two-story brick hospital laboratories at 70 Camden Street; cost $37,500.

West Hoboken, N. J.—N. N. Trabiley, West Hoboken, will erect a two-story, 75 x 100 ft., fireproof garage, at Palisade Avenue and Angelique Street for commercial purposes; cost $25,000.

Avalon, Pa.—School Board to erect $100,000 high school.

Chester, Pa.—See "Reinforced concrete."

Chester, Pa.—City reported considering erecting $100,000 municipal building. Address City Clerk.

Chester, Pa.—Beacon Light Company has retained John T. Windrim, Commonwealth Building, Philadelphia, to prepare plans for power house; cost $1,000,000.

Hazleton, Pa.—Contract soon to be let by George E. Savage, Witherspoon Building, Philadelphia, for stone and brick church, Sunday-school building and parish house to be erected for St. John's Primitive Methodist Episcopal Church; cost about $50,000.

Johnstown, Pa.—Contract will soon be let for erecting three-story, brick commercial and apartment building at Grove Avenue and Village Street for Dr. M. B. Schultz. W. R. Myton, Archt., First National Bank Building.

Logan, Pa.—Plans being prepared for church, chapel and pastor's residence to be erected at Northeast Boulevard and Wingohocking Street for First Christian Church; cost about $125,000. Rev. Irving S. Cheneweth, Pastor.

Nesquehoning, Pa.—All bids recently opened by Mauch Chunk Township School Board for erecting $60,000 high school at Nesquehoning rejected as being too high. Clyde S. Adams, Archt., 1509 Arch Street, Philadelphia.

Philadelphia, Pa.—Preliminary plans being prepared by Charles Barton Keen, 1218 Chestnut Street, for three-story, fireproof stone building to be erected at Thirty-ninth Street and Powelton Avenue for Pennsylvania Industrial Home for Blind Women.

Philadelphia, Pa.—Plans being prepared by Frank E. Hahn 1112 Chestnut Street, for three-story, 54 x 125 ft., brick, reinforced concrete and terra cotta building to be erected at 1611 Vine Street, for Clarence L. Marks.

Northwestern National Bank, Girard and Ridge Avenues, has purchased site at Broad Street and Fairmount Avenue and intends erecting a new bank building.

Lithuanian Roman Catholics, Lithuanian Hall, 934 East Moyamensing Avenue, are contemplating erecting a $70,000 home, with general offices and library. Site at Wilkes-Barre or New York under consideration.

Neff & Thames, Heed Bldg., preparing plans for new church and alterations to Sunday school building of Covenant Presbyterian Church, Sixty-fifth Avenue and Oak Lane.

First Unitarian Church plans erecting a church, chapel and pastor's residence to cost $125,000.

N. Serracino, 1170 Broadway, New York, N. Y., engaged by Augustinian Fathers (Rev. A. Baldassarre, Rector) to prepare plans for a church to be erected on South Ninth and Watkins Streets, 48 x 115 ft.

Philadelphia, Pa.—See "Reinforced concrete."

Pittsburgh, Pa.—Board of Education planning erecting $150,000 office building.

Pottstown, Pa.—Plans being prepared by Lachman & Murphy, Witherspoon Building, Philadelphia, for four-story brick apartment house to be erected here for Adolph Printz.

Pottsville, Pa.—Greek Catholic Church will erect $30,000 edifice at Nichols and Patterson Streets.

Port Richmond, Pa.—Reported contract will soon be let for erecting three-story railway and marine storehouse here for Philadelphia & Reading Railway Company (Samuel T. Wagner, Ch. Engr., Philadelphia).

Sewickley, Pa.—School Board reported in favor of issuing bonds for remodeling school; probable cost $150,000. H. D. Gilchrist, Archt., Frick Building, Pittsburgh.

Titusville, Pa.—Chautauqua Board of Education has authorized $50,000 bond issue for addition to High School at Assembly Grounds. R. S. Park, Secretary, Board of Education.

Wilkes-Barre, Pa. — See "Reinforced concrete."

Baltimore, Md.—See "Reinforced Concrete."

Baltimore, Md.—Johns Hopkins University will erect a new building near the Hopkins Hospital, to cost $200,000. Dr. William H. Welsh will be director. Archer & Allen, 48 Central Savings Bank Bldg., Archts.

Plans being prepared by Stanislaus Russell, 2900 Clifton Avenue, for four-story, 76 x 45-ft. brick apartment house to be erected on Pimlico Circle for John J. Carlin, 215 St. Paul Street; cost $75,000.

Archer & Allen, 48 Central Savings Bank Building, are architects for 2½-story, 125 x 51 ft. office building to be erected at Curtis Bay for Baltimore Car & Foundry Company.

Baltimore, Md.—Theodore Wells Pietsch, American Building, is architect for store and apartment building to be erected at 133 West Mount Royal Avenue; cost $35,000.

Fairmont, W. Va.—See "Reinforced concrete."

Huntington, W. Va.—W. A. Hunt of Chattanooga, Tenn., engaged to prepare plans for $100,000 edifice to be erected at Fifth Avenue and Twelfth Street for Fifth Avenue Baptist Church.

Cleveland, Ga.—Election to be held August 5 to vote $30,000 bonds to erect courthouse. Address Board of County Commissioners.

Augusta, Ga.—Plans prepared by H. T. E. Wendell, Augusta, for church and parish house to be erected for St. Paul's Church.

Columbus, Ga.—Reported contract will soon be let for erecting three-story brick lodge building on Rose Hill for Odd Fellows Lodge.

De Land, Fla.—Plans being prepared by Francis M. Miller, De Land, for three-story and basement brick and terra cotta school to be erected on Clara and Rich Avenues; estimated cost $60,000.

Cocoa, Fla.—See "Reinforced concrete."

Athens, Ala.—Plans and specifications will be selected July 3 for proposed courthouse. Address George Malone, Probate Judge.

Florence, Ala.—Contract soon to be let by School Board for erecting a brick two-story school, costing, with equipment, about $45,000. Knight & Quale, Architects, Chattanooga, Tenn.; W. R. Harrison Superintendent Schools.

Jasper, Ala.—School Board planning to erect $30,000 school.

Mobile, Ala.—Election to be held Aug. 1 to vote $150,000 bonds for erecting schools in the county. Address Board of Revenue and Road Commissioners.

University, Ala.—A $100,000 library is to be erected at University of Alabama in memory of Mrs. Amelia R. Gorgas.

Many, La.—Police Jurors of Sabine Parish voted to erect courthouse; cost $85,000.

New Orleans, La.—Plans to be prepared by Emil Weil Whitney, Central Building, and Sam Stone, L. & L. & G. Building, for the Jerusalem Temple for the Mystic Shrine to cost $150,000 to be erected on St. Charles Avenue and Clio Street.

Pineville, La.—Bonds amounting to $30,000 sold June 15 by Rapidas School Board for erecting high school here.

Alliance, Ohio.—School bonds amounting to $100,000 sold. Address Board of Education.

Cincinnati, Ohio. — Congregation of Grace Episcopal Church, Hamilton and Belmont Avenues, College Hill, contemplates erecting a new edifice and parish house, to cost about $25,000.

Stewart & Stewart, 509 Bell Block, are preparing plans for a dormitory addition to Bartholomew-Clifton School, Cornell Place, of brick and stucco, three stories, cost about $25,000.

Contract will soon be let by Samuel

Hannaford & Sons, Architects, Sixth and Vine Streets, for erecting, of stone, St. Andrew's R. C. Church, Reading Road, to cost $150,000.

Myers Y. Cooper, 313 Union Trust Building, is interested in the company which plans constructing a $200,000 apartment house at Reading Road and Avondale Avenue, in Rose Hill subdivision.

Cleveland, Ohio.—Reported City and County are considering the erecting an office building to house police headquarters, county jail, juvenile court and criminal court. Address F. F. Prentiss, Chairman City Planning Commission, City Hall.

Western Reserve University, Euclid Avenue and East Boulevard, considering erecting a gymnasium costing about $150,000.

Public Library Trustees about to select an architect to prepare plans for the main library to be erected on Superior Avenue and East Third Street at a cost of $2,000,000. Carl Lorenz, Kinney and Levan Building, Secy. Board.

Reported Emergency Hospital, 1846 East Fifty-fifth Street, will be replaced with a fireproof hospital costing about $75,000.

Cleveland, Ohio—Cleveland Engineering Society (F. W. Ballard, President) Chamber of Commerce Building, planning to erect a $400,000 library and engineers' club building.

Reported Mrs. Pauline Roth, Overlook Road, Cleveland Heights, will erect a $60,000 apartment house at 8208 Carnegie Avenue.

Reported Loop Realty Company will erect office building or theater, costing about $1,000,000, on south side of Public Square, in conjunction with 700-room hotel and interurban railway terminal to be constructed by Cleveland & Youngstown Railroad, Marshall Building. Address A. B. Smythe, Erie Building, Prospect Avenue and East Ninth Street.

Contract will soon be let by F. W. Striebinger, Archt., 1900 Euclid Avenue, for erecting new edifice at Euclid Avenue and East Seventy-seventh Street, for Second Church of Christ (Scientist); estimated cost $200,000.

Reported Mrs. Edith M. Harlow, 1906 East 105th Street, will erect an apartment house at East 105th Street and Euclid Avenue, costing $35,000.

Reported plans being prepared for a 10-story addition to the Society for Savings Building at Ontario and Public Square. Address J. H. Dexterm, Secy. Society for Savings.

Reported Bangor Building Company (D. Auld, Jr., President), 942 Prospect Avenue, will erect a six-story addition to Bangor Building, Bolivar Road and East Ninth Street.

Plans being prepared by Steffens & Steffens, 1027 Williamson Building, for conservatory of music to be erected at Broadway and East Fifty-fifth Street for Dr. J. V. Kofron, 5312 Broadway; cost $25,000.

Cleveland, Ohio.—See "Reinforced Concrete."

Hilliard, Ohio.—It is proposed to erect a school having 8 classrooms, an assembly hall, domestic science room and a room for manual training; also erect a 2-room addition to another school; $60,000 has been authorized for these improvements, bonds to be sold July 1. Contract for erection to be let as soon as plans are prepared. Frank L. Packard, Architect, Hayden Building, Columbus. J. F. Ninegar, Clerk Board Education, Norwich Township, Hilliard.

Lakewood, Ohio.—Bonds for $30,000 will be sold July 17 by B. M. Cook, Dir. of Finance, for erecting Fire Department buildings.

Montpelier, Ohio.—Plans being prepared by A. H. Ellwood & Son of Elkhart, Ind., for 10-room centralized school to be erected here.

Oxford, Ohio.—Sum of $60,000 has been given to erect a stone chapel for Western College for Women (W. W. Boyd, President).

Struthers, Ohio.—Poland Board of Education has purchased site in Lyons plant west of Struthers for proposed eight-room school to be erected at a cost of about $40,000.

Tiffin, Ohio.—Sisters of Ursuline Academy, Madison and Tiffin Streets, contemplate erecting $60,000 auditorium, chapel and gymnasium building.

Anderson, Ind.—Reported contract will be let about August 1 for erecting Y. M. C. A. building at Twelfth and Jackson Streets. C. D. McLane, Archt., Rock Island, Ill.

Auburn, Ind.—Plans of A. H. Ellwood & Son of Elkhart, Ind., accepted for proposed $125,000 school to be erected here.

Fort Wayne, Ind.—Executive Committee of Hope Hospital Association purchased site at Suttenfield and Clinton Streets for six-story hospital to replace present building at Barr and Washington streets; cost about $115,000.

Iron Mountain, Mich.—Plans being prepared by Charlton & Kuenzle, Camp Building, Milwaukee, Wis., for two-story and basement, 60 x 120 ft., stucco and tile theater building to be erected for A. E. Brauns; cost about $25,000.

Ishpeming, Mich.—Preliminary plans being prepared by Charlton & Kuenzil, Camp Building, Milwaukee, Wis., for two-story and basement, 70 x 80 ft., brick and stone school, to be erected at West Ishpeming; cost about $30,000.

Chicago, Ill.—Plans prepared by John A. Nyden, Schiller Building, for a six-story fireproof apartment house, which Robert Holdstein and Henry Friedman will erect on Eastwood and Clarendon Avenue costing $250,000.

Paschen Bros., 111 West Washington Street, will erect on Lakeside Place an eight-story fireproof apartment hotel costing $350,000.

Alexander Bauer, 233 West Huron Street, intends erecting three-story and basement garage on site of old Purcell malt house on Larrabee Street; cost about $70,000.

Thomas R. Bishop, 35 South Dearborn Street, is architect for $100,000 brick and stone Venetian Apartment House to be erected at 5130 South Park Avenue for Samuel Lanski.

Mattoon, Ill.—Cleveland, Cincinnati, Chicago and St. Louis Railway (C. A. Paquette, Ch. Engr., Cincinnati, Ohio) intends erecting new depot. Plans will soon be presented to Utilities Commission.

Fond du Lac, Wis. — Preliminary sketches prepared by J. E. Hennen of Fond du Lac for club house which Council No. 664, Knights of Columbus, will erect on Sheboygan Street; cost about $60,000.

Milwaukee, Wis.—Council Committee on Finance recommends issuing $50,000 bonds to erect new police station on Galena Street.

Des Moines, Iowa.—Christian Scientists contemplating erecting church to cost about $40,000.

Iowa City, Ia.—School Board contemplates erecting new school in Fourth Ward; estimated cost, $60,000.

Iowa City, Iowa.—Board of Education has rescinded former action and will call an election to vote $250,000 bonds to erect four new schools instead of one, as previously stated.

Jesup, Iowa — A brick fireproof school costing about $80,000 with equipment is to be erected. Contract will be let in August. H. E. Netcott, Architect, Independence, Iowa; R. L. Bordner, Secretary School Board.

Oskaloosa, Iowa.—See "Reinforced Concrete."

Wall Lake, Iowa.—All bids opened June 15 for erecting fire station and city hall rejected by City Clerk, matter dropped for this year.

Argyle, Minn.—See "Reinforced concrete."

Minneapolis, Minn.—Shriners propose erecting Zuhrah Temple on Lyndale and Franklin Avenues, to cost about $125,000.

Abilene, Kan.—School Board contemplating issuing bonds to erect new high school.

Kingman, Kan.—Plans being prepared by Thomas W. Williamson, Topeka, for three-story brick, semi-fireproof grade school, to cost $35,000.

Lawrence, Kan.—Plans completed for Phi Kappa Psi Chapter House to be erected at University of Kansas; cost, $30,000.

Smith Center, Kan.—Citizens voted $42,000 bonds to erect new high school. Address School Board.

Arkansas City, Kan. — William T. Schmitt, Arkansas City, engaged as architect for the city hall and auditorium.

Kansas City, Mo.—Plans prepared by James O. Hogg, New York Life Building, for mausoleum to be erected at Forest Hill Cemetery for Kansas City Mausoleum Company (E. E. Violett, Secretary and General Manager); cost about $500,000.

Missoula, Mont.—Reported election will probably be held in the fall to vote $75,000 bonds for additions to high school. Address Clerk School Board.

Greenwood, Ark.—A. Klingensmith, Fort Smith, is architect for court house costing $60,000. Ezra Hester, County Judge.

Beaumont, Tex.—See "Reinforced Concrete."

Bryan, Tex.—Baptist Church considering erecting new edifice. Address Pastor.

Galveston, Tex.—Contract will soon be let for improving and enlarging Temple B'Nai Israel. A. J. Bellis, Archt., 1403 Twenty-third Street.

Henrietta, Tex.—Plans being prepared for new edifice to be erected for First Methodist Church; cost about $25,000.

Paris, Tex.—First Baptist Church contemplates erecting $50,000 edifice. Address Pastor.

San Antonio, Tex.—Contract will soon be let for erecting one and two-story stucco clubhouse for San Antonio Country Club; cost $60,000. W. J. Deniger, Gibbs Building, will supervise the work.

Plans being prepared by H. L. Page, 741 East Houston Street, for a clubhouse to be erected by Dr. A. A. Luther and associates; cost approximately $150,000.

Waco, Tex.—Plans being prepared by Roy E. Lane of Waco for bank building to be erected here; cost approximately $30,000.

Ada, Okla.—Election will soon be held to vote $90,000 bonds for erecting high school. Address Secretary Board of Education.

Ardmore, Okla.—J. R. Sharpe, 208 Trust Building, Dallas, Tex., planning erecting $90,000 hotel here.

Tulsa, Okla.—Reported Sinclair Oil & Refining Company, Palace Building, plans erecting ten-story, 75 x 140 ft. terra cotta office building with two wings at Main and Fifth Streets.

Spokane, Wash.—School Board has authorized Building Committee to spend $38,500 for repairing schools.

Reported Maria Beard Deaconess Association (Rev. Charles McCoughey, Secretary) intends enlarging Deaconess Hospital; three wings, costing $40,000 each, will be erected this year.

Reported Alex. Pantages, Pantages Bldg., Seattle, commissioned B. Marcus Pretica, architect, Pantages Bldg., Seattle, to prepare plans for a $200,000 vaudeville theatre to be built in Spokane.

Seattle, Wash.—See "Reinforced Concrete."

Tacoma, Wash.—Reported preliminary plans prepared for three-story and basement fireproof Science Building to be erected for Whitworth College. John D. Porter, Chairman Board of Directors.

Elsinore, Cal.—See "Reinforced concrete."

Fresno, Cal.—Westminster Presbyterian Church contemplates erecting a $25,000 edifice.

Hanford, Cal.—Election will be held soon to vote $40,000 bonds for new school. Address clerk of school board.

Los Angeles, Cal.—T. H. Power, Higgins Building, is architect for proposed $80,000 Angeles Mesa School. Address H. M. Lannon, Trustee Angeles Mesa School District.

Los Angeles, Cal.—Contract will be let about July 1 by Charles E. Shattuck, Architect, 318 Mason Building, for erecting a 4-story brick hotel and store building on East Sixth Street and Towne Avenue to cost about $35,000. A. L. Phillips, 300 Avery Street, owner.

Monrovia, Cal.—Citizens voted $30,000 bonds to erect new school. Address Clerk of School Board.

Oxnard, Cal.—Plans being prepared by A. C. Martin, 430 Higgins Bldg., Los Angeles, for two-story brick bank and office building to be erected for First National Bank of Oxnard.

San Francisco, Cal.—Loyal Order of Moose contemplating erecting $500,000 lodge building. Address George E. Crothers, Chairman Ways and Means Committee.

San José, Cal.—Contract will be let in July by Board of Education (A. Sheneffs, Secy.) for erecting a gymnasium at the high school costing $50,000. William Binien, Archt., San José.

Santa Barbara, Cal.—Election will probably be held to vote $250,000 bonds to erect high school. Address E. C. Roeder, Secretary Board of Education.

Santa Barbara, Cal.—Contract will be let about Aug. 15 for erecting brick, stone and steel Presbyterian church on East Anapamu Street; probable cost $100,000. Roland F. Sauter, Archt., San Marcos Building.

Ureka, Cal. — Masons contemplate erecting new Temple at Miner and Oregon Streets to cost $40,000. Fred E. Wadsworth, President of Siskiyou County Bank, Chairman of Ways and Means Committee.

Visalia, Cal.—School bonds amounting to $105,000 sold. Address Board of Education.

Salt Lake City, Utah.—Contract will be let some time in July for erecting 2 semi-fireproof schools to cost, including equipment, $120,000. Separate bids on general construction, heating, ventilating, etc. H. D. Bowman, Superintendent Buildings and Grounds, Board of Education.

Salt Lake City, Utah.—A new edifice costing about $75,000 is to be erected for Greek Orthodox Church, 439 West Fourth Street South. Andrew Pappas, President Greek Community of Utah.

Clarksdale, Ariz.—United Verde Copper Company reported planning erecting a $75,000 high school.

Globe, Ariz.—See "Industrial Plants and Warehouses."

Idaho Falls, Idaho. — School bonds amounting to $80,000 sold. Address School Board.

Twin Falls, Idaho.—Contract soon to be let for proposed county hospital to be erected at cost of about $30,000. E. H. Gates, Archt., Twin Falls. E. J. Finch, Auditor and Clerk.

Halifax, N. S.—Plans being prepared by W. J. Buash, 60 Bedford Road, Halifax, for new school to cost $125,000. Address Clerk School Board.

Montreal, Que.—Contract will soon be let by C. Bernier, Architect, 70 St. James Street, for erecting school for Commissioners of St. Gregoire le Thaumaturge; cost $250,000.

Rimouski, Que.—Plans being considered for addition to Normal School for the Ursuline Sisters; cost $30,000. Address P. Levesque, 115 St. John Street, Quebec.

St. Damase, Que.—See "Reinforced concrete."

St. Damase, Que.—Plans being prepared by P. Levesque, 115 St. John Street, Quebec, for stone, steel and concrete church, to be erected for St. Damase Parish; cost $60,000.

London, Ont.—Reported plans for $75,000 Hydro Sales Building are to be prepared by E. V. Buchanan, General Manager, Public Utilities Board. Work will be done by day labor.

Ottawa, Ont.—Charles Brodeur, 63 City Hall Street, Hull, Que., is architect for laundry and dormitory which Grey Nuns of the Cross will erect; cost $50,000.

Timmins, Ont.—Plans being prepared by Ellis & Ellis, Manning Chambers, Toronto, for tile and brick hospital to be erected for Canadian Mining & Furnace Company; cost $30,000.

Toronto, Ont.—Site purchased for stone building to be erected in connection with St. Michaels College, at cost of $350,000. Rev. Father Carr is Registrar.

Toronto, Ont.—Bank of Toronto considering plans for a $25,000 branch building. J. M. Lyle, Archt., 19 Avondale Avenue.

Winnipeg, Man.—Odd Fellows Lodge intends erecting Home for Aged members to cost about $30,000.

Calgary, Alta. — Central Methodist Church planning to rebuild edifice recently destroyed by fire, to cost $50,000.

Edmonton, Alta.—Duggan Company, 211 McLeod Building, considering plans for an apartment house to cost $35,000.

BIDS DESIRED.

Buffalo, N. Y.—Until July 3, by John F. Malone, commissioner of Parks and Public Buildings, 6 Municipal Bldg., for erecting a new 10-room brick addition to the present school in Dist. No. 17. Separate bids for heating, plumbing, etc.

New York, N. Y.—Until July 14, by Public Service Commission (James E. Walker, Secy.), construction of station finish work for the Grand Central Station of the Queensboro Subway Rapid Transit Railroad.

Bellevue, N. J.—Until July 8, by Board Education, J. J. Turner, Dist. Clk., for erecting school No. 4, Magnolia Street, Silver Lake. Separate bids for heating, plumbing, etc. John Noble Pierson & Son, Archts., 130 Smith Street, Perth Amboy, N. J.

Breinigsville, Pa.—Until July 7, by Upper Macungie Township School Dist., address to Ralph Schmoyer, Secy., Breinigsville, for furnishing material and erecting school at Krockville.

Harrisburg, Pa.—Reported desired until Until July 10, for erecting brick, stone, concrete and steel five-story hotel. C. Harry Kain, Archt., Arcade Bldg., Harrisburg.

New Brighton, Pa.—Reported desired until July 13, by Board Education (Frank E. Raeder, Pres.), for erecting two-story and basement, 140 x 120 ft. high school. W. G. Eckles, Archt., Lawrence Savings & Trust Bldg., New Castle.

Philadelphia, Pa.—Until July 7, by Board Recreation (W. D. Champlin, Secy.), for erecting recreation building. Philip H. Johnson, Archt., Land Title Bldg., Philadelphia.

Quincy, Pa.—Until July 15, by George B. Beatty, Secretary Board of Education, for erecting a high school.

Uniontown, Pa.—Reported desired until July 17, by Board of Education, for erecting two-story, 86 x 138-ft. school. Probable cost, $100,000. A. P. Cooper, First National Bank Building, Archt.

Washington, D. C.—Until July 6 by Edw. Canfield, Captain Quartermaster, Corps U. S. A., for erecting nurses' home and additions to present hospital building at this place.

Washington, D. C.—Until July 26, by Col. W. W. Harts, Executive Officer, Arlington Memorial Ampnitheater Commission, 1729 New York Avenue, Washington, D. C., for masonry approach to Memorial Amphitheater in Arlington National Cemetery, Va., advertised in Engineering Record.

Fairmont, W. Va.—Reported desired until July 3, for erecting five-story and basement brick, concrete and terra cotta, 47 x 150 ft. hotel, with wing 38 x 87 ft., for Fairmont Hotel Co., Milburn, Heister & Co,. Archts., Washington, D. C.

Baton Rouge, La.—Reported desired until July 10 by Robt. A. Hart, Chmn. Building Committee, for erecting three brick schools. Benj. J. Goodman, Archt., 833 North Boulevard, Baton Rouge.

Brooksville, Miss.—Until July 4 by Board of Mayor and Aldermen (E. M. Chilcoat, Clk.), for erecting school, including heating.

Tylertown, Miss.—Until July 20 by J. C. Luter, Clk. Board of Supervisors, for erecting a brick court house, jail and equipment. Separate bids for heating, plumbing, electric wiring, etc. Xavier A. Kramer, Engr., Magnolia.

Bowling Green, Ohio.—Until July 21, by J. E. Shatzel, Secy. Board Trus. Bowling Green State Normal College for erecting a fireproof school. Howard & Merriam, Archts., 8 East Broad St., Columbus.

Bucyrus, Ohio.—Reported desired until July 22, by C. T. Cooner, Pres. Board Educ., R. F. D. Bucyrus, for erecting township school. Probable cost $35,000. D. S. Schureman & Son, Archts., New York Cash Store Bldg., Delaware, Ohio.

Girard, Ohio.—Until July 21, by G. M. Bartholomew, Clk. Board Education, for furnishing material and erecting two eight-room brick and fireproof schools. Kling & Zenk, Archts., 115 West Federal Street, Youngstown.

Grand Rapids, Ohio.—Reported desired until July 7, by J. Harlan Kerr, Clk. Board Education, for erecting two-story and basement grade and high school. Probable cost $45,000. Howard & Merriam, Archts., 8 East Broad Street, Columbus.

Leroy, Ohio.—Reported desired until July 8 by B. G. Daniels, Clk. School Dist., for erecting an auditorium building, sewage disposal system, etc. Briggs & Nelson, Archts., 669 Roase Building, Cleveland, Ohio.

New Straitsville, Ohio.—Until July 20, by Board Education (Wm. Irvin, Clk.), for furnishing material and erecting school. Matheny, Allen & Mounts, Archts., Huntington Bank Bldg., Columbus.

North Baltimore, Ohio.—Until July 20, by Board Education, Henry Township (Wm. B. Henning, Clk.), North Baltimore, for erecting an addition to school at Hammansberg. M. M. Stophlet, Archt., 608 Nasby Bldg., Toledo.

Toledo, Ohio.—Until July 19, by Clerk Board Education, for furnishing material and erecting Sherman school. Edwin M. McGee, Archt. Board Education.

Tefft, Ind.—Reported desired until July 5 by R. E. Davis, Trus. Kankakee Township, for erecting high school.

New Berlin, Ill.—Reported desired until July 5 by W. M. Pfeffer, Secy. Board Education, for erecting Township high school. J. N. Coleman, Archt., 7100 South Chicago Avenue, Chicago.

New Richmond, Wis.—Until July 6, by A. Deneen, Clk. Board Education, for erecting a school, also for plumbing, wiring, etc., both old and new buildings. Volkman & Hancock, Archts., Eau Claire, Wis.

Portage, Wis.—Until July 8, by Board Education (R. F. Pfell, Clk.), for erecting two schools and remodelling high school. A. C. Eschweller, Archt., Builders and Traders Exchange, Milwaukee.

Union Grove, Wis.—Until July 20, as a whole or separately, by State Board Control (J. O. Davidson, Pres.), Capitol Bldg., Madison, for furnishing material and erecting 2 patients' buildings, Superintendent's residence and a number of smaller buildings, at the Southern Home for Feeble Minded and Epileptics at Union Grove. Robert Messmer & Bros., Archts., Milwaukee.

Chariton, Iowa.—Until July 3, by Fred N. Wilson, Co. Aud., for erecting a two-story and basement sheriff's residence and jail. Separate bids for heating, wiring, etc.

Climbing Hill, Iowa.—Reported desired until July 10 by W. H. Steinhauer, Secy. School Board, for erecting school. Veutler & Arnold, Archts., Sioux City.

Council Grove, Iowa.—Reported desired until July 5, by J. J. Rhodes, for erecting library. A. T. Simmons, Archt., Bloomington, Ill.

Irwin, Iowa.—Reported desired until Aug. 1, by Independent Consolidated School Dist. (Peter Steenhussen, Secy.), plans for two-story and basement, 110 x 68 ft. high and grade school. W. F. Gernandt, Archt., 437 Keeine Bldg., Omaha, Neb.

Osage, Iowa.—Until July 17, by Board Education, Independent School Dist. (A. E. Knouleton, Secy.), for erecting school. Separate bids for heating, plumbing, electric wiring, etc. J. F. Leitha, Archt., Waverly, Iowa.

Sidney, Iowa.—Reported desired until July 14, by Board Education, for erecting two-story and basement, 56 x 78 ft. school. Probable cost $25,000. Chas. M. M. Nye & C. M. Robinson, Archts., Brandies Theater Bldg., Omaha.

Sioux City, Iowa.—Reported desired until July 5, by I. Lee Storm, Secy. Board Education, for erecting two story and basement, 38 x 68 ft. school. Probable cost $25,000. Buettler & Arnold, Archts., 609 Security Bldg.

Adams, Minn.—Until July 10, by A. Torgerson, Secy. Board Education, for erecting a high and grade school. Separate bids for heating, plumbing, etc. F. W. Kenny, Archt., Plymouth Bldg., Minneapolis.

Duluth, Minn.—Until July 5, by State Board Control, State Capitol Bldg., St. Paul, for erecting Institute Hall at Northeast Demonstration Farm and Station, Duluth. C. H. Johnson, Archt., 715 Capital Bank Bldg., St. Paul.

Harmony, Minn.—Reported desired until July 3, by Peoples State Bank, for erecting a two-story brick and stone building. F. H. Moose & Co., Archts., Rochester, Minn.

Minneapolis, Minn.—Until July 6, by Bd. of Education for rebuilding, altering and erecting an addition to Franklin High School, also until July 12 for mechanical equipment for the school. R. V. L. Haxby, Archt., City Hall; Rose & Harris, Engineers, 470 Auditorium Building.

Red Wing, Minn.—Reported desired until July 12 by A. E. Lindgren, Secy. Board Education, for erecting high school, also for one grade building, etc. Bell & Bentley, Inc., Archts., Rochester, Minn.

Emporia, Kan.—Until July 3, by College of Emporia, for furnishing material and erecting an administration building, including heating, plumbing, etc. J. H. Felt & Company, Architects, Kansas City, Mo.

Kingman, Kan.—Reported desired until July 18, by Beulah Russell, Secy. Board Educa., for erecting two story and basement, 74 x 111 ft. school. Probable cost $35,000. T. W. Williamson & Co., Archt., Topeka, Kan.

Mineral, Kan.—Reported desired until July 12, by Board of Education, for erecting a two-story brick school. G. J. Munn, Pittsburgh, Kan., Archt.

Lincoln, Neb.—Until July 22, by Property Committee Board of Regents of University of Nebraska (J. S. Dale, Secy.), for erecting an Agricultural Engineering Building on the University Farm campus near Lincoln. Separate bids for heating, plumbing and electric wiring. Approximate cost $140,000.

Coleharbor, N. D.—Until July 10, by W. G. Childs, Clk. Victoria School Dist., for erecting a brick school. Gilbert R. Horton, Archt., Citizens Natl. Bank Bldg., Jamestown.

Madison, S. D.—Until July 14, by H. H. Holdredge, Clk. Board Education, for erecting an addition to high school. Miller, Fullenwilder & Dowling, Archts., 6 No. Michigan Boulevard, Chicago.

Webster, S. D.—Until July 25, by Board Education Webster Independent School Dist. (Oscar Grue, Clk.), for erecting school. Holmes & Flinn, 202 Williams Bldg., Sioux Falls.

St. Louis, Mo.—Reported desired until July 7 by Wm. T. Finly, Secy. Board Public Service, for erecting fire engine house No. 54.

Houston, Tex.—Until July 3, by E. B. Bonney, City Secy., for erecting Fire Station No. 11. Separate bids for plumbing. M. J. Sullivan, City Archt.

Merced, Cal.—High school bonds for $150,000 will be sold July 6 by Board County Supervisors.

Twin Falls, Idaho.—Reported desired until July 6 by E. A. Gates, Archt., Twin Falls, for erecting county hospital.

Toronto, Ont.—Until July 17, by R. C. Deshorhers, Secy. Dept. Public Works, Ottawa, for erecting examining warehouse. Probable cost $500,000.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Boston, Mass.—Following are three lowest bids (opened June 23 by Schoolhouse Commissioners) for erecting addition to Hyde Park School: John Bowen Company, Boston, $84,756; J. Slotnick, Chelsea, $94,868; Whiting & Baynes, Boston, $95,000.

★**Lee, Mass.**—Contract for erecting high school awarded J. E. Growe Construction Company, 118 Hudson Avenue, Albany, N. Y.; cost about $35,000.

Middletown, Conn.—Following are four lowest bids opened June 16 by Supervising Architect, Washington, D. C., for constructing U. S. Post Office—(a) limestone, (b) sandstone, (c) Connecticut brown stone: Charles McCall Company, Philadelphia, Pa., (a) $113,489), (b) $118,489, (c) $119,989; M. Yeager & Son, Danville, Ill., (a) $11,496, (b) $116,496, (c) $119,496;; E. T. Abbott Construction Company, St. James Building, New York, N. Y., (a) $114,750, (b) $119,350, (c) $120,000; W. H. Fissell & Company, Marbridge Building, New York, N. Y., (a) $100,900, (b) $109,-470, (c) $108,500.

Putnam, Conn.—Lowest bid opened June 20 by Supervising Architect, Washington, D. C., for constructing U. S. Post Office submitted by Westchester Engineering Company, White Plains, N. Y., as follows: $49,898, using light colored limestone and ornamental terra cotta; $51,900, sandstone and terra cotta; $50,898, limestone; $53,400, sandstone.

★**Binghamton, N. Y.**—Contracts for erecting three-story and basement brick M. C. A. building on Lewis Street addition and alterations to Railroad Y. awarded as follows (bidders all of Binghamton): General construction, A. E. Badgley; marble and tile, Babcock, Hinds & Underwood; plumbing, Alexander Auchinachie; heating, Gaylord Construction Company; electrical work, A. B. Rover; cost about $25,000.

Brooklyn, N. Y.—Following are bids opened June 21 by Louis H. Pounds, President Brooklyn Borough, for reconstructing Kings County Court House: General construction, P. J. Carlin Construction Company, 1123 Broadway, New York. $563,000; P. F. Kenny Company, 33 Old Broadway, New York, $563,900; Daniel Garber, 225 Fifth Avenue, New York, $565,200, and Thomas Dwyer, Broadway and 216th Street, New York, $582,080. Plumbing: Cranford Brothers, 291 Flatbush Avenue, $25,770; P. F. Kenny Company, 33 Old Broadway, New York, $26,-900; William Messer Company, 27 Suffolk Street, New York, $25,460; John F. Koop, 1469 Amsterdam Avenue, New York, $25,-550. Heating: Callahan Kingsley Company, $74,450; Almirall & Company, 1 Dominick Street, New York, $75,900; James H. Merritt & Company, 48 Cliff Street, New York, $74,968; Wells & Newton Company, Avenue B and Seventeenth Street, New York, $75,400.

★**Massena, N. Y.**—Contract reported awarded William M. Ballard of Oneida, for erecting two-story, 95 x 47 ft. brick passenger station here for New York Central Railroad; cost about $50,000.

Waterloo, N. Y.—Following are bids opened June 20 by Supervising Architect, Washington, D. C., for constructing U. S. Post Office: Westchester Engineering Company, White Plains, N. Y., $53,948; G. W. Stiles Constructing Company, Rookery Building, Chicago, Ill., $53,948; E. H. Titchner, Binghamton, N. Y., $52,-000.

East Orange, N. J.—Following are two bids opened June 19 by Board of Education for erecting addition to Elmwood School: De Riso Brother, Inc., Newark, $85,768, and P. F. Kinneyo, Newark, $97,800.

★**Hoboken, N. J.**—Board of Education June 19 awarded contract for all masonry work required to repair schools 1, 5, 7 and 9 to C. Wendt & Sons, Hoboken.

New Brunswick, N. J.—Following are four lowest bids recently opened by Board of Freeholders for erecting county workhouse on George's Road: Hughes-Foulkrod Company, Philadelphia, Pa., $39,-900; Lewis Board, New Brunswick, $46,-338; Perrine & Buckelew, Jamesburg, $46,-448; George B. Rule, New Brunswick, $46,500. Lowest for plumbing and heating, Piper Brothers, Trenton, $8,360.

★**Ebensburg, Pa.**—Contract for erecting two wings to court house awarded W. H. Fissell & Company, 1328 Broadway, New York, at $394,882. J. Riely Gordon, Archt., 507 Fifth Avenue, New York.

★**Philadelphia, Pa.**—Contract for erecting three-story brick addition to Our Lady of Rosary School Sixty-third and Callowhill Streets, awarded William R. Dougherty, 1008 Sansom Street. George I. Lovatt, Architect, 416 Walnut Street.

★Contract awarded William R. Dougherty, 1610 Sansom Street, for erecting two-story and basement, 22 x 71 ft., stone parish house at Thirty-second and Clearfield Streets; cost $32,000.

★**Philadelphia, Pa.**—Contract awarded William R. Dougherty, 1610 Sansom Street, for erecting three-story and basement 36 x 62 ft. school at Fifty-eighth and Media Streets at $61,257.

★**Pottstown, Pa.**—Contract for erecting $40,000 exchange building for Bell Telephone Company awarded F. H. Keiser & Company of Pottstown.

★**York, Pa.**—Contract awarded L. J. Menough & Son of York for erecting City Bank Building; cost approximately $50,-000.

★**Baltimore, Md.**—Contract awarded by Drury, Lazenby Company, Inc., to Reynolds & Hughes, 104 East Saratoga Street, for erecting five-story, 23 x 66 ft., warehouse.

South Boston, Va.—Following are totals of four lowest bids opened June 15 by Supervising Architect, Washington, D. C., for constructing U. S. Post Office—(a) limestone, (b) sandstone: Wise Granite & Construction Company, Richmond, Va., (a) $42,828, (b) $44,000; Richardson & Burgess, Washington, D. C., (a) $43,382; Westchester Engineering Company, White Plains, N. Y., (b) $45,500; Newport Contracting & Engineering Company, Newport News, Va., (a) $42,438; Olin Gerlach, Frostburg, Md., (b) $45,800; W. F. Brent, Norfolk, Va., (a) $43,767, (b) $44,167.

★**Waynesville, N. C.**—Contract for erecting U. S. Post Office awarded Algernon Blair, Montgomery, Ala., at $52,780.

★**Gulfport, Miss.**—Contract awarded Dabbs & Wetmore of Meridian, for erecting courthouse; cost $115,000.

★**Maryville, Tenn.**—Contract for erecting U. S. Post Office awarded Algernon Blair, Montgomery, Ala., at $34,374, using limestone and sandstone.

★**Marion, Ohio.**—Contract awarded W. C. Handshy & Son, Zanesville, for erecting brick and stucco Y. M. C. A. building for Wheeling & Lake Erie Ry.; cost about $30,000.

★**Cleveland, Ohio.**—Contract awarded Gibson & Pinik, 1512 East Eighty-fifth Street, for erecting an apartment house at 1486 Ansel Road, costing $25,000, for Mrs. Agnes McDonnell, 1482 Ansel Road. Kaufman Architectural Company, Achts., 627 Rose Building.

★**Portsmouth, Ohio.**—General contract for constructing parochial school for Holy Redeemer's Church awarded George W. Baker, Builders' Exchange, Cincinnati, at $43,000. Architect, J. F. Sheblessy, 519 Main Street, Cincinnati.

★**Ottawa, Ill.**—Contract awarded Sinnott Brothers, Ottawa, for erecting three-story hotel on Columbus Street for J. C. Zeller; cost $50,000.

★**Urbana, Ill.**—Contract awarded A. W. Stoolman, Champaign, at $150,000, for erecting woman's dormitory at University of Illinois.

Neenah, Wis.—Following are four lowest bids opened June 19 by Supervising Architect, Washington, D. C., for constructing U. S. Post Office: Charles W. Gindele Company, Chicago, Ill., $45,750; William O'Neil Son & Company, Faribault, Minn., $47,584; W. D. Lovell, Minneapolis, Minn., $47,650; George W. Stiles Construction Company, Chicago, Ill., $48,589.

★**Mandan, N. D.**—Contracts for erecting high school reported awarded as follows: General construction, Agaton Larrson, Mandan, $30,667; heating, ventilating and plumbing, Grambs & Peet, Bismarck, $6,157; electrical equipment, B. K. Skeels, Mandan, $726.

★**Belton, Tex.**—Contract for erecting U. S. Post Office awarded Tom Lovell, Weatherford, at $50,722 for limestone.

★**Post, Tex.**—J. M. Morgan of Big Springs has secured contract to erect bank building for First National Bank for which R. E. Gilmore of Post is preparing plans.

★**Admore, Okla.**—Reported Helback & Cox of Oklahoma City have secured contract to erect $50,000 motion picture theater here.

★**Baker, Ore.**—Contract for erecting high school awarded G. H. Wallie, Baker, at $85,267. W. L. Bowers, Clerk Board Supervisors.

Culver City, Cal.—Following are four lowest bids, opened June 15 by Board of School Trustees, for erecting two-story and basement brick grammar school: Merchants Realty & Investment Co., 808 Van Nuys Bldg., Los Angeles, $39,056; C. W. Kent & Son, Glendale, $39,978; H. Weichmann, 3218 Key West Street, Los Angeles, $41,999; F. O. Engstrum Co., Fifth and Seaton Streets, Los Angeles, $42,158. Oliver P. Dennis, Archt., 618 Fay Bldg., Los Angeles.

★**Pasadena, Cal.**—Contract awarded W. C. Crowell, Chamber of Commerce Building, for erecting a brick addition to Maryland Hotel at about $30,000. Myron Hunt, Archt., Hibernian Building, Los Angeles.

★**Riverside, Cal.**—Contract awarded by Board of Regents, University of California, to Cresmer Manufacturing Company, Riverside, for erecting two-story and basement brick and hollow tile administration, auditorium, laboratory and library building, a residence, barns and garages, at the State Citrus Experiment Station; cost about $100,000. Lester H. Hibbard and H. B. Cody, Archts., 1200 Marsh-Strong Building, Los Angeles.

★**Riverside, Cal.**—Contract awarded by University of California to the Cresner Manufacturing Company of Riverside, at $99,830, for buildings for the Citrus Experiment Station and Graduate School of Tropical Agriculture, maintained by the University of California at Riverside. Architect, Lester H. Hibbard, of Los Angeles.

Douglas, Ariz.—Lowest bid opened June 21 by Supervising Architect, Washington, D. C., for constructing U. S. Post Office submitted by Grant Fee, San Francisco, Cal., at $77,000.

★**Navajo, Ariz.**—Contract for erecting buildings at the Navajo Indian School, including employees' mess building, stone cottages, etc., awarded Thomas W. Hall, Farmington, N. M., at $35,280.

★**Fasset, Que.**—Contract awarded Daoust & Belanger of Alfred, Ont., for erecting church, to cost $29,000.

★**Montreal, Que.**—Contract awarded Thomas Belanger of Valleyfield, for erecting church and presbytery for St. Jean Berchmans Congregation, 2619 Cartier Street; cost $200,000. Gauthier & Daoust, Archts., 180 St. James. Street.

★**Shawinigan Falls, Que.**—Contract awarded by Shawinigan Falls Water & Power Company for erecting fifty workingmen's houses to G. B. Mitchell, 509 New Birks Building, Montreal; cost $125,-000.

★**Ottawa, Ont.**—Contract awarded Norcross Brother of Ottawa for erecting $50,000 addition to Booth Office Building.

★**Saskatoon, Sask.**—Contract awarded R. B. McLeod, 118 Twenty-eighth Street, for erecting $50,000 theater building for J. A. Ashdown, 529 Wellington Crescent, Winnipeg.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Tompkinsville, N. Y.—Only bid opened June 8 by J. T. Yates, Inspector 3d Light House District, Tompkinsville, for furnishing and placing about 500 tons riprap in 2 gaps in old riprap wall rejected.

Port Arthur, Tex.—Citizens voted $22,000 bonds for repairing pier bridge. Address Mayor.

Seattle, Wash.—Reported Standard Oil Company, at Richmond Beach, near Seattle, intends constructing warehouses, tanks, wharfs, etc., to replace property recently destroyed by fire; cost $50,000.

Tacoma, Wash.—Reported contract soon to be let by Oregon-Washington R. R. & Navigation Company, Portland, Ore., for constructing a concrete retaining wall in front of property on lower side of Jefferson Avenue from Seventeenth to Twenty-seventh Street in Tacoma; cost estimated at about $50,000.

Astoria, Ore.—Chief Engineer of the Port Commission directed to prepare plans for a coal handling dock and bunkers to cost $38,000.

Riverside, Cal.—The City Engineer, in a report to Bd. of Public Utilities, estimates cost of placing pilings for protection of water main at $15,000.

Phoenix, Ariz.—Preliminary estimates and plans for a storage dam on Verde River, 40 miles northeast of Phoenix, are being prepared by W. R. Elliott, Engineer of Salt Valley Water Users' Assoc. Proposed dam will have a capacity of 205,000 acre feet.

Prescott, Ariz.—See "Miscellaneous."

Prescott, Ariz. — Arizona Hydraulic Power Company planning constructing a storage dam and electric power plant on Verde River with transmission line to Miami, Ariz., a distance of 70 miles. E. H. Meek, Manager.

Crabtree Mills, Que.—R. S. Kelsch, Power Building, Montreal, preparing plans for a dam and power plant for the Crabtree Paper Co.; cost $70,000.

Magog, Que.—R. S. Kelsch, Power Building, is preparing plans for a power plant and dam for the Dominion Textile Co. to cost $75,000.

Montreal, Que.—Ogilvie Flour Milling Co., Youville Place, Montreal, is preparing plans for a hydraulic power plant to cost $80,000.

BIDS DESIRED.

Jacksonville, Fla.—Until July 10, by J. C. O'Dell, City General Manager, for municipal dock at foot of Market Street to cost $65,000.

Northfield, Minn.—See "Paving and Roads."

Galveston, Tex.—Until July 17, by John M. Murch, County Auditor, for constructing reinforced concrete pile bulkhead on the Boulevard from Broadway to east line of Twenty-second Street, a distance of about 7100 ft., advertised in Engineering Record.

Port Colborne, Ont.—Until July 14, by J. W. Pugsley, Secy. Dept. of Railways and Canals, Ottawa, for repairs to the southerly end of elevator mooring dock at Port Colborne.

Transcona, Man.—Until July 4 by J. W. Pugsley, Secy. Dept. Rys. and Canals, Ottawa, Ont., for constructing reinforced concrete foundations on wood or concrete piles, for 1,000,000 bu. storage capacity grain elevator. J. S. Metcalf Co., Ltd., Engrs., Montreal, Que.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Bridgeport, Conn.**—Following are four lowest bids opened June 19 by Alfred H. Terry, City Engineer, for constructing 3900 ft. of seawall and filling at Seaside Park: T. A. Scott Co., New London, $141,833 (awarded contract); Thomas O'Hern & Co., Yonkers, $146,335; John Beattie Est., Leete Island, Conn., $151,319, and Toole & Sauderlin, Bridgeport, $152,170.

★**Ray, Ariz.**—Contract awarded Mesmer & Rice, Marsh Strong Building, Los Angeles, Cal., for constructing steel sheet pile bulkhead and reinforced concrete retaining wall, involving approximately 280 tons of interlocking steel sheet piling, 500 cu. yd. reinforced concrete and 800 cu. yd. loose rock excavation for Ray Consolidated Copper Company, at $43,900.

TUNNELS AND SUBWAYS

PROPOSED WORK.

Subway—Cleveland, Ohio.—Chamber of Commerce and W. A. Stinchcomb, County Engineer, are to ask the Cleveland Railway Co., Leader-News Building, to extend the east subway approach to new high level bridge over Cuyahoga River, from West Sixth Street to the Public Square; estimated cost $1,000,000.

Sandusky, Ohio.—New York Central and Erie & Western Railroads will let contract about July 1 to construct a subway at Camp Street involving the raising of 9 tracks, 28,000 cu. yd. of fill and 3000 cu. yd. concrete.

BIDS DESIRED.

New York, N. Y.—Until July 13, by Public Service Commission, 120 Broadway, New York, for constructing Route No. 61, the new two-track tunnel from Second Avenue and 60th Street, Manhattan, to a connection with the new elevated lines in Queens at the Queens Borough Bridge, Plaza Station.

PRICES AND LETTINGS.

★*Indicates award of contract.*

New York, N. Y.—See "Railroads."

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Providence, R. I.—All bids opened June 12 by U. S. Engineers, Newport, for dredging in Providence River and Harbor, rejected as being too high. New bids will be asked. Col. John Millis in charge.

Connecticut.—Following are unit figures of the four lowest bids opened June 20 by Charles J. Bennett, State Highway Commissioner, Hartford, for constructing a subway at Windsor: (a) Hyde Park Construction Co., 164 Federal Street, Boston, Mass., $39,178; (b) Long Brothers, 80 State Street, Hartford, $39,800; (c) Barbara & D'Auria, 63 Bank Street, Waterbury, $40,285; (d) L. Suzio Construction Co., Colony Street, Meriden, $41,478.

	(a)	(b)	(c)	(d)
Grubbing (lump sum)	$800.00	$500.00	$200.00	$200.00
14,500 cu. yd. earth excavation	0.75	0.50	0.57	0.50
100 cu. yd. rock excavation	2.75	3.00	2.50	2.50
93 cu. yd. first-class concrete	10.00	12.00	9.43	10.78
50 cu. yd. masonry	6.50	7.00	6.50	7.00
1,880 cu. yd. second-class concrete	6.99	8.50	7.85	8.78
930 cu. yd. concrete pavement	6.00	6.75	7.85	7.80
4,500 sq. yd. reinforcing for pavement	0.15	0.15	0.15	0.14
150 ton trap rock for road surface	1.65	3.50	2.75	2.50
50 ton trap rock screenings	1.65	3.50	2.75	2.50
600 cu. yd. crushed stone fill	2.00	2.50	2.50	2.50
5 catchbasins and strainers (each)	75.00	30.00	35.00	30.00
120 lin. ft. 12-in. iron culvert	1.00	1.50	1.35	1.25
550 lin. ft. 18-in. iron culvert	1.00	1.25	1.45	1.65
400 sq. yd. cobble gutters	1.10	0.70	0.65	0.70
5,000 sq. ft. concrete walk	0.11	0.15	0.16	0.20
1,160 lin. ft. concrete curb	0.99	1.00	1.00	0.85
100 sq. yd. turf relaid	0.50	0.25	0.27	0.25
225 lin. ft. fence replaced	0.30	0.20	0.15	0.75
1,100 lin. ft. wire fence	0.15	0.30	0.20	0.35
465 lin. ft. gas pipe railing	1.25	1.60	1.45	2.50
1,500 lin. ft. wood guard railing	0.30	0.35	0.35	0.30
Five-year guarantee bond for pavement (per sq. yd.)	0.10	0.05	0.10	0.06
Removing brick house (lump sum)	100.00	0.50	300.00	100.00

In connection with the state contract, the New York, New Haven & Hartford R.R. Co. and the Hartford & Springfield Street Ry. Co. will do work on their tracks to conform to the general plan of elimination. The total estimated cost of all the work is placed at $90,000 to $100,000.

Medora, Ind.—Mutton Creek Ditch costing $43,065 is to be constructed. Williard Stout, Clerk Jackson County, Brownstown, Ind., may be able to give information.

Morris, Minn.—No contract awarded by County Commissioners June 16 for constructing Ditch No. 16.

Helena, Ark.—Walter E. Winn, Chief Engineer of the Winn Engineering Co., Helena, has been appointed by County Court of Phillips County as engineer to make surveys, plans and estimates of cost and report as to the feasibility of a proposed levee and drainage district in the county embracing an area of 125,000 acres. District is known as the Indian Bay Levee and Drainage District, and is situated north of White and west of Mississippi River near their confluence.

Donna, Tex.—Irrigation bonds for $425,000 will be sold by Donna Irrigation Dist. No. 1. James B. Wells, Attorney-at-Law, Brownsville, Tex.

Coalinga, Cal.—Reported construction of a 150-mile irrigation canal system commencing at a point near Tracy and extending through Stanislaus, Merced, Fresno, Kern and Tulare Counties, to a district in vicinity of Coalinga is contemplated. Address Chamber of Commerce, Coalinga.

Fresno, Cal.—Lewis W. Hill, of the firm of Quinton, Code & Hill, Los Angeles, engaged to investigate preliminary plans and estimates prepared by a number of irrigation districts in San Joaquin Valley for the construction of dams and canals to conserve and use flood waters of Kings River. He will visit site of proposed $6,000,000 dam and reservoir at Pine Flats, Fresno County, and will interview L. A. Neres and I. Teilman, owners of the reservoir site and promoters of the project.

Maxwell, Cal.—D. W. Ross, Willows, is engineer for the irrigation system to be constructed in District D, to include extensions and enlargement of present system and cost $300,000.

Tulare, Cal.—A. D. Schindler, San Francisco, filed application with State Water Commission for permission to appropriate water involving an irrigation district covering 250,000 acres to cost about $1,000,000. Permission to apply 2000 sec. ft. of water from south fork of Kings River, 2000 ft. from main Kern River, and 1000 ft. from Tule and Keweah Rivers, and storage of 300,000 acre ft. Main canal is about 90 miles in length and the district will be known at Tulare Irrigation District.

Pima, Ariz.—Town Council has adopted plans for installing drainage system, including dredging main drainage ditch and installation of concrete or redwood underground drains.

BIDS DESIRED.

New York, N. Y.—Until July 5, by Board of Health (Eugene W. Scheffer, Secy.) for furnishing material and equipment to ditch and drain certain areas in salt marsh lands located in the Borough of Bronx and City of New York.

Until July 10, by C. B. J. Snyder, Supt. of School Buildings for Item 1, excavating, retaining walls, pavements, etc., and Item No. 2, drainage and water supply of addition to School 32 on East 183d Street. Security, $10,300.

Philadelphia, Pa.—Until July 14 by U. S. Engrs. Office, Philadelphia, for dredging in Delaware River on Mifflin and connecting ranges.

Charleston, S. C.—Until July 26 by Combahee Corporation (C. J. Bendt, Secy. and Treasurer), Consolidated Company Building, Charleston, for constructing 6.9 miles of levee with a total yardage of about 190,000 cu. yd. and 6 miles of open ditch with a total yardage of about 80,000; also separate bids for a pumping plant for purpose of land drainage; both proposals advertised in Engineering Record.

Winamac, Ind. — Until July 8 (readvertisement) by County Auditor for constructing A. M. Leach Ditch and three branches, main ditch 42,288 ft. long, 12 ft. slope 1 to 1, maximum depth 15 ft., suitable for floating dredge or dry land machine, Branch Nos. 1, 2 and 3 respectively; length 12,800 ft., 16,839 cu. yd.; 8900 ft. long, 8924 cu. yd.; length 12,816 ft., 23,689 cu. yd.

Chicago, Ill.—R. H. & G. A. McWilliams, Drainage Contractors, 1111 McCormick Building, Chicago, Ill., are in the market for 2½ yd. 80-ft. boom dredge line machine, new or secondhand.

Des Moines, Iowa.—Until July 11 by W. F. Eagan, County Auditor, for constructing Des Moines River Ditch, advertised in Engineering Record.

Benson, Minn.—Reported desired until July 15, by D. P. Carney, County Auditor, for Ditch No. 13, requiring 13,300 ft. open ditch, 44,995 cu. yd. excav., etc.

Long Prairie, Minn.—Reported desired until July 7, by E. M. Berg, County Auditor, for constructing Ditch No. 32, requiring 167,978 cu. yd. excav., 5 culverts and 2 bridges; cost $20,628.

Marble, Minn.—Reported desired until July 6, by T. C. Appleget, Clerk Greenway Township, Marble, for constructing 6 miles of judicial ditch.

Morris, Minn.—Until July 25, by Board County Commissioners, for constructing Ditch No. 21, Stevens County, to consist of approximately Main Ditch, in all about 11,950 ft., 8 to 24-in. tile and Branches from 1 to 10, in all about 35,289 ft. 8, 10 and 12-in. tile, culverts and two 22-ft. steel bridges, etc. Estimated total cost $21,962; also Ditch 22, cost $8,318. C. R. Wollthan, Co. Aud.

Wilmar, Minn.—Until July 25, by Samuel Nelson, County Aud., for repairing, widening and deepening County Ditch No. 10. Probable cost $15,114.

Perris, Cal.—Until July 10, by Board of Supervisors, Perris, for certain drainage work in Drainage Improvement District No. 2, including excavation of channels, construction of earth levees, laying drainage pipes, constructing automatic gates, enlargement and construction of bridges, etc. A. B. Pilch, County Clerk.

San Diego, Cal.—Until July 17, by U. S. Engineer, 723 Central Bldg., Los Angeles, for repairing Old Town Dike.

Richfield, Utah.—Until July 28 by Board of Supervisors of Sevier County Drainage District No. 1, Richfield, for installation of tile drainage system for said Sevier County Drainage District No. 1, advertised in Engineering Record. L. A. Wilson, Secy. of Board.

Harrison, Ont.—Until July 10, for constructing a Municipal Drain, No. 7, approximately 12,411 ft., in Township of Minto. W. D. McLellan, Township Clk., Harrison.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Vicksburg, Miss.—Following are bids opened June 10 by Third Mississippi River Dist. for constructing about 248,000 cu. yd. levee: Francis T. Constant, Alexandria, La., 34.4 cts. per cu. yd.; W. R. & E. M. Lowrance & Co., Memphis, Tenn. 31.25 cts.; Denison & Rodgers Brothers, Memphis, Tenn., 29.7 cts.; Roach & Stansell, Memphis, Tenn., 32 cts.; rejection of all bids recommended.

★**Webster City, Iowa.**—Contract for constructing Joint Drain 188, Wright and Hamilton Counties (bids opened June 19) awarded Hawkeye Construction Company, Webster City, at $40,862, for tile and labor. A. J. Pitson, County Auditor.

★**Flathead, Mont.**—Contract for earthwork and structures on the Pablo division of the Flathead Irrigation Project, Mont., awarded as follows: Schedule 1, earthwork, to Percy M. Ross, Polson, Mont., $18,040; Schedule 2, structures, Clarence B. Long, Polson, Mont., $14,948; Schedule 3, Mendenhall, Bird & Company, Springville, Utah, $29,800. Work includes about 200,000 cu. yd. excav., 870 cu. yd. reinforced concrete, 3250 sq. yd. paving, 7650 sq. yd. canal lining, manufacturing and laying 6230 lin. ft. concrete pipe, 210 cu. yd. dry rubble wall, and placing 4 M ft. lumber and 110,000 lb. structural and reinforcing steel.

★**Grand Junction, Col.**—Contract for furnishing and placing woodstave pipe on main canal, East Salt Creek crossing, Grand Valley Irrigation Project, Colorado, awarded Pacific Tank & Pipe Company, Los Angeles, Cal., at $21,157, including approximately 3950 lin. ft. 60-in. redwood stave pipe.

★**Seattle, Wash.**—Contract for dredging, removal of cofferdam, etc., at Puget Sound—Lake Washington locks, awarded Erickson Construction Company, Seattle, Wash., at $14,025. Bids opened May 31 by U. S. Engineer.

Tacoma, Wash.—Contract for dredging of Hylebos waterway from deep water to Eleventh Street awarded Tacoma Dredging Co., Tacoma.

★**Kent, Ont.**—Contract for dredging awarded Windsor Dredging Company, Windsor, at $20,000.

MISCELLANEOUS

PROPOSED WORK.

Transmission Line — Boston, Mass.—Metropolitan Water and Sewerage Board contemplates erecting a transmission line 15.5 miles long, from power plant at Wachusett dam to connect this plant with another generating station at the Ludbury dam.

Fire Alarm Equipment—Providence, R. I.—City Council appropriated $55,000 for new equipment for the Fire Department which will be used to install new fire alarm equipment. J. Gainer, Mayor and Chairman Committee on Contract & Supply.

Conduits—Bayonne, N. J.—The Public Service Company (N. W. Bolen, Gen. Supt., Newark) will lay a conduit system for all its wires now strung overhead. The sum of $25,000 will be spent this year and $10,000 each succeeding year until system is complete.

Transmission Line—Bouse, Ariz.—Ne La Paz Coal Mining Co. contemplates installing an electric plant and constructing a transmission line to various mining camps in this district.

Transmission Lines—Prescott, Ariz.—See "Foundation, Piers and Dams."

Transmission Lines—Prescott, Ariz.—E. P. Thayer, Prescott, reported planning constructing a power plant on Burro Creek, western Tavapai County, and transmission lines to Oatman mining district, 70 miles, and other mining districts.

BIDS DESIRED.

Water Tube Boilers for Penitentiary—East View, N. Y.—Until July 13 by Building Commission of Westchester County, at White Plains, for furnishing and installing high-pressure water tube boilers for Westchester County Penitentiary and Alms House at East View, advertised in Engineering Record. Clark, MacMullen & Riley, 101 Park Avenue, New York, N. Y., Engineers.

New York, N. Y.—See "Waterworks and Sewerage Systems."

Incineration—Newark, N. J.—Reported desired until July 13, by Public Building Committee, Board of Freeholders, for constructing an incinerator at the hospital for contagious diseases at Soho.

Engine, Etc. — Monticello, Wis. — Until July 12, by Village Trustees, care of Henry M. Marty, Village Clerk, for furnishing f.o.b. cars Monticello, one 100-hp. oil engine suitable for direct connection; one 75-kva. 2-phase 60-cycle 2300-volt generator with suitable exciter, one generator panel with necessary instruments and equipment; one 20-hp., 3-phase, 2300-volt induction motor and electrical supplies. For specifications, etc., address Harrison A. Smith, Engineer, 33 Vroman Building, Madison.

Cement—St. Lazare, Man.—Until July 5, by Henry Tillman, Secy.-Treas. R. M. of Elice, St. Lazare, for one small car of cement. Cement to be up to Manitoba Government test.

Purchase of Locomotives—Panama.—Until Aug. 23 by Major Earl I. Brown, Corps Engineers, U. S. General Purchasing Officer, the Panama Canal, Washington, D. C., for the purchase of locomotives offered for sale by the Panama Canal, advertised in Engineering Record.

Proposals

For Proposals Advertised See Pages 47, 48 and 49.

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.		See Eng. Record.
Jul. 3.	Plainfield, N. J. Adv. Jun. 17.	Jun. 17
Jul. 3.	Shreveport, La. Adv. Jun. 24.	Jun. 24
Jul. 4.	Toronto, Ont.	Jun. 24
Jul. 4.	Toronto, Ont.	Jul. 1
Jul. 5.	Brooklyn, N. Y.	Jul. 1
Jul. 5.	Middletown, Ohio. Adv. Jun. 10, 17.	Jun. 10
Jul. 5.	Cleveland, Ohio	Jun. 24
Jul. 5.	Johnsonburg, Pa. Adv. Jun. 17 to Jul. 1	Jun. 17
Jul. 6.	Michigan City, Ind. Adv. Jun. 24, Jul. 1.	Jun. 24
Jul. 6.	Jacksonville, Fla.	Jul. 1
Jul. 6.	Mendota, Ill.	Jul. 1
Jul. 6.	Boston, Mass.	Jul. 1
Jul. 6.	Covina, Cal.	Jul. 1
Jul. 7.	New Hampton, Iowa	Jul. 1
Jul. 7.	Lindsay, Cal.	Jun. 24
Jul. 7.	Columbus, Ohio	Jun. 24
Jul. 7.	Spencer, Iowa	Jun. 17
Jul. 7.	Oswego, N. Y. Adv. Jun. 24, Jul. 1.	Jun. 24
Jul. 8.	Macon, Miss.	Jul. 1
Jul. 10.	Oskaloosa, Iowa	Jul. 1
Jul. 10.	Pipestone, Minn.	Jul. 1
Jul. 10.	Washington, D. C.	Jun. 17
Jul. 10.	Great Falls, Mont. Adv. Jun. 24, Jul. 1.	Jun. 24
Jul. 10.	Los Angeles, Cal.	Jun. 24
Jul. 10.	Wadena, Minn.	Jun. 17
Jul. 10.	Spartan, Ill. Adv. Jul. 1.	Jul. 1
Jul. 11.	Thief River Falls, Minn.	Jul. 1
Jul. 11.	Berwyn, Ill.	Jul. 1
Jul. 11.	Jersey City, N. J.	Jul. 1
Jul. 11.	New York, N. Y.	Jul. 1
Jul. 11.	Ironton, Ohio	Jul. 1
Jul. 12.	Sylvania, Ohio Adv. Jul. 1.	Jul. 1
Jul. 12.	Bellwood, Neb.	Jul. 1
Jul. 12.	Baldwin, Miss.	Jul. 1
Jul. 12.	Salisbury, N. C. Adv. Jun. 24, Jul. 1.	Jun. 24
Jul. 12.	Troup, Tex.	Jul. 1
Jul. 12.	Little Falls, N. J.	Jul. 1
Jul. 13.	Saskatoon, Sask.	Jul. 1
Jul. 13.	Woonsocket, R. I. Adv. Jul. 1.	Jul. 1
Jul. 14.	Panama	Jul. 1
Jul. 14.	Erie, Pa.	Jul. 1
Jul. 14.	Sheridan, Mont.	Jul. 1
Jul. 15.	Skowhegan, Me.	Jul. 1
Jul. 15.	Lovelock, Nev.	Jun. 24
Jul. 15.	Charter Oak, Iowa	Jun. 17
Jul. 15.	Mapleton, Iowa	Jun. 17
Jul. 17.	Red Lake Falls, Minn.	Jul. 1
Jul. 18.	St. Ignatius, Mont.	Jun. 24
Jul. 18.	Newark, N. J. Adv. Jul. 1.	Jul. 1
Jul. 19.	Halifax, N. S. Adv. Jul. 1.	Jul. 1
Jul. 20.	Evansville, Ind.	Jun. 17
Jul. 20.	Bridgeport, Conn. Adv. Jun. 24, Jul. 1.	Jun. 24
Jul. 24.	West Park, Ohio	Jul. 1
Jul. 29.	Oregon City, Ore.	Jul. 1
Aug. 3.	Miami, Fla.	Jul. 1

STEEL BRIDGE WORK.

Bids Close.		See Eng. Record.
Jul. 5.	New York, N. Y.	Jul. 1
Jul. 6.	Northfield, Minn.	Jul. 1
Jul. 6.	Hastings, Minn.	Jul. 1
Jul. 6.	Marshalltown, Iowa Adv. Jul. 1.	Jul. 1
Jul. 6.	Spokane, Wash. Adv. Jun. 17, 24.	Jun. 17
Jul. 6.	Charleston, W. Va.	Jun. 24
Jul. 7.	Ventura, Cal.	Jun. 24
Jul. 8.	Sedalia, Mo.	Jul. 1
Jul. 8.	Hillsville, Va.	Jul. 1
Jul. 8.	Ventura, Cal.	Jul. 1
Jul. 10.	Riverside, Tex.	Jul. 1
Jul. 10.	Napoleon, Ohio	Jul. 1
Jul. 10.	Harrisburg, Pa.	Jul. 1
Jul. 10.	Little Falls, Minn.	Jun. 17
Jul. 10.	Akron, Ohio	Jun. 24
Jul. 10.	Los Angeles, Cal.	Jun. 24
Jul. 11.	Luverne, Minn.	Jul. 1
Jul. 11.	Marshall, Mich. Adv. Jul. 1.	Jul. 1
Jul. 11.	Athens, Pa.	Jul. 1
Jul. 12.	Manhattan, Kan.	Jul. 1
Jul. 13.	Sidney, Mont.	Jul. 1
Jul. 14.	Aitkin, Minn.	Jul. 1
Jul. 18.	Maryland Adv. Jul. 1.	Jul. 1
Jul. 20.	Dayton, Ohio	Jul. 1
Aug. 1.	Pascagoula, Miss	Jun. 24

REINFORCED CONCRETE

Bids Close.		See Eng. Record.
Jul. 5.	Knoxville, Tenn.	Jul. 1
Jul. 5.	Larned, Kan.	Jun. 24
Jul. 5.	Illinois	Jul. 1
Jul. 6.	Geneseo, Ill.	Jul. 1
Jul. 6.	Hartford, Conn.	Jul. 1
Jul. 6.	Flemington, N. J.	Jul. 1
Jul. 6.	Illinois	Jul. 1
Jul. 7.	Columbus, Ohio	Jun. 17
Jul. 7.	Pittsburgh, Pa.	Jun. 24
Jul. 7.	Illinois	Jul. 1
Jul. 8.	Macdonald, Ont.	Jul. 1
Jul. 10.	Middlesbourne, W. Va.	Jun. 24
Jul. 10.	Benson, Minn.	Jul. 1
Jul. 10.	Akron, Ohio	Jun. 24
Jul. 10.	Greensburg, Pa.	Jul. 1
Jul. 11.	Rehoboth, Del. Adv. Jun. 17.	Jun. 17
Jul. 11.	Chippewa Falls, Wis.	Jul. 1
Jul. 12.	Illinois	Jul. 1
Jul. 17.	Cocoa, Fla.	Jul. 1
Jul. 24.	Los Angeles, Cal.	Jul. 1
———.	Cincinnati, Ohio Adv. Jun. 17.	Jun. 17

ROADS AND PAVING.

Bids Close.		See Eng. Record.
Jul. 3.	Bradford, Pa. Adv. Jun. 24.	Jun. 24
Jul. 3.	De Kalb, Ill. Adv. Jun. 24.	Jun. 24
Jul. 4.	Danville, Ky. Adv. Jun. 17,	Jun. 17
Jul. 5.	Riverside Cal.	Jul. 1
Jul. 5.	Illinois	Jul. 1
Jul. 5.	Portage, Wis.	Jul. 1
Jul. 5.	Tupelo, Miss.	Jul. 1
Jul. 5.	Brooklyn, N. Y.	Jul. 1
Jul. 5.	Park Ridge, Ill.	Jul. 1
Jul. 5.	Madison, Wis.	Jul. 1
Jul. 5.	Snowden, Miss.	Jul. 1
Jul. 5.	Mount Sterling, Ky.	Jul. 1
Jul. 5.	Harrisonburg, Va.	Jul. 1
Jul. 5.	Fargo, N. D.	Jul. 1
Jul. 5.	Indiana	Jun. 3
Jul. 5.	Houma, La.	Jun. 3
Jul. 5.	Princeton, N. J.	Jun. 17
Jul. 5.	Salt Lake City, Utah	Jun. 17
Jul. 5.	Maryland Adv. Jun. 17, 24.	Jun. 17
Jul. 5.	Plymouth, Ind.	Jun. 17
Jul. 5.	Indiana	Jun. 17
Jul. 5.	Winona, Miss.	Jun. 17
Jul. 5.	Bristol, Conn.	Jun. 24
Jul. 5.	Lake City, Fla.	Jun. 24
Jul. 5.	Columbus, Ohio	Jun. 24
Jul. 5.	Park Ridge, Ill.	Jun. 24
Jul. 5.	Wheeling, W. Va.	Jun. 24
Jul. 5.	Cleveland, Ohio	Jun. 24
Jul. 5.	Indiana	Jun. 24
Jul. 5.	Portage, Wis.	Jun. 24
Jul. 5.	Wallingford, Conn.	Jun. 24
Jul. 5.	Paris, Ill. Adv. Jun. 24.	Jun. 24
Jul. 5.	Massachusetts	Jul. 1
Jul. 5.	Fullerton, Cal.	Jul. 1
Jul. 6.	Wilkes-Barre, Pa.	Jul. 1
Jul. 6.	Bedford, Pa.	Jul. 1
Jul. 6.	Northfield, Minn.	Jul. 1
Jul. 6.	Elizabeth, N. J.	Jul. 1
Jul. 6.	Burlington, Iowa	Jul. 1
Jul. 6.	Greenville, N. C. Adv. Jun. 17, Jul. 1.	Jun. 17
Jul. 6.	Fulton, Mo.	Jun. 17
Jul. 6.	Rogersville, Tenn.	Jun. 17
Jul. 6.	Corinth, Miss. Adv. Jun. 24, Jul. 1.	Jun. 24
Jul. 6.	Connecticut	Jun. 24
Jul. 6.	Ephrata, Wash.	Jun. 24
Jul. 6.	Port Orchard, Wash.	Jul. 1
Jul. 6.	Indiana	Jul. 1
Jul. 6.	Minneapolis, Minn.	Jul. 1
Jul. 7.	Reading, Ohio	Jul. 1
Jul. 7.	Cincinnati, Ohio	Jun. 17
Jul. 7.	Newport, Ky.	Jun. 24
Jul. 7.	Wheeling, W. Va.	Jun. 24
Jul. 7.	Indiana	Jun. 24
Jul. 7.	Spencer, Iowa	Jun. 24
Jul. 7.	Lynden, Wash.	Jul. 1
Jul. 7.	Moscow, Idaho	Jul. 1
Jul. 7.	Pittsburgh, Pa.	Jul. 1
Jul. 8.	Lakewood, N. J.	Jul. 1
Jul. 8.	Clifton, N. J.	Jul. 1
Jul. 8.	Madisonville, Tenn.	Jul. 1
Jul. 8.	Utica, Ohio	Jul. 1
Jul. 8.	Defiance, Ohio	Jun. 17
Jul. 8.	Lewisburg, W. Va.	Jun. 24
Jul. 8.	Frederick, Md.	Jun. 24
Jul. 8.	Brookhaven, N. Y. Adv. Jun. 24.	Jun. 24
Jul. 8.	Mendota, Ill.	Jul. 1
Jul. 10.	Beaver Falls, Pa. Adv. Jul. 1.	Jul. 1
Jul. 10.	Montclair, N. J. Adv. Jul. 1.	Jul. 1
Jul. 10.	Jefferson, Ohio	Jul. 1
Jul. 10.	Defiance, Ohio	Jul. 1
Jul. 10.	Dothan, Ala.	Jul. 1
Jul. 10.	Everett, Wash.	Jul. 1
Jul. 10.	Pipestone, Mich.	Jul. 1
Jul. 10.	Waterloo, Iowa	Jul. 1
Jul. 10.	Ashtabula, Ohio	Jul. 1
Jul. 10.	New Orleans, La.	Jul. 1
Jul. 10.	Ashland, Ohio	Jun. 17
Jul. 10.	California	Jun. 24
Jul. 10.	Greenwood, Miss.	May 20
Jul. 10.	Beaver Falls, Pa.	Jun. 17
Jul. 10.	Dadeville, Ala.	Jun. 24
Jul. 10.	Grand Rapids, Minn.	Jun. 24
Jul. 10.	Albany, N. Y. Adv. Jun. 24, Jul. 1.	Jun. 24
Jul. 10.	Lisbon, Ohio	Jun. 24
Jul. 10.	Everett, Wash.	Jun. 24
Jul. 10.	Indiana	Jun. 24
Jul. 10.	Phoenix, Ariz.	Jun. 24
Jul. 10.	Seattle, Wash.	Jun. 24
Jul. 10.	California	Jun. 24
Jul. 10.	Alexander City, Ala.	Jul. 1
Jul. 11.	Berwyn, Ill.	Jul. 1
Jul. 11.	Rockville, Md.	Jul. 1
Jul. 11.	Jersey City, N. J.	Jul. 1
Jul. 11.	Indiana	Jun. 24
Jul. 11.	Concrete, Wash.	Jun. 24
Jul. 11.	Bayonne, N. J.	Jun. 24
Jul. 11.	Seattle, Wash.	Jun. 24
Jul. 11.	Springfield, Ill.	Jun. 24
Jul. 11.	Howell, Mich.	Jul. 1
Jul. 12.	Hazard, Ky. Adv. Jul. 1.	Jul. 1
Jul. 12.	Sylvania, Ohio Adv. Jul. 1.	Jul. 1
Jul. 12.	Dayton, Ohio	Jun. 24
Jul. 12.	Albany, N. Y. Adv. Jun. 24.	Jun. 24
Jul. 12.	Dyersburg, Tenn. Adv. Jul. 1.	Jul. 1
Jul. 12.	Defiance, Ohio	Jul. 1
Jul. 12.	Rhode Island.	Jul. 1
Jul. 13.	Newark, N. J.	Jul. 1
Jul. 13.	Anaheim, Cal.	Jun. 24
Jul. 13.	Jersey City, N. J.	Jul. 1
Jul. 14.	Albany, N. Y. Adv. Jun. 24.	Jun. 24
Jul. 14.	York, Pa. Adv. Jul. 1.	Jul. 1
Jul. 14.	Indiana	Jul. 1
Jul. 15.	Batavia, Ohio	Jul. 1
Jul. 15.	Waynesville, Ohio	Jul. 1
Jul. 15.	Dubuque, Iowa	Jul. 1
Jul. 15.	West Allis, Wis.	Jul. 1
Jul. 15.	Atlanta, Ga. Adv. Jul. 1.	Jul. 1
Jul. 15.	Smithville, Ohio	Jun. 24
Jul. 17.	Cleveland Heights (P. O. Warrensville), Ohio	Jun. 24
Jul. 17.	East View, Ohio	Jun. 17
Jul. 17.	Lakewood, Ohio	Jul. 1
Jul. 17.	Westfield, N. J. Adv. Jul. 1.	Jul. 1
Jul. 17.	Stanberry, Mo.	Jul. 1
Jul. 18.	Rockville, Md. Adv. Jul. 1.	Jul. 1
Jul. 18.	Maryland Adv. Jul. 1.	Jul. 1
Jul. 18.	Bound Brook, N. J. Adv. Jul. 1.	Jul. 1
Jul. 19.	Pennsylvania	Jul. 1
Jul. 24.	Wetumpka, Ala.	Jul. 1
Aug. 1.	Guntersville, Ala.	Jul. 1
Aug. 1.	Gary, Ind.	Jul. 1

INDUSTRIAL PLANTS AND WAREHOUSES.

Bids Close.		See Eng. Record.
Jul. 4.	Transcona, Man.	Jul. 1
Jul. 5.	Seattle, Wash.	Jun. 24
Jul. 15.	West Allis, Wis.	Jun. 10
Jul. 17.	Toronto, Ont.	Jul. 1

BUILDINGS.
Public and Private

Bids Close.		See Eng. Record.
Jul. 4.	Brooksville, Miss.	Jul. 1
Jul. 5.	Tefft, Ind.	Jul. 1
Jul. 5.	New Berlin, Ill.	Jul. 1
Jul. 5.	Council Grove, Iowa	Jul. 1
Jul. 5.	Duluth, Minn.	Jul. 1
Jul. 5.	Sioux City, Iowa	Jul. 1
Jul. 5.	Pittsford, N. Y. Adv. Jun. 24.	Jun. 24
Jul. 5.	Troy, N. Y.	Jun. 17
Jul. 5.	Newark, N. J.	Jun. 24
Jul. 6.	Twin Falls, Idaho	Jul. 1
Jul. 6.	Washington, D. C.	Jul. 1
Jul. 6.	New Richmond, Wis.	Jul. 1
Jul. 6.	Chillicothe, Ohio	Jun. 10
Jul. 6.	Washington, D. C.	Jun. 17
Jul. 6.	Knoxville, Iowa Adv. Jun. 17.	Jun. 17
Jul. 6.	Kansas City, Mo.	Jun. 24
Jul. 7.	St. Louis, Mo.	Jul. 1
Jul. 7.	Philadelphia, Pa.	Jul. 1
Jul. 7.	Breinigsville, Pa.	Jul. 1
Jul. 7.	Grand Rapids, Ohio	Jul. 1
Jul. 8.	Portage, Wis.	Jul. 1
Jul. 8.	Fairmont, W. Va.	Jul. 1
Jul. 8.	Leroy, Ohio	Jul. 1
Jul. 8.	Belleville, N. J.	Jul. 1
Jul. 10.	Coleharbor, N. D.	Jul. 1
Jul. 10.	Baton Rouge, La.	Jul. 1
Jul. 10.	Climbing Hill, Iowa	Jul. 1
Jul. 10.	Adams, Minn.	Jul. 1
Jul. 10.	Jacksboro, Tenn.	Jun. 17
Jul. 10.	Hubbard, Iowa	Jun. 24
Jul. 10.	Royal Oak, Mich.	Jun. 24
Jul. 11.	Argyle, Minn.	Jul. 1
Jul. 12.	Red Wing, Minn.	Jul. 1
Jul. 12	Mineral, Kan.	Jul. 1
Jul. 13.	New Brighton, Pa.	Jul. 1
Jul. 13.	Martins Ferry, Ohio	Jun. 24
Jul. 14.	Madison, S. D.	Jul. 1
Jul. 14.	Sidney, Iowa	Jul. 1
Jul. 14.	Lockbourne, Ohio	Jun. 24
Jul. 14.	Massilion, Ohio	Jun. 24
Jul. 14.	Van Buren, Ohio	Jun. 24
Jul. 14.	Perrysburg, Ohio	Jun. 24
Jul. 14.	New York, N. Y.	Jul. 1
Jul. 15.	Quincy, Pa.	Jul. 1
Jul. 17.	Uniontown, Pa.	Jul. 1
Jul. 17.	Osage, Iowa	Jul. 1
Jul. 17.	Lakewood, Ohio	Jul. 1
Jul. 18.	Kingman, Kan.	Jul. 1
Jul. 19.	Toledo, Ohio	Jul. 1
Jul. 20.	Tylertown, Miss.	Jul. 1
Jul. 20.	New Straitsville, Ohio	Jul. 1
Jul. 20.	Union Grove, Wis.	Jul. 1
Jul. 20.	North Baltimore, Ohio	Jul. 1
Jul. 20.	Chillicothe, Ohio	Jun. 10
Jul. 21.	Bowling Green, Ohio	Jul. 1
Jul. 21.	Girard, Ohio	Jul. 1
Jul. 22.	Lincoln, Neb.	Jul. 1
Jul. 22.	Bucyrus, Ohio	Jul. 1
Jul. 25.	Webster, S. D.	Jul. 1
Jul. 26.	Washington, D. C. Adv. Jul. 1.	Jul. 1
Aug. 1.	Irwin, Pa.	Jul. 1
Aug. 1.	Newburyport, Mass.	Jun. 24
Aug. 2.	New Orleans, La.	Jun. 24
Aug. 7.	Portland, Ore. Adv. Jun. 10, 17.	Jun. 10
———.	Reidsville, N. C. Adv. Jun. 17.	Jun. 17

FOUNDATIONS, PIERS AND DAMS.

Bids Close.		See Eng. Record.
Jul. 6.	Walden, N. Y. Adv. Jun. 24.	Jun. 24
Jul. 6.	Charleston, W. Va.	Jun. 24
Jul. 7.	Ventura, Cal.	Jun. 24
Jul. 7.	Cincinnati, Ohio	Jun. 24
Jul. 10.	Saraosta, Fla. Adv. Jun. 17 to July 1.	Jun. 17
Jul. 10.	Jacksonville, Fla.	Jul. 1
Jul. 11.	Cleveland, Ohio Adv. Jun. 17 to July 1.	Jun. 17
Jul. 11.	Rehoboth, Del. Adv. Jun. 17.	Jun. 17
Jul. 14.	Port Colborne, Ont.	Jul. 1
Jul. 17.	Galveston, Tex. Adv. Jul. 1.	Jul. 1
Jul. 18.	Albany, N. Y. Adv. Jun. 24, Jul. 1.	Jun. 24

TUNNELS AND SUBWAYS.

Bids Close.		See Eng. Record.
Jul. 13.	New York, N. Y.	Jul. 1

EXCAVATION, DREDGING AND DRAINAGE.

EXCAVATION, DREDGING AND DRAINAGE.

Bids Close.		See Eng. Record.
Jul. 5.	New York, N. Y.	Jul. 1
Jul. 6.	Marble, Minn.	Jul. 1
Jul. 7.	Long Prairie, Minn.	Jul. 1
Jul. 7.	Blue Earth, Minn.	Jun. 17
Jul. 8.	Tiburon, Cal.	Jun. 24
Jul 8.	Winamac, Ind.	Jul. 1
Jul. 10.	Perris, Cal.	Jul. 1
Jul. 10.	Bucyrus, Ohio	Jul. 1
Jul. 10.	Harrison, Ont.	Jul. 1
Jul. 10.	Bryce, Ariz.	Jun. 24
Jul. 10.	Fremont, Neb.	Jun. 24
Jul. 10.	New York, N. Y.	Jul. 1
Jul. 11.	Des Moines, Iowa Adv. Jul. 1.	Jul. 1
Jul. 11.	Baltimore, Md. Adv. Jun. 10 to Jul. 1.	Jun. 10
Jul. 11.	Urich, Mo.	Jun. 24
Jul. 14.	Philadelphia, Pa.	Jul. 1
Jul. 15.	Benson, Minn.	Jul. 1
Jul. 17.	San Diego, Cal.	Jul. 1
Jul. 25.	Morris, Minn.	Jul. 1
Jul. 25.	Wilmar, Minn.	Jul. 1
Jul. 26.	Charleston, S. C. (2 Props) Adv. Jul. 1.	Jul. 1
July 28.	Richfield, Utah Adv. Jul. 1.	Jul. 1
———.	Yemassee, S. C. Adv. Jun. 24.	Jun. 24
———.	El. Rys., New York City Adv. Apr. 29 to May 13.	Apr. 29

MISCELLANEOUS.

Bids Close.		See Eng. Record.
Jul. 4.	Asphalt, Winnipeg, Man. Adv. Jun. 24.	Jun. 24
Jul. 5.	Cement, St. Lazare, Man.	Jul. 1
Jul. 6.	Air Compressor, Orange, Cal.	Jun. 24
Jul. 7.	Mail Handling Device, New Orleans, La.	Jun. 24
Jul. 12.	Engine, etc., Monticello, Wis.	Jul. 1
Jul. 13.	Garbage, Newark, N. J.	Jul. 1
Jul. 13.	Water Tube Boilers for Penitentiary, East View, N. Y. Adv. Jul. 1.	Jul. 1
Jul. 17.	Lease Power, Joliet, Ill. Adv. Jun. 24, Jul. 1.	Jun. 24
Aug. 23.	Purchase of Locomotives, Panama Adv. Jul. 1.	Jun. 24

End of Fiscal Year and Late Season Have Brought Lumber Prices to What May Prove Low Ebb

Thanks to Railroad Buying, Market for Dimension and Car Material Has Held Up—While Lack of Vessels and California Strike Have Kept Down Foreign and Coastwise Trade and Yard Buying Has Been Slack, Conditions Indicate Reaction

AFTER a fall and winter of large orders and a spring of advancing prices, the lumber industry has again found itself recently at a point where production has apparently outrun demand and prices have receded. Seemingly, the cause of this condition is indicated in a more accurate statement of it—the demand on the mills has fallen short of their production. It is not thought that public consumption of lumber has declined; on the contrary, it appears to be increasing. The lumber the public has been using, however, has come in large part from heavy stocks laid in last summer and fall by the lumber yards in anticipation of a big demand. The purchase of these stocks naturally acted at the time as a stimulus to the mills. When orders accumulate faster than lumber is being sawed and shipped the natural tendency is to increase production to catch up with them. The stocks referred to, however, did not move from the dealers' hands as rapidly as might have been expected, for a variety of reasons. One was the fact that building is slow to pick up in periods of prosperity. The small owners, who buy a large share of the classes of building lumber that have shown dullness, must make out of the general increased activity the money to be invested before building is in order. Another reason has been a late and rainy season in many sections that consume building lumber.

The situation would have been worse for the mills if the railroads had not been buying heavily for car construction and if manufacturing construction had not taken up a good deal of timber. Export demand would have further relieved the situation but for the fact that vessels have been very difficult to secure. The domestic cargo trade on the Pacific Coast, moreover, has recently been reduced 60 per cent as a result of serious strikes at California ports. To meet these conditions a large number of individual mills have been greatly reducing their production, the effect on the industry being estimated as amounting to a 10 to 15 per cent curtailment for some weeks past.

There are signs, however, which indicate that the time is approaching for those who are awaiting the bottom of the swing to enter the market. The annual business dullness attending the end of the fiscal year, when many large consumers are temporarily out of the market, has passed. In spite of all their new equipment, the railroads are faced with another car shortage when the crops begin to move. Having funds to build new cars, they cannot yet be counted out of the lumber market, especially if the differences with their union employees are adjusted. Building permits for the first five months of the year have run 24 per cent ahead of those for 1915, and the percentage of gain is growing. This means that retail lumber stocks should be shrinking and increased buying from the mills should be forced in the near future. In fact, it is stated on good authority that, in general, a much heavier business than in 1915 has already been done by retailers on the stocks bought last fall, and that these stocks are now below normal in the face of increasing business.

It has been pointed out by this journal before that construction could be expected to increase in the normal course of events. If the railroad labor dispute reaches a satisfactory issue and railroads come into the market for the lumber necessary for long-deferred construction, it is considered likely that increased demand will raise prices materially. In view of the greater ability of the railroads to handle shipments in the summer, and of the conditions outlined in the foregoing, July will probably prove to be a good month in which to fill lumber requirements.

Buildings

General building construction noted in this issue includes the following work:

Contracts awarded:	Kind of Building	Cost
Roanoke, Va.	Factory	$500,000
London, Ont.	Technical school	155,000
Proposed work:		
New York City	Apartment house	625,000
New York City	Hotel	2,000,000
New York City	Store and loft	300,000
New York City	Store and office	250,000
Keyport, N. J.	Aeroplane station	200,000
Salisbury, N. C.	Bleaching plant	200,000
Jacksonville, Fla.	Railroad station	2,000,000
Middletown, Ohio	High school	200,000
Lakewood, Ohio	High school	300,000
Memphis, Tenn.	Hospital	300,000
Helena, Mont.	Theater	200,000
Montreal, Que.	Institute	280,000

Waterworks and Sewers

Waterworks and sewer lettings were more active last week than for some time. Some of the work noted in this issue is summarized in the table at the top of the next column.

Contracts awarded	Kind of Work	Cost
Albany, N. Y.	Sewer	$110,000
Lodi, N. J.	Disposal plant and sewers	186,000
Richmond, Va.	Sewers	287,000
Houston, Tex.	Disposal plant	186,000
Houston, Tex.	Disposal plant	82,000
Bids opened:		
Milwaukee, Wis.	Sewer	267,000
Hyacinthe, Que.	Filtration plant	107,000
Proposed work:		
Lexington, Ky.	Disposal plant	200,000
Lima, Ohio	Sewer system	500,000
Alliance, Ohio	Waterworks	120,000
Lansing, Mich.	Reservoir	165,000
Wichita, Kan.	Sewer	180,000
Sherman, Tex.	Waterworks and sewers	130,000

Roads and Paving

Highway and paving work noted in this issue is summarized in the following table of the larger contracts.

Contracts awarded:	Kind	Cost
Newark, N. J.	Paving	$143,000
New Brunswick, N. J.	Paved highway	222,000
Sebring, Fla.	Paving	57,000
Jackson, Tenn.	Paving	110,000
Troy, Ohio	Highway	89,000
Rockford, Ill.	Paving	55,000
Bellingham, Wash.	Highway	55,000
Bids opened:		
Miami, Fla.	Asphalt paving	126,000
Covington, Ky.	Highway	64,000
Evanston, Ill.	Brick paving	101,000
Bids desired:		
Glen Ellyn, Ill.	Concrete paving	111,000
Beatrice, Neb.	Paving	
Proposed work:		
Batavia, N. Y.	Highways	164,000
Newark, N. J.	Highways	75,000
Norwood, Ohio	Paving	130,000
Columbus, Ind.	Highways	139,000
Liberty, Mo.	Highways	1,250,000

Miscellaneous Headings

A contract for widening a section of the state barge canal has been awarded at Albany, N. Y., at $108,000. A contract for building a $200,000 reinforced-concrete hotel has been awarded at Indianapolis. Contracts have been awarded for constructing a hydroelectric development at Fort Dodge, Iowa. Bids are desired for reconstructing a bridge at Saginaw, Mich.

It is reported that permission to construct a $600,000 causeway at Miami, Fla., has been granted by the War Department. A drainage project to be begun next month at Paducah, Ky., will cost $200,000. The construction of a $200,000 steel bridge on concrete piers is being planned at Great Falls, Mont.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Olean, N. Y.—Citizens voted $12,000 bonds for constructing outlet sewer on West State Street. Address City Clerk.

Oneida, N. Y.—Election to be held to vote on constructing municipal waterworks. S. Bateman, City Clerk.

Salamanca, N. Y.—Citizens, June 29, voted $12,000 bonds for sewer.—Address City Engineer.

White Plains, N. Y.—The Common Council directed preliminary steps to be taken to construct sewer in Mamaroneck Avenue from Heatherbloom Road to present sewer in Bloomingdale Road; also construct sewer line from Lenox Avenue northerly to Bronx Valley Sewer at North White Plains.

Far Hills, N. J.—A Sewerage Commission formed, with L. V. Ludlow, Charles Welsh and William Flomerfelt as members. Sewerage system and disposal plant to be installed.

Dover, N. J.—A Committee including Richard W. Whitman, Mayor, has visited the State Board of Health regarding the constructing of a disposal plant in Rockaway Township.

Milburn, N. J.—City Commission decided to issue bonds for pumping station and sewer improvements.

Pleasantville, N. J.—Plans prepared by Remington & Vosburg of Camden, for the proposed sewerage system.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Perth Amboy, N. J.—Water works bonds for $100,000 will be sold July 12 by Board Water Commissioners for laying 30-in. water main from Ernston to the Raritan River.

Clermont, Pa.—Citizens voted in favor of waterworks. Address City Clerk.

College Hill, Pa.—Citizens Water Company of College Hall, in which R. M. Downie and others are interested, has applied to State Public Service Commission at Harrisburg for franchise to construct water works here.

Erie, Pa.—Storm water sewer bonds for $40,000, $150,000 for Mill Creek and $25,000 for the Garrison Run flood prevention project reported to be sold July 25, by City Council.

Johnstown, Pa.—City sold $200,000 bonds for constructing 2 miles of 62-in. sewer mains.

Pittsburg, Pa.—Samuel G. Dixon, State Health Commissioner, suggests the construction of a storm water and sanitary sewer for the Nine Mile Run problem; also a sewage disposal plant. Cost $450,000.

Spangler, Pa.—Citizens voted June 9 $42,000 bonds for sewer and paving extensions. Charles E. Schlicher, Engineer, Spangler. George W. Lantzy, Borough Clerk.

Zelienople, Pa.—Citizens voted $12,000 bonds for water works and electric light plant. Address City Clerk.

Wellsburg, W. Va.—Plans for constructing sewerage system submitted to City Council.

Seakville, N. C.—Construction of municipal or private owned waterworks and sewerage is under consideration. J. B. Fagg, Chairman Investigating Committee.

Charleston, S. C.—Reported Council is considering the extending of the water and sewerage system. Address City Clerk.

Cochran, Ga.—Citizens voted $20,000 bonds for constructing sewerage system and extension to light and water works system.

Lavonia, Ga.—The Citizens voted $45,000 water and sewer bonds. Address City Clerk.

Savannah, Ga.—To rehabilitate the water works at a cost of $250,000, will include boring additional wells, installing new pump of 15,000,000 gal. capacity, a new air compressor and a 4,000,000-gal. reservoir and other work. E. R. Conant, Chief Engineer.

Lockport, La.—Contract about to be let by city for constructing water works. Address City Clerk.

White Castle, La.—City is considering waterworks and electric light plant. Address City Clerk.

Clinton, Miss.—The Board of Aldermen voted to issue $7,500 bonds for boring a well, extending water mains, installing meters and purchasing a pump. R. R. Hardy, Town Clerk.

Richton, Miss.—Surveys being made for the proposed water works bonds for which have been sold. Address City Clerk.

Sumrall, Miss.—Election to be held to vote $20,000 bonds for improvements to waterworks, including pumping station, drilling wells and laying pipe lines. E. C. Kingsbery, Mayor.

Lexington, Ky.—Plans completed by Solomon Norcross Company, Atlanta, Ga., for the sewage disposal plant, to cost $200,000.

Alliance, Ohio.—City Council passed ordinance providing for sale of $120,000 water work bonds.

Celina, Ohio.—Water works bonds for $18,000 have been sold. Address City Clerk.

Columbus, Ohio.—Council appropriated $20,000 for fire hydrants.

Dover, Ohio.—Water bonds for $80,000 will be sold July 24 by E. F. Wible, City Auditor.

Greenwich, Ohio.—No bids received June 24 by F. H. Daniels, City Clerk, for improving waterworks.

Lima, Ohio.—City Council received report of George W. Fuller, New York, N. Y., for constructing sewerage system; estimated cost sewage disposal plant, $204,625; sanitary sewers and pump stations, $362,500; relief lines for storm water, $791,000; sanitary sewer extensions, $49,000; small relief lines, $75,000; cleaning and repairing present sewers, $10,000, and relief sewers with river improvement, $500,000.

Niles, Ohio.—Plans for the intercepting sewer will be prepared and submitted to State Board of Health, Aug. 2. Howard Turner, City Engineer.

Rocky River, Ohio.—Bonds for $10,081 will be sold July 25 by Frank Mitchell, City Clerk, for water mains, etc., in North Ridge Road.

Warren, Ohio.—Trumbull Public Service Corporation will install a new filtration plant for the water supply of the city. Plans prepared by Chester & Fleming, Pittsburgh, Pa.

Youngstown, Ohio.—Contract soon to be let by city for constructing Mill Creek District Sewer. Frank Lillie, City Engineer.

Zanesville, Ohio.—Plans being prepared for the pumping station. W. W. Roach, Director Public Service.

Zanesville, Ohio.—Water bonds for $350,000 will be sold July 27 by Cecil Tanner, County Auditor.

Leesburg, Ind.—Town Board is considering water works. Address Town Clerk.

Terre Haute, Ind.—Terre Haute Water Works Company has received franchise from County Commissioners to extend water mains in Fruitridge Avenue to reach new subdivision. About 2500 ft. of main will be laid, work to be done by the company's forces.

Lansing, Mich.—Citizens voted $14,100 bonds for constructing sewers on Franklin Avenue, Maryland, Congress and other streets; also $165,000 bonds for constructing reservoir, installing high duty pumping engine, reinforcing of distributing system. W. B. Kirby, Secretary Board Electric Light and Water Commissioners.

Wilmington, Ill.—Contract will be let about July 20 for approximately 5 miles of water mains and 8½ miles of sewer in Wilmington and 2½ miles in Lockport. A. S. Calkins, City Hall, Joliet, is City Engineer for both cities.

Stuart, Iowa.—City Council is considering constructing 79,725 ft. 6 to 12 in. sewer, vitr. clay or concrete, and 131 manholes and 40 lampholes. G. F. Taylor, City Clerk; Theo. S. DeLay, Engineer, Creston, Iowa.

Hopkins, Minn.—J. F. Druar, 312 Commercial Building, St. Paul, engaged as engineer for the proposed sewer system. E. A. Close, City Recorder.

Clathe, Kan.—City is considering the construction of a sewage disposal plant costing about $15,000.

Osage City, Kan.—Plans being prepared by H. W. Underhill, Bryant Building, Kansas City, Mo., for municipal power house and pumping station.

Osborne, Kan.—Plans have been approved by State Board of Health and an election is to be held soon to vote $10,000 bonds for improvements to water works. Address City Clerk.

Wichita, Kan.—Bert Wells, City Engineer, has submitted a report to the City Commission estimating cost of proposed sanitary sewer at $180,000.

Doland, S. D.—Ward & Mryhton, Sioux City, Iowa, Engineers for waterworks improvements. P. L. Brown, City Auditor.

Lovell, Wyo.—Plans being prepared by City Engineer for construction of water works and sewerage system. City sold $60,000 bonds for same.

Walkersville, Mont.—City Council directed Charles Feeney to prepare plans for a sanitary sewerage system.

Little Rock, Ark.—Surveys being made by Theo. Hartman, Little Rock, for sewer system for Pulaski Heights in new Ninth Ward. About 66,200 ft. of pipe will be required.

Cotulla, Tex.—City Council authorized the purchase of about 8000 ft. additional water mains. Address City Clerk.

El Paso, Tex.—Sanitary Commission has been petitioned to extend sewer system to Highland Park.

Itasca, Tex.—Engineer engaged for the proposed sewer system. Address City Clerk.

Kingsville, Tex.—Citizens voted $150,000 bonds for water works improvements; $20,000 will be used to purchase the plant of a private corporation and the remainder, $130,000, for making improvements, probably by day labor.

Sherman, Tex.—Citizens voted $30,000 water works, $50,000 sewer, and $50,000 for installing disposal plant. Address City Clerk.

Cleveland, Okla.—Election will probably be held to vote $50,000 bonds for water works. Address City Cerk.

Hitchcock, Okla.—Construction of water works is under consideration. Address City Clerk.

Stroud, Okla.—Ordinance passed by Council authorizing $10,000 bond issue for improvements to water works. Address City Clerk.

Spokane, Wash.—Contract to be let for constructing Grand Boulevard sub-trunk sewer. Morton McCartney, City Engineer.

Seattle, Wash.—Council has passed ordinance authorizing water mains in Hudson and other streets at a cost of $22,878.

Oregon City, Ore.—The Water Board is considering constructing a second reservoir.

Coalinga, Cal.—Contract will be let in August, after election Aug. 3 to vote on water works improvements, including 200,000-gal. reservoir, concrete; 1500-gal. per minute pumping unit, 8-in. pipe, fittings, valves, etc.; cost $14,000. Gale S. Straub, Engineer, San Francisco. Claude T. Walker, City Clerk.

Healdsburg, Cal.—Improvements to the sewer system, including 3 septic tanks, under consideration by City Board of Trustees.

Hollywood, Cal.—The City Council sold $1,020,000 water works bonds for purchase of Union Hollywood Water Co.'s system and improving same.

Madera, Cal.—Construction of a sewage disposal plant is under consideration. Address City Clerk.

Ogden, Utah.—A large sewer extension to care for the portion of the city north of Ogden River is in a preliminary stage. Work will probably be delayed until next year. Joseph M. Tracey, City Engineer.

Hamilton, Ont.—Board of Control has recommended construction of a 20-in. water main on Main Street and changes in the sewer system; cost $30,000.

London, Ont.—Contract soon to be let for storm and sanitary sewers. Address City Engineer.

Pembroke, Ont.—Council is considering extensions to sewerage system and installation of a pumping plant to cost $50,000.

Windsor, Ont.—Essex County Council has approved the formation of a board to prepare plans for a combined water and sewer system to cost $1,500,000, Morris Knowles, City Engineer, Ojibway; Edward Brian, City Engineer, Windsor; Owen McKay, engineer for Ford City and Walkerville; J. J. Newman, Sandwich West, and Charles R. McColl, Sandwich, are members of the Board.

Brandon, Man.—City is about to purchase a 4,000,000 gal. high duty pump. A. W. Shaw, Superintendent Water Works.

BIDS DESIRED.

Boston, Mass.—Until July 10, by Edward F. Murphy, Commissioner Public Works, for constructing pipe sewers and drains in Wachusett Street, West Roxbury, and La Grande Street, West Roxbury, and until July 11, in Colon Street, Brighton, and Colonial Road, Brighton, and separate bids until July 14 for laying 24-in. water pipe in Chelsea, Porter and Cottage Streets, East Boston.

Providence, R. I.—Until July 10, by W. C. Pelkey, City Clerk, for constructing sewers.

Batavia, N. Y.—Until July 12, by I. J. Carmichael, City Clerk, for furnishing and installing three motor-driven centrifugal sewage pumps and appurtenances to be installed at the sewage pump station. Probable cost $5,600. Chester & Fleming, Engineers, Pittsburgh, Pa.

New York, N. Y.—Until July 17, by Public Service Commission (J. B. Walker, Secretary), for railroad duct line for the Seventh Avenue-Lexington Avenue Rapid Transit Railroad, to consist of a line of 30 ducts extending through Walton Avenue and 157th Street from a point near 153d Street to River Avenue, Bronx.

Thiells, N. Y.—Until July 20, by Frank A. Vanderlip, President Board Managers, Letchworth Village, 7 Wall Street, New York, N. Y., for sewers to Laundry Building at Letchworth Village, Thiells, advertised in Engineering Record. Lewis F. Pilcher, State Architect, Albany.

Atlantic City, N. J.—Until July 20, by Board Commissioners for furnishing c.-i. pipe and special castings advertised in Engineering Record. L. Van Gilder, Engineer and Superintendent Water Department.

Skillman, N. J.—Until July 24, by Board of Managers New Jersey State Village for Epileptics (David F. Weeks, Secy.), for furnishing labor and material for extending water and sewer system fire hydrants and repair of disposal plant.

Somerville, N. J.—Until July 24, for extension of sewers and water systems, fire hydrants and repairs to disposal plant at New Jersey State Village for Epileptics. David F. Webb, Secy.; Herman F. Moss, Brugger, Secy. Board Managers.

South Orange, N. J.—Until July 10, by Sewer Committee of Board of Trustees for constructing an 8-in. sanitary sewer approximately 6170 ft., together with manholes, flushtanks, etc. Ira T. Redfern, Village Engr., 11 S. Orange Avenue.

Henderson, N. C.—Until July 18, for sewer improvements, to consist of 10,000 ft. sewer, 8 to 12 in. sanitary sewers, a sewage disposal plant, consisting of Imhoff tank contact beds, and cludge drying beds with all appurtenances. G. W. Adams, City Clerk. Anderson & Christie, Inc., Consulting Engineers, Charlotte.

Wilmington, N. C.—Reported desired until July 19, by T. B. Mearse, City Clerk, for 500 water meters ⅝ and ¾ in.

Mounds Bayou, Miss.—Until July 13, by Dr. S. H. Harris, Town Clerk, for furnishing c.-i. pipe, fire hydrants, valves, gate valves, artesian well, etc., advertised in Engineering Record.

Shreveport, La.—Until July 11, by city, for approximately 40 miles of sewer pipe from 12 to 21 in. John B. Hawley, Consult. Engr., Shreveport.

Celina, Ohio.—Until July 12, by Council (J. M. Winter, Clerk), for furnishing material and constructing sanitary sewer system.

East Youngstown, Ohio.—Until July 21 (readvertisement), by Board Trustees Public Affairs of Village (J. E. McGarry, Chairman), for constructing a 1,000,000-gal. filter plant, pumping station, pumps, pipe lines, etc., for water works system.

Lowellville, Ohio.—Reported desired until July 15, for concrete steel standpipe, 7 miles of distribution system, pumphouse, pumps, etc. Wm. Wilson, Engineer, Elks Building, Youngstown.

Decatur, Ill.—Until July 13, by City Clerk, for furnishing and installing one cross compound condensing crank and fly wheel Corliss pumping engine opposed type, 12,000,000 gal. in 24 hours, and appurtenances, advertised in Engineering Record.

Ossian, Iowa.—Until July 18 by Town Council for constructing water works, advertised in Engineering Record. C. L. Green, City Clerk. A. R. Coffeen, Consulting Engineer, Decorah, Iowa.

Columbia Heights, Minn.—Until July 14, by J. N. Thull, Village Clerk, for constructing water mains. J. E. Hill, Village Engr., 314 Nicolet Avenue, Minneapolis.

Worthington, Minn.—Until July 13, by City Council, for constructing a sewage purification plant, consisting of Imhoff settling tank, with sludge bed and pumps, also for 37,590 ft. 6 to 12-in. pipe sewers, advertised in Engineering Record.

Ellis, Kan.—Reported desired until July 13, by R. T. Hayne, City Clk., for constructing sewer system. Probable cost $30,000 to $40,000. Black & Veatch, Engrs., 507 Interstate Bldg., Kansas City, Mo.

Hillsboro, N. D.—Until July 10, by City Auditor, for mains on River Street. H. G. Lycken, Engineer, Grand Forks.

Riverton, Wyo.—Sewer bonds for $28,000, also water bonds for $10,000, will be sold July 10 by J. A. Delfelder, Mayor. advertised in Engineer Record.

Chaffee, Mo.—Until July 28, by Mayor and Board of Aldermen, for constructing waterworks and sewer system, advertised in Engineering Record. Frank L. Wilcox, Engineer, Syndicate Trust Building, St. Louis, Mo. E. D. Preston, City Clerk.

Blackwell, Okla.—Until July 12, for furnishing, delivering and constructing extensions to water works and electric light plant, to consist of one 300 hp. water tube boiler, a 500 G. M. spray nozzle cooling system, one 750 G. P. M. 200 ft. centrifugal pump, a 600 hp. live steam water purifier, etc. Benham Engr. Co., Consult. Engrs., Colcord Bldg., Oklahoma, Okla. Clyde V. Butcher, City Clerk.

Tulsa, Okla.—Reported desired until July 13 for constructing sanitary sewer system. H. H. Wyss, City Engr.

Canby, Ore.—Until July 17 by city for furnishing material and constructing water works including distributing system of four miles of pipe, a 75,000-gal. tank and tower, pumping machinery, wells, etc. S. A. Cobb, Consulting Engineer, Oregon City.

Lompoc, Cal.—Until July 10, by G. W. Meals, City Clerk and Clerk Board of Trustees, for constructing sewer system, including disposal works.

Winnipeg, Man.—Until July 18, by Chairman Board Control, for furnishing and delivering f.o.b. Winnipeg, a quantity of valves for Fire Service Water Works and Domestic Water Works system.

Saskatoon, Sask.—Reported desired until July 24, for constructing a force water main; probable cost $20,000. G. H. Archibald, Engineer.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Boston, Mass.—Following are three bids opened June 27 by Metropolitan Water & Sewerage Board for constructing sewers in Wellesley Section of West Roxbury: (a) Contract 138, (b) Contract 139: Thomas Russo & Company, Boston, (a) $54,630, (b) $78,460; Bruno & Petitti, Boston, (a) $79,040, (b) $84,550; Coleman Brothers, Chelsea, (a) $88,860, (b) $100,000. W. N. Davenport, Secretary of Board.

★**Hartford, Conn.**—Contract awarded by Board of Contract & Supply for constructing sewer system in Towe Avenue and adjacent streets to A. D. Ambrosia, 601 Front Street, at $18,048.

★**Batavia, N. Y.**—Contracts in connection with the water works (bids opened June 28) awarded as follows: Hydro Construction Company, Buffalo, Contract No. 1, excavating, grading and concrete work for pumping station and filter plant; No. 9, reinforced concrete for pump station floor; No. 10, concrete sidewalks; No. 12, extra earth excavation; No. 13, extra rock excavation; 14, extra earth embankment, at a total of $44,000; two 150 hp. boilers to Babcock & Wilcox of Pittsburgh, Pa., at $7,884; furnishing heater of spray type to Griscom & Russell, New York, at $150; radial stack, 125 ft. high, interior diam. at base 11 ft. 7 in. and at top 4 ft., to Rust Engineering Company, Pittsburgh, Pa., at $1,919. Chester & Fleming, Engineers, Pittsburgh, Pa.

★**Binghamton, N. Y.**—Following are unit figures of the Sewage Disposal and Water Plant Company, Schenectady, the successful bidder on the bids opened May 24, by Board of Contract and Supply, for constructing Section No. 1 of the intercepting sewer: Item 1—3000 lin. ft. excavation, under 6 ft., pipe 18 in. or less, $1.25; 2—200 lin. ft. excavation, 6 ft. to 8 ft., pipe 18 in. or less, $1.50; 3—200 lin. ft. excavation, 8 ft. to 10 ft., pipe 18 in. or less, $1.75; 4—200 lin. ft. excavation, 10 ft. to 12 ft., pipe 18 in. or less, $2.25; 5—200 lin. ft. excavation, 12 ft. to 14 ft., pipe 18 in .or less, $2.50; 6—300 lin. ft. excavation, 14 ft. to 16 ft., pipe 18 in. or less, $2.75; 7—300 lin. ft. excavation, 16 ft. to 18 ft., pipe 18 in. or less, $3.50; 8—200 lin. ft. excavation, 18 ft. to 20 ft., pipe 18 in. or less, $3.75; 9—2500 lin. ft. excavation, under 6 ft., pipe 24 in., $1.50; 10—900 lin. ft. excavation, 6 ft to 8 ft., pipe 24 in., $1.75; 11—300 lin. ft. excavation, 8 ft. to 10 ft., pipe 24 in., $2; 12—200 lin. ft. excavation, 10 ft. to 12 ft., pipe 24 in., $2.50; 13—100 lin. ft. excavation, 12 ft. to 14 ft., pipe 24 in., $3; 14—400 lin. ft. excavation, under 6 ft., pipe 36 in., $2; 15—500 lin. ft. excavation, 6 ft. to 8 ft., pipe 36 in., $2; 16—400 lin. ft. excavation, 8 ft. to 10 ft., pipe 36 in., $2.50; 17—200 lin. ft. excavation, 10 ft. to 12 ft., pipe 36 in., $3; 18—700 lin. ft. excavation, 8 ft. to 10 ft., pipe 42 in., $3; 19—300 lin. ft. excavation, 10 ft. to 12 ft., pipe 42 in., $3.50; 20—100 lin. ft. excavation, 12 ft. to 14 ft., pipe 42 in., $4; 21—200 lin. ft. excavation, under 6 ft., pipe 48 in., $2.50; 22—1100 lin. ft. excavation, 6 ft. to 8 ft., pipe 48 in., $3; 23—1300 lin. ft. excavation, 8 ft. to 10 ft., pipe 48 in., $3.50; 24—1400 lin. ft. excavation, 10 ft. to 12 ft., pipe 48 in., $3.73; 25—800 lin. ft. excavation, 12 ft. to 14 ft., pipe 48 in., $4.30; 26—200 lin. ft. excavation, 14 ft. to 16 ft., pipe 48 in., $4.75; 27—3500 cu. yd. rock excavation, $3; 28—400 lin. ft. 6 in. vitrified tile, 0.15; 29—400 lin. ft. 12 in. vitrified tile, 0.40; 30—1200 lin. ft. 15 in. vitrified tile, 0.65; 31—1300 lin. ft. 18 in. vitrified tile, 0.86; 32—4000 lin. ft. 24 in. vitrified tile, $1.50; 33B—1500 lin. ft. 36 in. reinforced concrete pipe, $2.50; 34B—1100 lin. ft. 42 in. reinforced concrete pipe, $3.50; 35B—5000 lin. ft. 48 in. reinforced concrete pipe, $4.10; 36—1300 lin. ft. 16 in. C. I. pipe, $3.75; 37—36 manholes, $100; 38—200 cu. yd. extra concrete, $12; 39—100 M ft. lumber left in trench, $35; 40—5 regulating chambers, $1,500; 41—River crossing No. 1 (lump sum), $5,468; 42—River crossing No. 2 (lump sum), $8,000; 43—River crossing No. 3 (lump sum), $15,000; 44—River crossing No. 4 (lump sum), $20,000; 45—1000 cu. yd. earth fill over pipe, 0.40; 46—15,000 sq. ft. steel piling, 0.60. Total, $166,071.

★**Lodi, N. J.**—Contract for constructing sewerage system and disposal plant awarded Napoli & Torello Construction Company of Hackensack, at $186,580.

★**Hazleton, Pa.**—Contract for constructing Holly and Cedar Streets sewer awarded by City Council to Ario Ruth of Hazleton at $10,466.

★**Mount Joy, Pa.**—Contract for building pumping station awarded J. Miller Eshleman, Landisville, at $2,943.

Washington, D. C.—Lowest bid opened June 23 by Commissioners D. C. for furnishing 7000 ⅝-in. water meters for Water Department submitted by Badger Meter Manufacturing Co., Milwaukee, Wis. Other bidder, Worthington Pump & Machinery Co., 115 Broadway, New York, N. Y.

★**Columbia, S. C.**—Contract for 96,000 ft. 8 in., 16,000 ft. 10 in., 2600 ft. 12 in., and 7200 ft. 18 in. vitr. pipe and specials awarded Chattanooga Sewer, Pipe & Fire Brick Company, Chattanooga, Tenn., at $21,847. Other bidder Lorick & Lawrance, Columbia, $24,020. John McNeal, City Engineer.

★**East Liverpool, Ohio.**—Contract for automatic filter control apparatus for the new city filtration plant awarded Pittsburgh Filter Manufacturing Company. Chester & Fleming, Engineers, Pittsburgh.

★**Ironton, Ohio.**—Contract for laying pipes for water system awarded by Director Public Service to Scherer, Mountain & Grimes of Ironton.

★**Lorain, Ohio.**—Contract for about 2875 ft. 12, 42 and 60-in. sewer, awarded Tony Trefelette, Lorain; cost about $16,000. Bids opened June 27 by Board Public Service. A. M. Osborn, City Engineer.

Greenwich, Conn.—Following are unit figures of three bids opened June 29 for constructing sewage disposal works for Borough of Greenwich and Sewer District No. 6, Town of Greenwich: (a) Suburban Engineering Co., 15 W. Thirty-eighth Street, New York, $67,662; (b) Averill Mathews, 919 Essex Building, Newark, N. J., $71,365, and (c) Carrington Construction Co., Jersey City, N. J., $77,651. Clyde Potts, Engineer, 30 Church Street, New York.

Items	(a)	(b)	(c)
1. Imhoff tanks—8 sections	$37,500.00	$41,497.00	$40,500.00
2. Imhoff tanks, per added unit—2	4,430.00	4,294.00	4,600.00
3. Brick wall	6,840.00	5,030.00	6,490.00
4. Pumping station	13,300.00	14,979.00	19,500.00
5. Concrete, per yard	9.00	12.00	8.00
6. Sludge beds	1,085.00	1,200.00	1,900.00
7. Piling, per foot	0.60	0.90	0.35
8. Reinforcing, per lb	0.05¾	0.06	0.05
9. Rock, per yard	7.50	3.50	3.00
10. Lumber foundation, per M feet	60.00	55.00	50.00

Note—Quantities for Items 5, 7, 8, 9 and 10 are indeterminate. Unit price taken for comparison.

★**Albany, N. Y.**—Following are unit figures of the four lowest bids opened June 27 by W. W. Wotherspoon, State Superintendent Public Works, for Contract 59-A, constructing a sewer from Genesee Valley Park to a point about 100 ft. south of Court Street Bridge, Rochester: (a) Engineer's estimate, $124,260; (b) P. H. Murray, Rochester, $110,689 (awarded contract); (c) L. H. Brotsch, Rochester, $114,437; (d) R. T. Ford, Rochester, $115,331; (e) Shroeder Hicks Contracting Co., Rochester, $115,534.

	(a)	*(b)	(c)	(d)	(e)
1 cofferdam, pumping, bailing and draining, lump sum	$5,000.00	$6,000.00	$4,000.00	$4,000.00	$3,500.00
3,578 lin. ft. trenching and backfilling, 24-in. cast-iron pipe	1.85	2.20	1.80	1.85	1.70
3,124 lin. ft. trenching and backfilling, 24-in. reinforced concrete pipe	1.45	1.45	1.40	1.29	1.40
1,325 lin. ft. trenching and backfilling, 30-in. reinforced concrete pipe	2.80	2.53	2.40	1.80	2.15
2,490 lin. ft. trenching and backfilling, 36-in. reinforced concrete pipe	3.60	3.05	4.00	3.42	3.80
215 lin. ft. trenching and backfilling, 48-in. reinforced concrete pipe	4.85	2.10	3.30	4.50	3.60
4,706 lin. ft. trenching and backfilling, 54-in. reinforced concrete pipe	6.00	4.85	5.50	5.65	5.70
3,578 lin. ft. 24-in. cast-iron pipe, laid	4.10	3.60	3.70	3.85	3.75
3,124 lin. ft. 24-in. reinf. concr. pipe, laid	1.85	1.75	1.65	1.70	1.80
1,325 lin. ft. 30-in. reinf. concr. pipe, laid	2.40	2.25	2.20	2.36	2.35
2,490 lin. ft. 36-in. reinf. concr. pipe, laid	3.15	2.95	3.00	3.05	3.10
215 lin. ft. 48-in. reinf. concr. pipe, laid	4.90	4.35	4.60	4.50	4.75
4,706 lin. ft. 54-in. reinf. concr. pipe, laid	6.25	5.15	5.60	5.85	5.80
1 sewer intake complete, lump sum	560.00	560.00	500.00	530.00	525.00
1 lateral No. 1 and catchb'n, lump sum	160.00	160.00	140.00	110.00	100.00
1 lateral No. 2, lump sum	365.00	365.00	325.00	300.00	150.00
1 lateral No. 2-A, lump sum	25.00	25.00	25.00	25.00	50.00
1 lateral No. 3, lump sum	85.00	85.00	60.00	75.00	85.00
1 lateral No. 4, lump sum	260.00	260.00	230.00	225.00	150.00
1 lateral No. 5, lump sum	210.00	210.00	185.00	145.00	200.00
1 lateral No. 6, lump sum	515.00	515.00	475.00	400.00	500.00
1 connection, No. 1, lump sum	45.00	45.00	45.00	45.00	100.00
1 connection, No. 2, lump sum	845.00	845.00	750.00	800.00	700.00
23 manholes, complete, each	50.00	50.00	45.00	55.00	40.00

★**Richmond, Va.**—Following are unit figures of four lowest bids opened June 15 by Board of Administration for constructing Bacon's Quarters Branch Sewer. Totals include cement and pipe furnished by city:

★Section 3, Plan A: (a) Elkan & Tufts, Spartanburg, S. C., $75,992 (awarded contract); (b) Saville & Clairborne, Inc., Richmond, $81,006; (c) Whiting Turner Constr. Co., Baltimore, Md., $83,571; (d) W. W. Boxley & Co., Roanoke, Va., $83,399.

	*(a)	(b)	(c)	(d)
500 cu. yd. excavation	$0.85	$2.10	$2.05	$1.30
2036.8 cu. yd. reinforced concrete in cover	11.75	8.70	9.13	12.50
2319.2 cu. yd. reinforced concrete in invert	6.90	8.70	9.13	8.00
1639.8 cu. yd. reinforced concrete in sidewalls	8.05	8.70	9.50	9.00
109,140 vitr. block in invert, per M	32.00	37.50	40.00	34.00
1370 lin. ft. 12-in. pipe, laying	0.25	0.06	0.13	0.12
2740 lin. ft. 6-in. pipe, laying	0.25	0.05	0.07	0.08
280 lin. ft. 4-in. pipe, laying	0.25	0.05	0.07	0.06

★Section 4, Plan A: (a) A. W. Maynard, Richmond, $47,857 (awarded contract); (b) Oscar Constr. Co., Richmond. $48,756; (c) Elkan & Tufts, Spartanburg, S. C., $50,188; (d) H. H. George, Jr., Richmond, $50,358.

	*(a)	(b)	(c)	(d)
9300 cu. yd. excavation	$0.78	$1.08	$0.85	$0.80
1206.3 cu. yd. reinforced concrete in cover	11.25	11.70	11.65	14.00
1373.6 cu. yd. reinforced concrete in invert	5.30	5.20	6.80	6.00
971.2 cu. yd. reinforced concrete in sidewalls	9.30	6.30	7.95	7.00
64,640 vitr. blocks in invert, per M	33.00	40.00	32.00	35.00
808 lin. ft. 12-in. pipe, laying	0.86	0.15	0.25	0.12
1820 lin. ft. 6-in. pipe, laying	0.05	0.10	0.25	0.10
160 lin. ft. 4-in. pipe, laying	0.03	0.10	0.25	0.10

★Section 5, Plan A: (Ocean Constr. Co., Richmond, $48,749 (awarded contract); (b) A. W. Maynard & Co., Richmond, $53,864; (c) Elkan & Tufts, Spartanburg, S. C., $54,014; (d) H. H. George, Richmond, $55,407.

	*(a)	(b)	(c)	(d)
6300 cu. yd. excavation	$0.95	$0.90	$0.85	$0.80
1388.5 cu. yd. reinforced concrete in cover	11.50	12.00	11.65	14.00
1581 cu. yd. reinforced concrete in invert	4.60	5.50	6.80	6.30
1117.8 cu. yd. reinforced concrete in sidewalls	5.30	9.40	7.95	7.45
74,400 vitr. blocks in invert, per M	40.00	33.00	32.00	35.00
930 lin. ft. 12-in. pipe, laying	0.15	0.06	0.25	0.12
1860 lin. ft. 6-in. pipe, laying	0.10	0.05	0.25	0.10
190 lin. ft. 4-in. pipe, laying	0.10	0.03	0.25	0.10

★Section 5A, Plan A: (a) L. Hawkins, Richmond, $45,678 (awarded contract); (b) Elkan & Tufts, Spartanburg, S. C., $47,427; (c) Cash & Allen, Washington, D. C., $48,606; (d) Alsop & Pierce, Newport News, $50,415.

	*(a)	(b)	(c)	(d)
6000 cu. yd. excavation	$0.95	$0.85	$1.85	$1.45
1149.6 cu. yd. reinforced concrete in cover	8.70	12.25	8.95	14.20
1309 cu. yd. reinforced concrete in invert	8.70	7.40	7.25	5.70
925.5 cu. yd. reinforced concrete in sidewalls	8.70	8.55	7.75	8.28
61,600 vitr blocks in invert per M	36.00	32.00	37.00	33.00
770 lin. ft. 12-in. pipe, laying	0.12	0.25	0.13	0.10
1540 lin. ft. 6-in. pipe, laying	0.10	0.25	0.07	0.06
160 lin. ft. 4-in. pipe, laying	0.10	0.25	0.07	0.05

★Section 5B, Plan A: (a)Van Doran Brothers, Richmond, $69,471 (awarded contract); (b) A. W. Maynard & Co., Richmond, $75,259; (c) L. Hawkins, Richmond, $75,714; (d) Elkan & Tufts, Spartanburg, S. C., $79,728.

	*(a)	(b)	(c)	(d)
10,400 cu. yd. excavation	$0.55	$0.78	$0.75	$0.85
1980.9 cu. yd. reinforced concrete in cover	12.95	11.50	8.40	11.75
2255.5 cu. yd. reinforced concrete in invert	3.95	5.30	8.40	6.90
1676.2 cu. yd. reinforced concrete in sidewalls	6.70	8.75	8.40	8.55
106,143 vitr. block in invert, per M	35.80	32.50	35.00	32.00
1350 lin. ft. 12-in. pipe, laying	0.10	0.06	0.12	0.25
2700 lin. ft. 6-in. pipe, laying	0.05	0.05	0.10	0.25
300 lin. ft. 4-in. pipe, laying	0.05	0.03	0.10	0.25

Milwaukee, Wis.—Following are unit figures of the four lowest bids opened June 29 by Sewerage Commission (John H. Fowles, Secretary) for construction, Section 1, Kinnickinnic River, Valley Low Level intercepting sewer (Official Notice No. 19): (a) Wisconsin Tunnel & Construction Co., Milwaukee, $267,387; (b) James Ferry & Sons, Baltimore, Md., $272,008; (c) George E. Zimmerman, Milwaukee, $280,556; (d) James Kennedy, Fargo, N. D., $288,466.

	(a)	(b)	(c)	(d)
1 regulating and by-pass chamber	$6,573.00	$12,000.00	$10,000.00	$8,368.00
3,079 lin. ft. combined 48-in. c.-i. and 6 x 4-ft. concrete sewer	53.00	59.80	54.00	53.75
2,122 lin. ft. 60-in. concrete sewer (in open cutting)	30.00	20.00	29.00	32.00
52 lin. ft. 54-in. reinforced concrete sewer	50.00	45.00	40.00	32.00
106 vert. ft. drop manholes	10.00	10.00	8.00	7.00
226 vert. ft. standard manholes	7.00	7.00	6.00	6.00
15 cast-iron manhole frames and covers	15.00	15.00	15.00	15.00
67,200 lin. ft. piles in place (lin. ft.)	0.30	0.30	0.45	0.50
150.8 M. ft. plank foundation	30.00	30.00	28.00	30.00
56 M. ft. timber caps	40.00	40.00	30.00	35.00
5,253 lin. ft. underdrain	0.30	0.25	0.40	0.50

★**Houston, Tex.**—Following are unit figures of the four lowest bids opened June 23 by city for constructing South Side Pumping Plant: (a) Chas. S. Basham, Houston, $24,729 (awarded contract); (b) Morton & Horton, Houston, $26,849; (c) Jerome Cochran, Houston, $27,150; (d) Houston Construction Company, Houston, $29,127.

	*(a)	(b)	(c)	(d)
Plant complete (except excavation), lump sum.	$17,437.00	$18,270.00	$21,290.00	$19,200.00
2,250 cu. yd. excavation	1.47	1.75	0.85	2.50
10 cu. yd. Class I concrete	8.00	10.00	8.75	10.00
10 cu. yd. Class II concrete	8.00	15.00	9.05	12.00
25 cu. yd. Class III concrete	8.00	15.00	9.55	15.00
10,000 lb. reinforcing steel (new billet)	0.05	0.06	0.04	0.06
10,000 lb. reinforcing steel (rerolled)	0.045	0.05	0.035	0.05
10 cu. yd. waterproofing for concrete	0.50	1.50	1.23	1.50
500 lin. ft. round timber piling (untreated)	0.40	0.40	0.75	0.50
100 lin. ft. round timber piling (treated)	0.65	0.80	0.95	0.80
1 M ft. timber sheet piling (untreated)	...	80.00	...	60.00
1 M ft. timber sheet piling (treated)	...	60.00	...	90.00
1,000 lb. bolts and tie rods	0.05	0.10	0.06	0.10
50 ft. 36-in. reinf. conc. sewer (except exc.)	4.50	4.25	6.25	3.00
50 ft. 36-in. vit. pipe sewer (except exc.)	4.20	5.50	4.20	6.00
— ft. 30-in. vit. pipe sewer (except exc.)	2.95	...	...	4.00
— ft. 24-in. vit. pipe sewer (except exc.)	2.00	...	...	1.75
50 ft. 6-in. vit. pipe sewer (except exc.)	0.20	0.25	0.30	0.20
10 ft. 20-in. wrought-iron pipe	...	10.00	4.80	6.60
10 ft. 16-in. wrought-iron pipe	...	7.00	3.45	4.25
10 ft. 12-in. wrought-iron pipe	...	3.00	2.10	2.50
10 ft. 10-in. wrought-iron pipe	17.50	2.50	1.75	2.00
10 ft. 8-in. wrought-iron pipe	12.50	2.00	1.25	1.20
10 ft. 6-in. wrought-iron pipe	10.00	1.25	1.00	0.80
10 ft. 4-in. wrought-iron pipe	7.50	0.75	0.75	0.60
10 ft. 3-in. galvanized pipe	0.40	0.50	0.52	0.40
10 ft. 2-in. galvanized pipe	0.20	0.30	0.30	0.25
10 ft. 1½-in. galvanized pipe	0.15	0.20	0.25	0.20
10 ft. 1-in. galvanized pipe	0.10	0.15	0.19	0.12
10 ft. ¾-in. galvanized pipe	0.08	0.10	0.16	0.10
10 ft. ½-in. galvanized pipe	0.06	0.08	0.15	0.08
100 lb. pipe fittings (black)	0.20	0.10	0.09	0.05
100 lb. pipe fittings (galvanized)	0.30	0.15	0.14	0.07
20 ft. 24-in. c.-i. water pipe (leaded joints)	3.00	6.00	7.35	6.50
10 ft. 12-in. c.-i. water pipe (leaded joints)	1.25	3.00	2.85	2.50
10 ft. 8-in. c.-i. water pipe (leaded joints)	0.90	2.00	1.85	1.20
10 ft. 4-in. c.-i. water pipe (leaded joints)	0.60	1.00	1.15	0.70
1 standard sanitary sewer manhole, 8 ft.	50.00	60.00	47.00	40.00
5 ft. extra depth in manhole below 8 ft.	5.00	6.50	5.00	6.00
— concrete box drain, Sect. X-X	1.25	...	...	...
1,000 man-hour labor (common)	0.25	0.40	0.30	0.30
1,000 team-hour teams	0.75	0.70	0.75	0.60
1,000 lb. castings	0.05	0.10	0.06	0.07
100 sq. yd. 10-in. shell roadway	1.00	0.60	0.90	0.90
100 sq. ft. standard cement sidewalks	0.15	0.16	0.16	0.15
1 1 M ft. lumber left in place, except sheet piling	25.00	30.00	18.00	30.00

*Added for comparison.

★**Houston, Tex.**—Following are unit figures of four lowest bids opened June 23 by city for South Side Disposal Plant: (a) Charles S. Basham, $82,602 (awarded contract); (b) Jerome Cochran, Houston, $88,044; (c) Horton & Horton, Houston, $109,378; (d) H. C. Gass, Houston, $112,843.

	*(a)	(b)	(c)	(d)
Plant complete (except excavation), lump sum.	$70,376.00	$73,990.00	$89,500.00	$89,969.00
9,500 cu. yd. excavation	0.60	0.75	1.25	1.50
25 cu. yd. Class I concrete	9.00	9.10	10.00	9.00
25 cu. yd. Class II concrete	9.00	9.40	12.00	10.00
100 cu. yd. Class III concrete	9.00	9.95	12.50	11.00
5,000 lb. reinforcing steel (new billet)	0.045	0.04	0.06	0.10
20,000 lb. reinforcing steel (rerolled)	0.04	0.038	0.05	0.10
50 cu. yd. waterproofing for concrete	0.50	1.24	1.50	1.50
3,000 lin. ft. round timber piling (untreated)	0.35	0.45	0.40	0.45
50 lin. ft. round timber piling (treated)	0.65	0.65	0.80	0.75
1 M ft. timber sheet piling (untreated)	*55.00	*55.00	80.00	55.00
1 M ft. timber sheet piling (treated)	*60.00	*60.00	60.00	90.00
1,000 lb. bolts and tie rods	0.05	0.06	0.10	0.10
10 ft. 36-in. reinf. conc. sewer (except exc.)	4.50	6.35	4.25	5.00
10 ft. 36-in. vit. pipe sewer (except exc.)	4.20	4.25	5.50	6.00
10 ft. 30-in. vit. pipe sewer (except exc.)	2.95	2.90	3.50	4.00
10 ft. 24-in. vit. pipe sewer (except exc.)	2.00	1.50	2.00	1.60
10 ft. 6-in. vit. pipe sewer (except exc.)	0.20	0.30	0.25	0.20
20 ft. 20-in. wrought-iron pipe	6.00	4.95	10.00	6.45
10 ft. 16-in. wrought-iron pipe	4.50	3.90	7.00	4.40
10 ft. 12-in. wrought-iron pipe	2.00	2.40	3.00	2.40
10 ft. 10-in. wrought-iron pipe	1.25	2.00	2.50	1.95
10 ft. 8-in. wrought-iron pipe	1.00	1.35	2.00	1.35
10 ft. 6-in. wrought-iron pipe	0.75	1.40	1.25	0.85
40 ft. 4-in. wrought-iron pipe	0.50	1.00	0.75	0.50
50 ft. 3-in. galvanized pipe	0.40	0.54	0.50	0.35
50 ft. 2-in. galvanized pipe	0.20	0.32	0.30	0.24
100 ft. 1½-in. galvanized pipe	0.15	0.27	0.20	0.19
100 ft. 1-in. galvanized pipe	0.10	0.31	0.15	0.13
100 ft. ¾-in. galvanized pipe	0.08	0.18	0.10	0.09
100 ft. ½-in. galvanized pipe	0.06	0.17	0.08	0.06
1,000 lb. pipe fittings (black)	0.20	0.09	0.10	0.05
1,000 lb. pipe fittings (galvanized)	0.30	0.14	0.15	0.06
10 ft. 24-in. c.-i. water pipe (leaded joints)	3.00	7.40	6.00	6.40
10 ft. 12-in. c.-i. water pipe (leaded joints)	1.25	2.90	3.00	2.40
10 ft. 8-in. c.-i. water pipe (leaded joints)	0.90	1.90	2.00	1.25
100 ft. 4-in. c.-i. water pipe (leaded joints)	0.60	1.20	1.00	0.75
1 20-in. air valve	*10.00	120.00	150.00	10.00
1 16-in. air valve	100.00	80.00	125.00	75.00
1 12-in. air valve	40.00	50.00	50.00	65.00
2 10-in. air valves, each	35.00	*70.00	40.00	50.00
3 8-in. air valves, each	25.00	*75.00	30.00	35.00
3 10-in. air valves, each	20.00	*60.00	40.00	65.00
5 4-in. air valves, each	15.00	12.00	15.00	10.00
50 2-in. railroad elbow unions, each	2.00	0.40	1.25	1.70
1 standard sanitary sewer manhole, 8 ft.	50.00	49.00	60.00	60.00
10 ft. extra depth in M.H. below 8 ft.	5.00	5.00	6.50	6.00
50 ft. concrete box drain, sect. X-X	1.25	1.15	2.00	0.55
1,000 man-hour labor (common)	0.25	0.30	0.40	0.35
1,000 team-hour teams	0.75	0.75	0.70	0.70
1,000 lb. castings	0.05	0.06	0.10	0.08
50 sq. yd. 10-in. shell roadway	1.00	1.00	0.75	0.99
50 sq. ft. standard cement sidewalks	0.15	0.16	0.16	0.12
1 M ft. lumber left in place, except sheet piling	25.00	22.00	30.00	35.00

*Added for comparison.

★**Houston, Tex.**—Following are unit figures of two bids opened June 23 by city for North Side Disposal Plant: (a) Horton & Horton, Houston, $186,549 (awarded contract); (b) H. C. Gass, Houston, $193,199.

	*(a)	(b)
Plant complete (except excavation), lump sum	$164,500.00	$168,290.00
6,500 cu. yd. excavation	1.25	1.30
25 cu. yd. Class I concrete	10.00	12.00
25 cu. yd. Class II concrete	12.00	14.00
175 cu. yd. Class III concrete	12.50	15.00
10,000 lb. reinforcing steel (new billet)	0.06	0.10
40,000 lb. reinforcing steel (rerolled)	0.05	0.10
100 cu. yd. waterproofing for concrete	1.50	1.50
6,000 lin. ft. round timber piling (untreated)	0.40	0.45
100 lin. ft. round timber piling (treated)	0.80	0.75
2 M ft. timber sheet piling (untreated)	80.00	55.00
1 M ft. timber sheet piling (treated)	60.00	90.00
2,000 lb. bolts and tie rods	0.10	0.10
10 ft. 36-in. reinforced concrete sewer (except excavation)	4.25	5.00
10 ft. 36-in. vitrified pipe sewer (except excavation)	5.50	6.00
10 ft. 30-in. vitrified pipe sewer (except excavation)	3.50	4.00
10 ft. 24-in. vitrified pipe sewer (except excavation)	2.00	1.60
10 ft. 6-in. vitrified pipe sewer (except excavation)	0.25	0.20
40 ft. 20-in. wrought-iron pipe	10.00	6.45
20 ft. 16-in. wrought-iron pipe	7.00	4.40
20 ft. 12-in. wrought-iron pipe	3.00	2.40
20 ft. 10-in. wrought-iron pipe	2.50	1.95
20 ft. 8-in. wrought-iron pipe	2.00	1.35
20 ft. 6-in. wrought-iron pipe	1.25	0.85
80 ft. 4-in. wrought-iron pipe	0.75	0.50
100 ft. 3-in. galvanized pipe	0.50	0.35
100 ft. 2-in. galvanized pipe	0.30	0.24
200 ft. 1½-in. galvanized pipe	0.20	0.19
200 ft. 1-in. galvanized pipe	0.15	0.13
200 ft. ¾-in. galvanized pipe	0.10	0.09
200 ft. ½-in. galvanized pipe	0.08	0.06
1,000 lb. pipe fittings (black)	0.10	0.05
1,000 lb. pipe fittings (galvanized)	0.15	0.06
10 ft. 24-in. cast-iron water pipe (leaded joints)	6.00	6.40
10 ft. 12-in. cast-iron water pipe (leaded joints)	3.00	2.40
10 ft. 8-in. cast-iron water pipe (leaded joints)	2.00	1.25
100 ft. 4-in. cast-iron water pipe (leaded joints)	1.00	0.75
1 20-in. air valve	150.00	10.00
1 16-in. air valve	125.00	75.00
1 12-in. air valve	50.00	65.00
2 10-in. air valves, each	40.00	50.00
6 8-in. air valves, each	30.00	35.00
6 10-in. air valves, each	40.00	65.00
10 4-in. air valves, each	15.00	10.00
100 2-in. railroad elbow unions, each	1.25	1.70
1 standard sanitary sewer manhole, 8 ft	60.00	60.00
10 ft. extra depth in manhole, below 8 ft	6.50	6.00
100 ft. concrete box drain, Section X-X	2.00	0.55
2,000 man-hour labor (common)	0.40	0.35
2,000 team-hour, teams	0.70	0.70
2,000 lb. castings	0.10	0.08
100 sq. yd. 10-in. shell roadway	0.60	0.99
100 sq. ft. standard cement sidewalks	0.16	0.12
2 M ft. lumber left in place, except sheet piling	30.00	35.00

Houston, Tex.—Following are unit figures of the two bids opened June 23 by city for constructing North Side (Willow Street) pumping plant: (a) Horton & Horton, Houston, $33,827; (b) H. C. Gass, Houston, $35,188.

	(a)	(b)
Plant complete (except excavation), lump sum	$24,900.00	$26,035.00
2,500 cu. yd. excavation	1.50	1.00
10 cu. yd. Class I concrete	10.00	9.00
10 cu. yd. Class II concrete	15.00	10.00
25 cu. yd. Class III concrete	15.00	11.00
20,000 lb. reinforcing steel (new billet)	0.06	0.10
20,000 lb. reinforcing steel (rerolled)	0.05	0.10
10 cu. yd. waterproofing for concrete	1.50	1.50
100 lin. ft. round timber piling (untreated)	0.40	0.45
100 lin. ft. round timber piling (treated)	0.80	0.75
1 M ft. timber sheet piling (untreated)	80.00	55.00
1 M ft. timber sheet piling (treated)	60.00	90.00
1,000 lb. bolts and tie rods	0.10	0.10
10 ft. 36-in. reinforced concrete sewer (except excavation)	4.25	5.00
10 ft. 36-in. vitrified pipe sewer (except excavation)	5.50	6.00
10 ft. 30-in. vitrified pipe sewer (except excavation)	3.50	4.00
10 ft. 24-in. vitrified pipe sewer (except excavation)	2.00	1.60
10 ft. 6-in. vitrified pipe sewer (except excavation)	0.25	0.20
10 ft. 20-in. wrought-iron pipe	10.00	6.45
10 ft. 16-in. wrought-iron pipe	7.00	4.40
10 ft. 12-in. wrought-iron pipe	3.00	2.40
10 ft. 10-in. wrought-iron pipe	2.50	1.95
10 ft. 8-in. wrought-iron pipe	2.00	1.35
10 ft. 6-in. wrought-iron pipe	1.25	0.85
10 ft. 4-in. wrought-iron pipe	0.75	0.50
10 ft. 3-in. galvanized pipe	0.50	0.35
10 ft. 2-in. galvanized pipe	0.30	0.24
10 ft. 1½-in. galvanized pipe	0.20	0.19
10 ft. 1-in. galvanized pipe	0.15	0.13
10 ft. ¾-in. galvanized pipe	0.10	0.09
10 ft. ½-in. galvanized pipe	0.08	0.06
100 lb. pipe fittings (black)	0.10	0.05
100 lb. pipe fittings (galvanized)	0.15	0.06
20 ft. 24-in. cast-iron water pipe (leaded joints)	6.00	6.40
10 ft. 12-in. cast-iron water pipe (leaded joints)	3.00	2.40
10 ft. 8-in. cast-iron water pipe (leaded joints)	2.00	1.25
10 ft. 4-in. cast-iron water pipe (leaded joints)	1.00	0.75
1 standard sanitary sewer manhole, 8 ft	60.00	60.00
5 ft. extra depth in manhole below 8 ft	6.50	6.00
1,000 man-hour labor (common)	0.40	0.35
1,000 team-hour, teams	0.70	0.70
1,000 lb. castings	0.10	0.08
100 sq. ft. standard cement sidewalks	0.16	0.12
1 M ft. lumber left in place, except sheet piling	30.00	35.00

St. Hyacinthe, Que.—Following are unit figures of the four bids opened June 28 by City Clerk for constructing a mechanical filtration plant, capacity 4,000,000 gal., to cost $75,000: (a) New York Continental Jewell Filtration Co., 15 Broad Street, New York, N. Y.; (b) Arsenault & Plamondon; (c) Roberts Filter Manufacturing Co., Darby, Philadelphia, Pa.; (d) American Water Softener Co., Tenth and Chestnut Streets, Philadelphia, Pa. Frederick E. Field, Filtration Engineer, Montreal, Que.

	(a)	(b)	(c)	(d)
Basins, reservoir, buildings, filter	$103,918.00	$90,590.00	$81,000.00	$82,547.00
Pumps, blower, switchboard, etc	22,620.00	21,874.00	20,242.00	13,180.00
Extension of filtered water reservoir	3,215.00	2,100.00	2,100.00	2,112.00
Equipment of Filter No. 4	4,814.00	5,550.00	5,200.00	4,898.00
New intake and appurtenances	6,600.00	8,300.00	4,730.00	4,500.00
Additional earthwork (cu. yd.)	2.00	1.00	0.75	0.80
Additional concrete (cu. yd.)	10.00	....	....	....
Additional concrete (cu. yd.)	20.00	16.00	17.00	10.00
Rebate for existing filters	900.00	200.00	200.00	500.00

★**Toledo, Ohio.**—Contract for constructing sanitary sewer No. 30 awarded Thomas J. Kelly, Toledo. G. Cooper, County Auditor.

★**Evansville, Ind.**—Contract for constructing Blackenburg sewer (bids opened June 20) awarded John L. Newman, 1325 Main Street, at $38,167, for a brick sewer. Howe Lant Company bid $37,495 for concrete pipe sewer. E. N. Frussu, Clerk Board Public Works.

★**Terre Haute, Ind.**—Contract awarded by Terre Haute Water Works Company to Kester Electric Company, Terre Haute, for additional generator for producing chlorine gas to sterilize and purify water. New equipment will increase capacity of plant to 10,000,000 gals. per 24 hours.

★**Escanaba, Mich.**—Contract for constructing the sewage disposal plant awarded Samuel Mills, Escanaba, at $32,-250 (bids opened June 15). Other bidder: John Lindsay, Escanaba, $33,500. Carl E. Anderson, City Clerk.

Milwaukee, Wis.—Lowest bids opened June 29 by Sewerage Commission, for constructing Section K, Kinnickinnic River Valley Low Level Intercepting Sewer (official Notice No. 19), submitted by Wisconsin Tunnel & Construction Company, Milwaukee, at $267,387.

★**Ankeny, Iowa.**—Contract for constructing water works (bids opened June 20) awarded Des Moines Bridge & Iron Company, Des Moines. Probable cost $12,000. A. L. Stebleton, Town Clerk.

★**Cedar Rapids, Iowa.**—Contract for constructing sewer and water extensions in Bever Woods addition awarded by Park Avenue Realty Co. to W. A. Edgar.

★**St. Paul, Minn.**—Council approved letting of contract to O'Neil & Preston, Ashland and Syndicate Streets, for constructing Jefferson Cretin Sewer system, at $34,196.

★**Jamestown, N. D.**—Contract awarded William Danforth, St. Paul, Minn., for constructing a sewage disposal plant and sewers at $68,500, and for motor-driven air compressor at $1,200. Bids opened June 23 by City Council. L. P. Wolff, Engineer, St. Paul, Minn. J. M. Hansen, City Engineer.

★**Three Forks, Mont.**—Contract is reported awarded by City Council to Security Bridge Company, Billings, for constructing a pumping station, installing pumps and other equipment, at $7,566.

★**Harrison, Ark.**—Contract for constructing waterworks (bids open June 26 by Board Commissioners Water Improvement District No. 1) awarded Plummer Adams Company, Springfield, Mo., at $44,-407. W. O. Galbreath, Consulting Engineer, Harrison.

★**Seattle, Wash.** — City Purchasing Agent has recommended to Board Public Works contract for furnishing 500,000 ft. 12-in. wood-stave pipe for city pipeline, delivered at Noble, awarded to Fir Tree Lumber Company, Seattle, at $23.50, and for 300,000 ft. 12-in., delivered at Sandstrom, awarded to Wood & Iverson, Seattle, at $23.50. L. B. Youngs, Superintendent of Water.

★**Myrtle Creek, Ore.**—Contract for constructing sewerage system awarded by City Council to Edward Sandberg of Portland at $14,000.

★**Stockton, Cal.**—Contract for completing the Oak Street sewer awarded Frank C. McIntyre, Stockton, at $49,540. Next three lowest bidders: Chambers & Heafey, $53,899; Frank S. Ostrander, $59,121; and Tibbetts Pacific Construction Company, $61,290.

★**Victoria, B. C.**—Contracts for c.-i. pipe awarded Balfour Guthrie & Company for 3300 ft. 12-in. at $46.30 per ton and for 600 ft. 8-in. at $46.30. W. Galt, City Purchasing Agent.

STEEL BRIDGE WORK

PROPOSED WORK.

Buffalo, N. Y.—Contract soon to be let by Colson & Hudson, Archts., 35 Dun Building, for two-story and basement, 94 x 150-ft. brick and steel store and loft building, to be erected at Delaware Avenue and Johnson Park for Mitchell, Parker & Brown; estimated cost, $80,000.

White Plains, N. Y.—The construction of a bridge at Hamilton Avenue over Bronx River, to cost $17,630, is under consideration by Council. Address City Clerk.

Paxtang, Pa.—See "Reinforced concrete."

Pittsburgh, Pa.—County Commissioners considering constructing four-track bridge to replace Bellevue High Bridge.

Miami, Fla.—City Council directed plans be prepared for constructing bridge at Avenue G, at cost of $40,000.

Miami, Fla.—See "Foundations, Piers and Dams."

Birmingham, Ala.—The replacing of some and reconstruction of other of the older iron and steel bridges in Jefferson County is under consideration by County Board of Revenue. The bridges were constructed for a 10-ton load and may be reconstructed for a 20-ton load. George H. Clark, Highway Engineer.

Hartford, Ky.—Contract soon to be let by Fiscal Court of Ohio County for furnishing all steel reinforcement required to build two 24-ft. clear spans "T" beam bridges. George G. Fetter & Company, Louisville, Ky., have plans on file.

Youngstown, Ohio.—Temple of Moose Lodge, No. 79, will erect a 7-story fireproof steel, sandstone and brick lodge building at West Boardman Street, according to plans by G. A. Edelsvard.

Lewistown, Ill.—Board of Supervisors appropriated $12,000 for constructing Indian Ford Bridge in Young Hickory Township. Address County Clerk.

Great Falls, Mont.—See "Reinforced Concrete."

BIDS DESIRED.

Holyoke, Mass.—Until July 21, by Board Public Works, for steel and concrete bridge, advertised in Engineering Record.

New York, N. Y.—Until July 10, by William Williams, Commissioner Water Supply, Gas and Electricity, for painting a fence around Jerome Park Reservoir. Security, $1,000.

Hackensack, N. J.—Until July 12 by Board Chosen Freeholders (James M. Harkness, Clerk), for repairs to Anderson Street Bridge, advertised in Engineering Record.

Easton, Pa.—Until July 28 (readvertisement), by R. E. Ritter, Commissioner's Clerk, for strengthening and relaying floor on bridge over Monocacy Creek at Bethlehem.

Petersburg, Va.—Until Aug. 15, by R. D. Budd, City Engineer, for constructing a viaduct about 1800 ft. long and 40 ft. high on Second Street, across tracks of Norfolk & Western Ry. and the Atlantic Coast Line R. R., and also to cross Appomattox River, advertised in Engineering Record.

Newman, Ga.—Until Aug. 4 by County Commissioners Roads and Revenues for constructing a steel bridge across Charrahoochee River at Moores Ferry on Newman and Carrollton Roads. T. G. Farmer, Jr., Clk Comrs.

Louisville, Ky.—Until July 29 by U. S. Engineer Office, Louisville, for a steel hull and derrick for Dredge Casey, advertised in Engineering Record.

Lowellville, Ohio.—See "Waterworks and Sewerage Systems."

Ottawa, Ohio.—Until July 22, by County Commissioners, for constructing following bridges: McDoygle bridge, Palmer Township, concrete abutments around the iron piling; Knueve bridge, Jennings Township, new concrete abutment; Dan Forney bridge, Jennings Township, a new top, West Schierloh, a new concrete bridge; John Forney bridge, Palmer Township, a new bridge; H. Sybert bridge, Jackson Township, a new top and wing extension, retaining wall between Sections 19 and 20, Pleasant Township. John E. Roose, Co. Aud.

Warren, Ohio.—Until July 31, by County Commissioners (W. L. Hoffman, Clk.) for constructing Halstead Bridge, also Sweet, Parrish and Hoskins bridges of Mesopotamia Township.

Saginaw, Mich.—Until July 18 by City Clerk for building pile piers, pile trestle, raising present draw span 3 ft. and constructing one 120-ft. Pratt truss and one 150-ft. Pratt truss in the repairing and rebuilding of Mackinaw Street Bridge advertised in Engineering Record. Herman H. Hymer, City Engineer; George Holcomb, Commissioner Public Works.

Pepperton, Minn.—Reported desired until July 11, by C. W. Amberg, Town Clerk, for constructing 40 ft. steel truss span, 18-ft. roadway.

Girard, Kan.—See "Reinforced Concrete."

Phillipsburg, Kan.—Reported desired until July 10, for constructing steel truss bridge near Long Island and four-span reiiforced concrete bridge near Glade. W. W. Warner, Phillipsburg, Clerk.

La Moure, N. D.—Until Aug. 8 (readvertisement) for constructing a 2100-ft. span steel bridge, 16-ft. approach at each end, concrete floors. O. C. Temple, Co. Aud.

Lineus, Mo.—Reported desired until July 10, for constructing 13 steel bridges. J. B. Rogers, County Engineer.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Ogdensburg, N. Y.**—Contract for constructing Ogdensburg Viaduct awarded to Mecca Constr. Co. of Morristown, at about $50,000.

East Brady, Pa.—See "Paving and Roads."

Roanoke, Va.—See "Reinforced Concrete."

★**Lynch, Neb.**—Contract for constructing steel bridge over Niobrara River at Lynch awarded to Western Bridge & Constr. Co. of Omaha, at $12,000. The State, Boyd and Holt Counties will share cost of structure.

★**Seattle, Wash.**—Contract awarded by Board of Public Works to Chicago, Bridge & Iron Works, Chicago, Ill., for steel water tower at $27,940. L. B. Youngs, Superintendent Water.

★**Chico, Cal.**—Contracts awarded by Northern Electric Ry. Co. for constructing steel bridge over American River and a bridge over Feather River near Oroville, to Missouri Valley Bridge Co. of Leavenworth, Kan., at about $55,000.

★**Cap Madeleine, Que.**—Contract for structural steel work for new mills of St. Maurice Paper Company awarded Structural Steel Company of Montreal.

REINFORCED CONCRETE

PROPOSED WORK.

Fall River, Mass.—Wilfred Sylvan, North Main Street, intends erecting two-story, 90 x 112-ft. concrete and brick garage on Rolson Street.

Pine Valley, N. J.—Philadelphia & Reading R. R. (Samuel T. Wagner, Ch. Engr., Philadelphia, Pa.) will erect a one-story brick and concrete passenger station.

Lancaster, Pa.—Dillon, McLielan & Beadle, 3 W. Twenty-ninth Street, New York, N. Y., has prepared plans for a three-story concrete brick and stone dormitory and a one-story refractory to be erected at the Reformed Theological Seminary.

Paxtang, Pa.—Reported Park Dept. at Harrisburg considering constructing a $30,000 concrete bridge or a $15,000 girder structure over Reading Ry. Co.'s tracks at Paxtang to connect links of Boulevard. E. Z. Gross, Park Commissioner, Calder Bldg., Harrisburg.

Philadelphia, Pa.—Andrew J. Sauer Company, 1112 Chestnut Street, have completed plans for a three-story concrete and steel loft building to be erected at 1219 Vine Street for Claude S. Jarvis.

Bell Telephone Company, 1230 Arch Street, will erect a five-story concrete and brick warehouse and office building at 950 North Hancock Street.

Fairmont, W. Va.—Plans completed by Milburn, Heister & Company, Washington, D. C., for a 5-story, 47 x 150 ft. brick, concrete and terra cotta hotel, to be erected by the Fairmont Hotel Company.

Detroit, Mich.—The Detroit Seamless Tube Co. secured site at Ford and Boyd Streets and will erect addition to plant of reinforced concrete construction.

Milwaukee, Wis.—Plans being prepared by Martin Tullgren & Sons, 133 Second Avenue, for two-story, 84 x 120 ft., concrete store and office building to be erected at Thirty-sixth Street and North Avenue for Jacob Strass and leased to F. W. Woolworth Co.; cost about $50,000.

Mankato, Minn.—See "Industrial Plants and Warehouses."

Abilene, Kan.—A 2-story and basement brick, stone and concrete fireproof high school costing $125,000 is to be erected. W. A. Stacey, Superintendent of Schools.

Larned, Kan.—It is proposed to reconstruct O'Rourke Bridge, reinforced concrete on pile foundation; two plans, 60 ft. each. W. E. Ware, County Clerk, Larned.

Topeka, Kan.—County Commissioners intend appropriating following sums for constructing bridges to replace present bridges: One over Soldiers Creek in Menoken Township, costing $13,149; one over Soldiers Creek in Soldier Township at Kansas Avenue, $13,316; over Wakarusa Creek, between Williamsport and Auburn Townships, $11,468; over Blacksmith Creek in Dover Township, $7,696, and over Deer Creek in Topeka Township, $7,983. O. K. Swayze, County Clerk.

Kansas City, Mo.—Curtis Hill, City Engineer, is preparing plans for a trafficway to be constructed along West Bluff, about one mile in length. Concrete piers to rock base and roadway supported on concrete girders. It will have a north and south connection with lower level of Twelfth Street viaduct, and cost about $200,000; money available.

Preliminary surveys, plans and estimates of cost have been submitted to city officials, street railway company, the four railroads interested and the stock yard company, for the proposed Twenty-third Street viaduct to connect the new high line bridge over Kaw River at the state line. Cost estimated at $560,000. Harrington, Howard & Ash, Engineers, Kansas City, Mo. Main structure will be 1726 ft. long, first approach to main structure 900 ft. and second approach 530 ft. viaduct over all 68 ft., and will provide for both street car and vehicle traffic. Constructed of reinforced concrete except certain spans over railroad tracks, which will be steel encased in concrete.

Sherman, Tex.—It is proposed to erect a reinforced concrete and brick administration building at Austin College, to cost $100,000. Thurman Stuart, Register.

Colfax, Wash.—John M. McCaw, County Engineer, has been directed by County Commissioners to prepare plans and estimate of the cost of constructing a concrete bridge over South Palouse River.

Seattle, Wash.—Daniel Huntington, City Architect, instructed to prepare plans for a fireproof concrete and brick fire station 40 x 40 ft., 2 story, to be erected at Madison Street and Railroad Avenue; cost $40,000. Address C. B. Bagley, Secretary Board Public Works.

Seattle, Wash.—Reported the Willys-Overland Company will erect a 130 x 200 ft. 4-story reinforced concrete building costing $160,000.

Reported contract soon to be let by American Can Company of Portland, Ore., for erecting in Seattle, at Railroad Avenue and Elliott, Clay and Cedar Streets, a 4 or 5-story reinforced concrete, 120 x 140 ft. factory, with dock covered by a one-story warehouse. Cost estimated at $250,000.

Los Angeles, Cal.—Plans being prepared by Train & Williams, 226 Exchange Building, for a three-story and basement reinforced concrete laundry building, 108 x 200 ft., to be erected at Eighth Street and Towne Avenue for Diamond Laundry Company.

Plans to be prepared by George W. Eldridge, 435 Consolidated Realty Building, for a four-story and basement apartment house, probably brick and concrete, to be erected at West Eighth Street and Union Avenue for E. K. Green; cost $150,000.

San Francisco, Cal.—Steps being taken to erect two-story, reinforced concrete, Central Emergency Hospital, at Polk Street and Ivy Avenue; cost approximately $100,000.

BIDS DESIRED.

Holyoke, Mass.—See "Steel Bridge Work."

Somerville, N. J.—Until July 18, for constructing new bridges and repairing present bridges as follows: Repairs to Millers Avenue bridge, Branchburg Township, concrete slab, parapets, etc.; Green Knoll bridge, on Pluckemin Road, concrete slab, reinforced by I beams, parapets, etc.; Hawley bridge, on Pluckemin Road, concrete slab, reinforced by I beams; Smith Green House bridge, Pluckemin Road, concrete slab, reinforced; Powelson bridge, on Pluckemin Road, abutments walls, concrete walls, etc.; Horton bridge, Warren Township, addition to culverts, concrete slab, retaining walls, etc.; Dan Cory bridge, Warre Township, waterway to be paved, also apron for spillway of adjoining dam; bids on last seven bridges to be per cu. yd. for work. J. Doughty, Jr., County Engr.

Connellsville, Pa.—By School Board for erecting the high school, to cost $170,000. Concrete foundation and brick superstructure.

Harrisburg, Pa.—Reported desired until July 19, for erecting four-story brick and reinforced concrete 50 x 400 ft. with wing one story 20 x 400 ft. freight station, for the Pennsylvania Railroad Company. Alex. C. Shand, Ch. Engr., Philadelphia.

Lewisburg, Pa.—Until July 22, by G. T. Buehl, Commissioner's Clerk, for constructing a concrete girder bridge over Rapid Run at Forrest Hill, to cost $2,400. Walter Frick, Engineer, Pittsburgh.

Yukon, Pa.—Reported desired until July 15, by John Sell, County Controller, for constructing a reinforced concrete bridge over Sewickley Creek, in Sewickley Township.

Chestertown, Md.—See "Buildings."

Chicago, Ill.—Until July 10, by Superintendent of Public Service, County Building, Chicago, for constructing Wireton Bridge, 45-ft. span, 20-ft. roadway, reinforced concrete, in Worth Township, Cook County; estimated cost $3,250.

Galva, Ill.—Until July 17, by James H. Reed, County Superintendent of Highways, Cambridge, for constructing two reinforced concrete bridges.

Prairie Du Chien, Wis.—Until July 27 by W. H. Turbitt, City Clerk, for constructing a reinforced concrete girder bridge of 250-ft. spans with 30-ft. roadway and two 6-ft. walks, together with earth fill at each end of bridge. W. G. Kirchoffer, Engineer, 22 North Carroll Street, Madison; W. H. Turbitt, City Clerk.

Belgrade, Minn.—Reported desired until July 17, for constructing concrete culverts and concrete retaining walls. Address Town Clerk.

Shakopee, Minn.—Reported desired until July 11, by A. J. Mayer, County Auditor, for bridge on concrete abutments with concrete floors.

St. Cloud, Minn.—See "Excavation, Drainage and Dredging."

Girard, Kan.—Reported desired until July 24, by C. C. Everett, Co. Clk., for constructing four steel and concrete bridges.

Phillipsburg, Kan.—See "Steel Bridge Work."

Westmoreland, Kan.—Reported desired until July 12, by Geo. H. Hungerford, County Clerk, for constructing two 260-ft. span bridges over Blue River with reinforced concrete abutments. J. E. Williams, County Engineer.

Covina, Cal.—Until July 17 by John F. Blee, Archt., 515 Union League Building, Los Angeles, for erecting two-story, 76 x 127-ft. administration building and two two-story, 52 x 81-ft. dormitories, all of reinforced concrete and brick, for Masonic Orphan Home of California.

Salt Lake City, Utah.—Reported desired until July 17 for constructing a concrete bridge across Jordan River at Twenty-first Street south. Probable cost, $9,000. Address County Commissioners.

Dominion City, Ont.—Until July 10, by John R. Witty, Secy.-Treas. Municipality of Franklin, for constructing reinforced concrete arch and a concrete culvert at Dominion City.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Connecticut.**—Contract awarded by State Highway Commissioner Hartford, for constructing a 5-span concrete bridge from Derby to Huntington to Arthur McMullen & Company, 149 Broadway, New York, at $248,725.

★**Willimantic, Conn.**—Contract reported awarded by American Thread Company to Amerthaw Construction Company of Boston, Mass., for erecting a two-story concrete dyehouse and a seven-story 200 x 110-ft. concrete storehouse.

★**Buffalo, N. Y.**—Contract awarded by Fleischman Malting Company to Tifft Construction Company, Iroquois Building, for erecting additional grain storage bins, 35 x 87 x 85 ft., of reinforced concrete, at malting plant, Niagara Street, Erie Railroad and Erie Canal; cost, $27,000.

★**Philadelphia, Pa.**—Contract awarded Warren, Moore & Company, Commercial Trust Building, for erecting three-story brick, stone and concrete school, at Fifty-fifth and Chestnut Streets; cost $180,000.

★**Roanoke, Va.**—Contract awarded Irwin & Leighton, Twelfth and Cherry Streets, Philadelphia, Pa., for erecting three- and five-story and basement brick, concrete and steel manufactory; cost $500,000. Ballinger & Perrot, Architects, Methodist Building.

★**Birmingham, Ala.**—Contract awarded E. F. Hettrick Engineering Company, Birmingham, for erecting a 5-story reinforced concrete fireproof, dust proof and vermin proof addition to plant of Birmingham Ice & Cold Storage Company; cost $50,000.

★**Many, La.**—Contract for erecting reinforced concrete fireproof court house awarded Caldwell Brothers of Abbeville; cost, $85,000.

★**Winnfield, La.**—Contract awarded by Police Jury for constructing seven concrete bridges along pike across Dugdemonia River to Blodgett Construction Company, Kansas City, Kan.

★**Indianapolis, Ind.**—Contract awarded by Gill-Buennagel Realty Company to Bedford Stone and Construction Company, Indianapolis, for erecting five-story reinforced concrete hotel at Washington Street and Senate Avenue; cost about $200,000.

★**Benton Harbor, Mich.**—Contract awarded Illinois Bridge Company, Chicago, Ill., for constructing two-span concrete bridge across Paw Paw River, known as North Shore Drive; also a single span reinforced concrete bridge on Britain Avenue (bids opened June 19 by City Council).

★**Lewis, Iowa.**—Three lowest bids opened June 27 by Board of Education (G. E. Weaver, Secretary) for erecting brick and concrete school were: Read MacDonald & Brewster, Minneapolis, Minn., $48,953 (awarded contract); Young & Woodward, Mt. Ayr, $49,544, and H. F. Jones, Cedar Falls, $49,445.

★**Galveston, Tex.**—Contract awarded Stone & Webster Engineering Corporation, 147 Milk Street, Boston, Mass., for rebuilding Section D of concrete warehouse at Pier 39 of Galveston Wharf Company, destroyed by fire.

★**Brawley, Cal.**—Contract awarded Sierra Construction Company, Riverside, for erecting reinforced concrete cold storage building, 100 x 100 x 40 ft.; frame and corrugated iron ice factory, 100 x 80 x 20 ft. and timber icing dock, 860 x 14 x 15 ft., for Southern Sierras Power Company, Riverside cost $100,000. Capacity about 90 tons daily and storage capacity 5000 tons. C. M. Gay & Son, Engineers, 535 Towne Avenue, Los Angeles.

California.—Following are two bids opened June 26 by State Highway Commission, Sacramento, for constructing two reinforced concrete bridges in Shasta County, Division II, Route 3, Section C: Engineer's estimate (a) Sacramento River Bridge, $17,239 and (b) Salt Creek Bridge, $4,218. Ross Construction Company, Sacramento (a) $22,312; (b) $3,600; Howard S. Williams, San Francisco (a) $14,105; (b) $3,939.

★**San Francisco, Cal.**—Contract awarded J. Spargo, 240 Montgomery Street, for erecting brick engine house on concrete foundation at Mint Avenue and Fifth Street at $27,450.

★**Ventura, Cal.**—Contract for constructing concrete tile trestle bridge of fifteen 30-ft. spans with timber deck, concrete abutments, over east channel of Sespe Creek ¼ mile west of Fillmore, awarded to L. C. Rudolph of Ventura at $9,850.

★**Puerto Plata, Santo Domingo.**—Contract for constructing a reinforced concrete wharf and approach to same on reinforced concrete piles at Port of Puerto Plata (bids opened June 15), awarded by Director General Public Works A. J. Collett, Santo Domingo City, to Leonard Construction Company, 17 Battery Place, New York, at $115,888. J. T. Collins, Chief Engineer, Santo Domingo City.

ROADS AND PAVING

PROPOSED WORK.

Batavia, N. Y.—Genesee County Board of Supervisors considering the plans of the Alabama Batavia improved highway, part 1 and 2, which is the improvement of the Lewiston Road to the Batavia city line, through Oakfield. Part 1 involves 7.94 miles, the expenditure of $105,700; part 2, 7.6 miles, $58,305.

Salamanca, N. Y.—About one mile of paving is to be laid next spring. Address City Engineer.

Camden, N. J.—City Council will pave with sheet asphalt on 6-in. concrete foundation Cramer, Lindon, Erie, Morton and Twenty-seventh Streets, and with Belgian blocks on concrete foundation Elm Street. W. D. Brown, City Clerk.

Newark, N. J.—Boards of Street and Water Commissioners adopted resolutions for paving with 2-in. asphalt block pavement on 6-in. concrete foundation Cedar Avenue from South Orange Avenue to Mountain View Avenue. Address Clerk of Boards.

Finance Committee of Board of Chosen Freeholders sold $75,000 road bonds. Address Clerk of Board.

New Brunswick, N. J.—City Commissioners adopted resolutions for regulating, grading, curbing with brick, asphalt block or Warrenite, Washington, Hartwell, Hamilton, Bishop, Redmond, French and Sanford Streets. Charles A. Oliver, Street Commissioner.

Rutherford, N. J.—New bids to be asked for paving portions of Pierpont and Orient Avenues and the Terrace (bids opened June 30 rejected). F. L. Steelman, Borough Clerk.

Clearfield, Pa.—Citizens voted $75,000 bond issue for street improvements. Address Borough Clerk.

Johnstown, Pa.—The 2½ miles of Laurel Run Road rejected by Township Trustees will be done by day labor under supervision of O. P. Thomas, Engineer, Johnstown.

Spangler, Pa.—See "Water Works and Sewerage Systems."

Baltimore, Md.—The Board of Awards approved specifications for contracts 137, 138 and 139, including paving of Morris Alley with cement, concrete and brick; Hamilton, Mulberry and Pleasant Streets with vitrified blocks, etc.

Easton, Md.—County Commissioners sold $60,000 road and bridge bonds. Address County Clerk.

Washington, D. C.—House passed bill authorizing issuing $75,000 to States and $10,000,000 for roads in national forests.

Fayetteville, Va.—Road bonds for $1,050,000 will be sold July 31 by Fayette County Commissioners at Fayetteville.

Houston, Va.—County Commissioners plan constructing about 50 miles of road between Brookneal and Virgilina. Address Gran Craddock, County Clerk.

Clarksburg, W. Va.—D. D. Britt, Clarksburg, completed plans for 17 miles of concrete road to be constructed in Ritchie County, from Doddridge County line at Toll Gate to point 2 miles west of Ellenboro.

Huntington, W. Va.—Paving bonds for $200,000 will be sold July 20 by County Court (D. L. Smith, Pres.).

Parkersburg, W. Va.—Citizens of Lubeck District voted $100,000 bonds for building permanent roads.

Wellsburg, W. Va.—Paving bonds for $800,000 will be sold July 14 by County Court at Wellsburg, advertised in Engineering Record.

Birmingham, Ala.—George H. Clark, County Highway Engineer, preparing survey of Taylor's Ferry Road to Warrior River. This road will be constructed by convict force.

Tupelo, Miss.—County Commissioners plan constructing 50 miles of macadam road. Address County Clerk.

Erwin, Tenn.—See "Bids Desired."

Memphis, Tenn.—Street improvement bonds for $38,000 will be sold July 11 by C. C. Pashby, City Clk.

Paving bonds for $175,000 will be sold July 10 by C. C. Pashby, City Clerk.

Cynthiana, Ky.—County Commissioners plan constructing 40 miles of road. W. R. Curle, County Court Clerk.

Campbellsville, Ky.—County Commissioners plan constructing 2 miles of road. Address County Clerk.

Frankfort, Ky.—All bids opened June 24 by County Commissioners for constructing Ohio River Road rejected, and work will be done by force account.

Deshler, Ohio.—Plans and specifications being prepared for paving with brick on concrete foundation on Maple Street; estimated to cost $30,000. R. W. Hoskinson, City Clerk.

Forest, Ohio.—Village Council sold $10,000 street improvement bonds. Address Village Clerk.

Greenfield, Ohio.—County Commissioners decided to issue $50,000 bonds for repair to county pikes. Address County Clerk.

Louisville, Ohio.—Paving bonds for $12,000 will be sold July 8 by Dallas Allison, Village Clk.

Cleveland Heights (P. O. Warrensville) Ohio.—Paving bonds for $35,110 will be sold July 17, by H. H. Canfield, Village Clerk.

Cuyahoga Falls, Ohio.—Road bonds for $92,500 have been sold by County Commissioners. Address County Clerk.

Kent, Ohio.—Paving bonds for 11,000 will be sold July 22, by Fred Bechtle, Village Clk.

New Washington, Ohio.—Village sold $23,813 street improvement bonds.

Norwood, Ohio.—Street improvements bonds for $130,000 have been sold. Address City Clerk.

Plainesville, Ohio.—Road bonds for $38,000 have been sold by the County Commissioners.

Wapakoneta, Ohio.—Contract will be let some time in August for about 8000 sq. yd., brick or asphalt paving on Middle and West Auglaize Streets, with 6000 ft. concrete curb and gutter: Cost $35,000. H. C. Wintz, Director Public Service.

Zanesville, Ohio.—Paving bonds for $44,000 will be sold July 27 by Cecil W. Tanner, County Aud.

Brazil, Ind.—Road bonds for $13,400 for David Keller Road, Harrison, Lewis and Perry Townships, sold. Address County Clerk.

Columbus, Ind.—About $139,500 Krause, Thompson, Scheidt and Stewart Road bonds sold. Address Edward Suverkrup, Treas.

Portland, Ind.—The Commissioners Court considering improving six miles Redkey and Pennville Pike, in Knox Township.

Lansing, Mich.—Citizens voted $56,000 bonds for paving Kalamazoo, Larch, Baker, Bingham and Walnut Streets, and $15,000 for repaving Michigan Avenue. E. G. Eddy, City Engineer.

Newberry, Mich.—County Commissioners plan paving 8 miles of road with macadam. Address Perry Leighton, County Clerk.

Carmi, Ill.—County Commissioners plan constructing 10 miles of gravel road. Address Matthew Martin, County Clerk.

Rock Island, Ill.—City Commission voted to pave with brick Railroad Avenue, Forty-fifth Street and Tenth Avenue, cost about $23,476. Wallace Triechler, City Engineer.

Hudson, Wis.—County Commissioners plan spending $30,000 for roads. Address H. S. Offerdahl, County Clerk.

Oshkosh, Wis.—It is proposed to pave with tar macadam on New York Avenue, Fifteenth and other streets, including cement curb and gutter. G. H. Randall, Engineer, Oshkosh.

Des Moines, Iowa.—The City Council voted $36,810 for paving St. Catherine and Dorchester Streets.

Sidney, Neb. — County Commissioners plan grading 30 to 40 miles of road. L. H. Bordwell, County Surveyor.

Anaconda, Mont.—County Commissioners propose constructing a concrete highway ½ mile long, 16 ft. wide, near Anaconda. E. A. Crails, County Engineer; Ray Reardon, County Clerk.

Butte, Mont.—City Council authorized paving of South Montana Street, bids to be asked on bitulithic, asphaltic concrete, wood blocks, brick, etc.

Missoula, Mont.—Contract about to be let for 181,296 sq. ft. pavement on Higgins Avenue. Address City Clerk.

Albany, Mo.—Contract will be awarded late in July by city for constructing 20 blocks of concrete pavements.

Kansas City, Mo.—The Park Board will spend $35,000 for grading and paving Hickman Mills and Seecrist Roads.

Joplin, Mo.—City Commission voted to pave West Twentieth Street with brick.

City Council voted to pave 20 blocks on Fourth Street with concrete, 12 blocks on Seventh, Joplin, West Streets with vertical fiber brick.

Liberty, Mo.—Citizens voted $1,250,000 bonds for constructing rock roads. Address County Clerk.

Conway, Ark.—City Council has organized the Sixth Paving District. About 10 blocks to be paved.

Little Rock, Ark.—The paving, probably macadam with asphalt filler, of Prospect Avenue, from Forest Park, a distance of 3½ miles, is under consideration. Address City Clerk.

Bonham, Tex.—Attorney General has approved $140,000 Fannin County Road District No. 6 bonds and $80,000 District No. 8 bonds. Address County Clerk.

Frost, Tex.—Citizens June 15 voted $180,000 bonds for road improvements; about 40 miles. H. P. Johnson, County Auditor.

Mt. Pleasant, Tex.—Attorney General has approved $69,000 bonds for Titus County Road District No. 8. Address County Clerk.

Palestine, Tex.—Citizens of Frankston and Neches Dists. voted $175,000 road bonds.

Quitman, Tex.—Citizens of Road District No. 4 voted $18,000 bonds for road improvements. H. A. McCreight, County Clerk, Quitman.

Sherman, Tex.—Citizens, June 24, voted $50,000 bonds for paving and $50,000 bonds for waterworks and constructing reservoir. O. J. S. Ettingson, City Manager.

Wichita Falls, Tex.—Paving bonds for $40,000 will be sold July 10 by V. G. Skeen, City Clerk.

Winnsboro, Tex.—Citizens June 17 voted $50,000 bonds for road work in District No. 5.

Palouse, Wash.—Contract soon to be let by city for paving Bridge, Beach and K Streets. Address J. J. Johnson, City Clerk.

Port Townsend, Wash.—County Commissioners voted spending $12,000 toward constructing road to Leland Valley. Plans will be prepared by Guy D. Edwards, County Engineer.

Port Townsend, Wash.—Guy D. Edwards, County Engineer, has been instructed by the County Commissioners to prepare plans for a road from end of Permanent Highway No. 1 to Center, 4 miles; cost $40,000.

Seattle, Wash.—Contract will soon be let by Board of Public Works for paving with asphalt Thirteenth and Fourteenth Avenues, East Adler Street and Remington and Terrace Courts. A. H. Dimock, City Engineer.

Council is considering the grading, regrading and extending of Western Avenue at cost of $111,474.

Reported contract soon to be let by C. B. Bagley, Secretary Board Public Works, for paving Fourteenth Avenue South, from East Marginal Way to Dallas Avenue; cost about $100,000.

Medford, Ore.—J. H. Ball, Engineer, Portland, will survey proposed Medford-Crater Lake Road to be constructed this year. Estimated cost $60,000.

Auburn, Cal.—Citizens, June 27, voted $25,000 bonds for paving. M. H. Wallace, City Clerk.

Ogden, Utah.—The County Commissioners will spend $10,000 for road improvements.

Kellogg, Idaho.—Contract will soon be let by City Council for paving ½ mile of Main Street. Estimated cost $10,189. Address City Clerk.

Twin Falls, Idaho.—Reported contract will be let latter part of July for paving Shoshone Street; cost $28,360. J. A. Bybee, City Engineer.

Verdum, Que.—It is proposed to pave about 30,000 sq. yd. with asphalt macadam, including 13,200 lin. ft. concrete curb and gutter at a cost of $60,000. H. E. Tanner, City Engineer, Montreal, Que.

BIDS DESIRED.

Massachusetts. — By State Highway Commission, 212 State House, Boston, for following roads:

Until July 10:

Brookline, grading and surfacing Lee Street, about 3300 ft.

Until July 11:

Oxford, constructing section of State Highway, about 4000 ft.

Agawam, for constructing a section of highway in town.

Dudley, for constructing section of State Highway, about 4700 ft.

Washington, for section of State Highway, a distance of about 12,000 ft.

Buffalo, N. Y.—Until July 14, by Dept. Public Works (Arthur W. Kreinheder, Comr.), for paving portions of Taft Place, Parside, Asher Avenue and other streets.

Oneida, N. Y.—Reported desired until July 11, for paving with brick or bitulithic. Probable cost $20,000. J. M. Hutton, City Engineer.

Oneida, N. Y.—Until July 14, by S. Bateman, City Clerk, for 5070 sq. yd. brick or bitulithic pavement on Cedar Street, including 3323 lin. ft. concrete curb; cost $20,000. J. M. Hutton, Engineer, Oneida.

Fairview, N. J.—Until July 24, by Mayor and Council, for reconstructing Bullsferry Road, with block pavement, hillside amiesite, macadam and Topeka surface, laid on concrete and macadam foundation, in all about 18,275 sq. yd. of surface pavement and same amount of foundation. H. Lycus, Clk.

Newark, N. J.—Until July 13, by Board Freeholders, for furnishing and laying liquid asphalt on 100,000 sq. yd., more or less. Wm. Cardwell, Chairman Board Freeholders.

Somerville, N. J.—Until July 25, by Board Freeholders, for constructing McCurdy Road. Joshua Doughty, County Engineer.

Baltimore, Md.—Until July 12, by Board of Awards, care of City Register, for grading and paving with cement concrete a number of alleys. R. M. Cooksey, Highway Engineer.

Reported desired until Aug. 7, by Bd. of Awards, for paving Calvert Street; cost, $20,000.

Miami, Fla.—Reported desired until July 10, by W. B. Moore, City Clerk, for 60,000 sq. yd. paving with asphaltic concrete. B. H. Klyce, City Engineer.

Birmingham, Ala.—Until Aug. 14, by County Board of Revenue, for constructing a road from Wylam to Warrior River, a distance of about 14 miles. G. H. Clark, County Engr.

Hamilton, Ala.—Reported desired until July 15, by Mack Pearce, Judge of Probate, for 6⅛ miles of gravel road under two contracts.

Amite, La.—Reported desired until July 25, by Board Supervisors, Road Dist. No. 3, for 20 miles of road. John E. Kerrigan, Engineer, Hammond.

Lake Charles, La.—Until July 27 by Andrew Cook, City Clerk, for paving with vertical fibre brick on Lawrence Street, about 4700 sq. yd. advertised in Engineering Record. E. L. Gorham, City Engineer.

Erwin, Tenn.—Until July 12, by Town (N. T. Tucker, Mayor), for street paving, guttering, etc. Paving bonds $12,000 to $20,000 will be sold July 10 by O. E. Bogart, Recorder.

Murfreesboro, Tenn.—Until July 11, by Secretary Board Commissioners, for furnishing material and paving, lighting and other improvements, advertised in Engineering Record. G. B. Howard & Company, Engineers, 150 Fourth Avenue, N. Nashville, Tenn. G. B. Giltner, Mayor.

Covington, Ky.—Until July 14, by John B. Dillon, Clk., Kenton County Court, Covington, for improveing the Covington and Lextington Turnpike State Aid Road in Kenton County, to consist of 39,060 sq. yd. brick, 52,100 sq. yd. brick shaping, 7600 su. yd. concrete, 52,100 sq. yd. concrete shaping, 52,100 sq. yd. Warrenite shaping, 36,060 sq. yd. Warrenite surfacing, 52,100 sq. yd. Tarvia shaping, 87,875 gal. Tarvia and 52,079 gal. gluterin, etc.

Hopkinsville, Ky.—Until July 12, by Road Commission, at Court House, Hopkinsville, for improving six State aid roads in Christian County, including Section 1, 15 miles resurfacing; Section 2, 21 miles resurfacing; Section 3, 10 miles resurfacing; Section 4, 11 miles resurfacing and 7 miles new macadam; Section 5, 10 miles resurfacing and 1 mile macadam; Section 6, 10 miles new macadam. Charles Folson, Engineer, County Building, Hopkinsville.

Louisville, Ky.—Until July 10, by Board Public Works (Roger G. McGrath, Secretary), for paving portions of Hill Street, Fortieth Street, Thirty-third and numerous other streets.

Cincinnati, Ohio.—Until July 14, by Charles F. Hornberger, Public Service Director, for the improvement of Vine Street from Twelfth Street to Liberty Street with wood block. City Engineer's estimate $32,870; also until July 17, for improvement of Colerain Avenue from Hopple Street to Mill Creek, with granite. City Engineer's estimate $85,775.

Grand View Heights, Ohio.—Until July 15, by Thos. G. Constable, Village Clerk, for furnishing material and improving portions of First Avenue and Fairview Avenue and constructing concrete sidewalks on both sides of streets. Address Burgess & Long, Columbus Savings and Trust Building, Columbus.

Mt. Gilead, Ohio.—Until July 19, by B. D. Buxton, Village Clerk, for paving Cherry Street with brick, concrete, sheet asphalt, asphaltic concrete or other bituminous pavements. Thad E. Buck, Village Engineer.

Mount Vernon, Ohio.—Until July 12, by C. G. Snow, Director Public Service, for paving with repressed brick on concrete base, soft filler, on East Burgess, Division, McKenzie, Park-Ridgley, Sugar, Lamartine and West Burgess Streets, in all 26,193 sq. yd., and also 1350 sq. yd. repressed Hillside brick paving on concrete base, soft filler, on West Burgess Street, including curbing, etc.

Shaker Heights, Ohio.—Until Aug. 1, by Carl A. Palmer, Village Clerk, First National Bank, Cleveland, for improving portions of Courtland Boulev., Shelburne Road, South Park Boulevard and other roads. B. W. Willard, Village Engr., 804-812 Marshall Bldg., Cleveland.

Toledo, Ohio.—Until July 25, by Director Public Service, for paving and repaving 20 streets and alleys to cost $230,000. H. C. McClure, Commissioner Engineering and Construction, Department Public Service.

Waynesville, Ohio.—Reported desired until July 15, for grading and paving. Probable cost $24,000. A. F. Basil, City Clerk.

Indiana.—By the County Commissioners, for constructing county roads:

Until July 17:

South Bend, constructing a road in Union Township. Arthur F. Wolf, Co. Aud.

Jeffersonville, constructing a crushed limestone road in Charlestown Township. Geo. W. Stoner, Co. Aud.

Evansville, constructing a rock road in Scott Township. C. P. Beard, Co. Aud.

Indianapolis, constructing gravel road in Center Township. L. K. Fesler, Co. Aud.

Until July 27:

Evansville, constructing a lime rock road. C. P. Beard, Co. Aud.

North Vernon, Ind.—Until July 14, by City Council, for laying 25,595 sq. yd. brick paving, 6931 cu. yd. excavating and 3812 ft. limestone curbing. Estimated cost, $42,756. Charles W. Miles, City Engineer.

Plainfield, Ind.—Until July 11, by Town Board of Trustees, for constructing 4798 ft. of roadway. Bids desired on bituminous concrete, reinforced concrete, brick and asphalt.

Fairfield, Ill.—Until July 17, for paving in Central Paving District, consisting of approximately 10,444 lin. ft. vitr. brick pavement on 5-in. concrete base; 8547 cu. yd. excav. and grading, together with concrete box drains, sewer pipes, etc.

Glen Ellyn, Ill.—Until July 10 by Board Local Improvements (J. E. Simons, President), for 43,520 sq. yd. two course reinforced concrete pavement, advertised in Engineering Record. Ewing & Allen, Engineers, 111 West Monroe Street, Chicago, Ill.

Illinois.—Until July 12, by State Highway Commission, Springfield, for constructing following proposed State Aid Road work:

Cass County, Section C, bituminous macadam surfacing and surface treatment; Beardstown nearest Post Office; length, 6900 ft.; cost, $3,165 (cement not furnished by State); Section D, bituminous macadam, surface treatment, 5435 ft.; cost, $2,011 (cement not furnished by State); Section E, concrete, length 4281 ft., cost $6,214.

Cook County, Section L, brick, Blue Island P. O.; length 6011, cost $37,966; Section M, concrete, Homewood nearest P. O., length $9,364, cost $20,152.

Crawford County, Section C, concrete; Flat Rock nearest P. O.; length 2200 ft., cost $7,155.

Effingham County, Section D, earth; Dietrich nearest P. O.; length 6500 ft., cost $2,495 (cement not furnished by State).

Jefferson County, Section B, earth; Mt. Vernon nearest P. O.; length 15,700 ft., cost $8,064.

Jersey County, Section D, oiled earth; Jerseyville nearest P. O.; length 6600 ft., cost $3,875 (cement not furnished by State); Section C, bridges; 6 cost $3,875 (cement not furnished by State).

Jo Daviess County, Section C, concrete; Galena nearest P. O.; length 2525 ft., cost $4,814. Section D, earth and concrete; Elizabeth nearest P. O.; length 3550 ft., cost $5,144.

Kane County, Section H, concrete; St. Charles nearest P. O.; length 15,500, cost $31,187, or 20,568 ft., cost $45,456 (bids must be submitted on both).

Masaac County, Section B; Earth Metropolis nearest P. O.; 5370 ft., cost $2,972 (no cement furnished by State).

Monroe County, Section B, concrete; Lamberth nearest P. O.; length 1575 ft., cost $2,153; Section C, earth; Waterloo nearest P. O.; length 5052 ft., cost $2,663 (cement not furnished by State).

Pope County, Section B 12, culverts; Golconda nearest P. O., cost $1,083 (cement will not be furnished by State).

Monticello, Ill.—Until July 12, for paving 17 blocks brick concrete base combined curb and gutter. Estimated cost, $27,000. Address F. F. Miner, City Clk.

Kenosha, Wis.—Until July 21, by B. C. Bomnan, City Engineer, for paving on Pomeroy Street with asphaltic concrete 11,700 sq. yd. and 9700 lin. ft. concrete curb and gutter. Cost $28,000.

Milwaukee, Wis.—Until July 12, by Department Public Works, for furnishing material and improving portions of Western Avenue, Atkinson Avenue, Mitchell and other streets and alleys and portion of Layton Boulevard with cementconcrete, bituminous concrete, wood block, asphalt, creosoted wood block, in all about 37,648 sq. yd.

Sparta, Wis.—Reported desired until July 16, by W. H. Blyton, City Clk, for paving with brick two blocks on West Montgomery Street.

St. Paul, Minn.—Until July 10, by H. W. Austin, Purchasing Agent, for grading and improving Sue, Scheffer, and Lydia Streets and Burns and Stewart Avenues.

Beatrice, Neb.—Until July 14 by H. M. Garrett, City Clerk, for grading, curbing and paving with vertical fibre brick, sheet asphalt or asphaltic concrete District No. 17 to 21 inclusive, and repaving District No. 3, advertised in Engineering Record. Engineer John L. Hershey, Beatrice.

Lincoln, Neb.—Reported desired until July 21, by H. D. Wells, County Clerk, for grading and paving in Paving Dist. No. 15. Probable cost $24,000; fiber brick pavement and asphaltic concrete $22,500.

Bozeman, Mont.—Reported desired until July 20, by C. A. Spieth, City Clk., for constructing concrete curbs and sidewalks in Special Improvement Dist. No. 114. Probable cost $12,000.

Great Falls, Mont.—Until July 25, by E. B. Euensen, City Engineer, for paving about 17,600 sq. yd. at a cost of $43,500.

Independence, Mo.—Until July 18, by Allen C. Southern, County Surveyor and ex-officio Highway Engr., Independence, for improving Swop Park-Hickman Mills Road, in all about 4890 sq. yd. concrete pavement, riprap, etc.

Kansas City, Mo.—Until July 11, by Board Public Works (W. H. Benham, Secy.) for paving with creosoted wood block portions of Southwest Boulevard and Eighteenth Street, with Portland cement concrete on Olive and Thirty-ninth Streets, asphaltic concrete paving Charlotte Grove and other streets and sheet asphalt on Sixth Street.

St. Louis, Mo.—Reported desired until July 11, by Board Public Service (Wm. T. Findly, Secretary), for paving with bitulithic Sacramento Avenue and with refined asphalt Thurman Boulevard and Waterman Avenue. Until July 14, separate bids same place as above for paving Duncan Avenue and Arlington Avenue with vitr. brick.

Helena, Ark.—Until Aug. 1 for 14-ft. concrete roadway 2 miles long, from Helena to Lambs Crossing, Road Improvement District No. 1. Cost $24,000. Winn Engineering Company, Helena, Ark., Engineers.

Durango, Col.—Reported desired until July 11, by Clerk and Recorder, for 15,000 ft. of highway known as Durango Silverton Highway, together with curbs, gutters, etc. E. H. Burdick, Deputy County Surveyor, 318 Century Bldg.

Port Angeles, Wash.—Reported desired until July 15, by J. W. Warren, Co. Aud., for constructing Permanent Highway No. 5, from town of La Push to present end of Olympic Highway. Rich. W. Remp, County Engr.

Estacada, Ore.—Reported desired until July 11 by Claude W. Devore, City Recorder, for paving Broadway.

Pasadena, Cal.—Until July 11, by Heman Dyer, City Clerk, for constructing about 10,050 sq. ft. in oil macadam pavement, 38,900 sq. ft. cement walk, curb, gutter on Oakwood Place.

PRICES AND LETTINGS.

★*Indicates award of contract.*

New Hampshire.—Following are three lowest bids opened June 28 by State Highway Commission, Concord, for building a section of State Highway in Manchester: R. H. Newell, Uxbridge, Mass., $20,227; Noyes & Campbell, Augusta, Me., $21,-460, and Small & Ingalls, Bar Harbor, $19,909.

Boston, Mass.—Following are the three lowest bids, opened June 30 by Park and Recreation Department, for paving on Commonwealth Avenue: (a) bitulithic, (b) sheet asphalt without binder, (c) sheet asphalt with binder, (d) Topeka asphalt concrete without binder, (e) with binder, (f) asphalt macadam: Warren Brothers, 142 Berkeley Street, (a) $47,-004; J. Doherty, 6 Calumet Street, Roxbury, (a) $52,993; B. E. Grant, 99 W. Cedar Street, (a) $57,752, (b) $34,292, (c) $40,472, (d) $37,592, (e) $42,072; J. J. Coughlin, 27 School Street, (b) $36,857, (d) $56,777; Edward Tracey, Derby, Conn., (b) $40,862, (c) $40,882, (d) $37,042, (e) $40,242; Central Construction Company, 228 S. Hampton Street, (c) 39,113, (e) $42,662, (f) $42,663, Rowe Construction Company, Ramson Rowe, (f) $42,974; Bermindez Company, (f) $45,015.

★**Massachusetts.** — Contract for constructing macadam roadway in towns of Duxbury, Marshfield and Scituate (bids opened June 12) awarded Antonio Carchia, 16 Foster Street, Boston, at $15,000. F. I. Bieler, Secretary Massachusetts Highway Commission.

★Following are three lowest bids opened June 27 by Massachusetts Highway Commission, Boston, for constructing gravel roads in town of Hanover: Powers Brothers, Brockton, $22,899 (awarded contract); W. F. Loud & Son, Quincy, $23,565, and M. De Matteo, Roslindale, $30,849.

★Contract for repaving Hanover, Main and Webster Streets (bids opened June 27) awarded Powers Brothers, Brockton, at $22,899. E. I. Bieler, Secretary Massachusetts Highway Commission, Boston.

Long Island City, L. I., N. Y.—Lowest bid opened June 22 by Maurice E. Connolly, President Queens Borough, for sheet asphalt on Jerome Avenue from Hatch to Greenwood Avenues, submitted by Borough Asphalt Company, 1301 Metropolitan Avenue, Brooklyn, at $37,462.

★**Malone, N. Y.**—Contract for paving with brick East Main Street awarded by Village Board to A. J. McConville of Ogdensburg, at $27,860.

New York, N. Y.—Following are unit figures of lowest bid opened June 30 by Marcus M. Marks, President Borough Manhattan, for regulating and repaving with granite block on concrete foundation on Third Avenue, from Twenty-fourth to Sixtieth Streets, from curb to rail: Asphalt Construction Co., Madison Avenue and 137th Street. Item 3—10,650 lin. ft. new 6-in. granite curbstone, $1.30; Item 3b—1080 lin. ft. new 6-in. granite corner curbstone, $1.80; Item 4—210 lin. ft. old curb, redressed, 38 cts.; Item 5—100 sq. ft. concrete sidewalk, Class A, 22 cts.; Item 6—10 lin. ft. granite headers, 85 cts.; Item 6A—10 lin. ft. temporary headstone, 1 ct.; Item 7—6260 cu. yd. concrete outside of railroad area, $3; Item 8—34,000 sq. yd. granite block pavement outside of railroad area, $3.56; Item 9—210 sq. yd. sheet asphalt pavement in approaches, $1.90 Item 10—50 sewer manhole heads and covers complete, $14.75; Item 11—17 covers for sewer manholes, $4; Item 11A—17 rings for sewer manholes, $2.75; Item 12—5 cu. yd. brick masonry, 1 ct.; Item 13—14 water manhole heads and covers complete, $15; Item 14—40 lin. ft. platform flag, cut to line, 50 cts. Work in railroad area: Item 17A—580 cu. yd. concrete, $3; 8A—3500 sq. yd. granite block pavement, $3.56. Total $171,851. Total of next three lowest: W. J. Fitzgerald, 547 W. Forty-fifth Street, $179,430; M. Baird Contracting Co., 433 E. Ninety-second Street, $193,338, and Joseph J. B. LaMarsh, 28 City Hall Place, $196,349.

★**Rockville Center, N. Y.**—Contract awarded Rosenthal Engineering & Contracting Company, Inc., Brooklyn, for constructing concrete road (bids opened June 20 by George S. Utter, Village Clerk).

Troy, N. Y.—Following are bids opened June 23 by Board Contract and Supply for paving Stow Avenue (a) with granite and concrete, (b) brick and concrete: John W. Davitt, 90 First Street (a), $29,510; (b) $26,291; Hassam Paving Company, Worcester, Mass. (a), $30,150; (b), $26,756. John J. M. Langren, Secretary.

★**Newark, N. J.**—Contracts awarded by Board of Chosen Freeholders to Glenfield Construction Company, 141 S. Eighth Street, Newark, for paving Broad Street, Bloomfield, from Bay Avenue to Passaic County line, with Warrenite, at $66,100; Springfield Avenue in South Orange Township, from Irvington to Holmes Street, at $40,582, and to Bamberger & Chapman Co. for Morris Turnpike in Milburn, from Baltusrol Way to Hobart Gap-road, with national material, an asphaltic mixture, at $37,201 (bids opened June 27).

★Contract for paving Springfield Avenue, Millburn, awarded by Bd. of Freeholders to F. Franklin Construction Co., 349 Highland Avenue, Passaic, at $22,797.

★**New Brunswick, N. J.** — Contract awarded by Board of Chosen Freeholders for paving Sections 1 and 2 of New Brunswick-Cranbury Turnpike to Manwaring & Cummings, Philadelphia, at $126,066 for Section 1 and $96,291 for Section 2.

★Following are four lowest bids opened June 29 by Board of Freeholders for building third section of the New Brunswick-Cranbury Turnpike: Abraham Jelin, New Brunswick, $100,299 (awarded contract); Meagher & Smith, Perth Amboy, $102,-610; Miles Tighe Contracting Company, Newark, $108,686; T. H. Riddle, New Brunswick, $108,718.

★**East Brady, Pa.**—Contract for paving and improving Armstrong-Clarion joint county bridge over Allegheny River at East Brady awarded at Joint County Board meeting, to Horseheads Construction Company, at $7,370.

★**Ebensburg, Pa.**—Contract for constructing 2 miles of road on Cresson Pike (bids opened June 29) awarded by County Commissioners (Lester Larimer, Chief Clerk) to Bennett & Shearer, Indiana, at $29,651. Next three bidders: John L. Elder, Ebensburg, $30,950; C. F. Rhodes & Son, McKeesport, $35,692, and Portage Construction Company, Portage, $40,078.

★**Johnstown, Pa.**—Contract awarded Bennett & Shearer, Indiana, for building of brick 2 miles of road on old Cresson Pike, at $29,559.

★**Pennsylvania.**—Contract awarded by State Highway Department, Harrisburg, for reconstructing Section 5 of State Highway Route 131 (bids opened June 13), length 3.37 miles, to Neff, Horn & Co., Slatington, for reinforced cement concrete construction at $59,973.

★**Philadelphia, Pa.**—Contract awarded by Dept. Public Works for paving portion Second Street with asphalt to Barber Asphalt Co., Land Title Bldg., at $14,780.

Maryland.—Following are reported lowest bids opened June 27, by State Roads Commission, 601 Garrett Building, for State Road Work:

Road from Mount Zion to Hills Bridge, Anne Arundel County: Luck Construction Co., Roanoke, Va., gravel, $44,082; J. W. Martin, Annapolis, concrete, $92,347.

York Road, from Verona to Hereford, Baltimore County: D. M. Andrews Contracting Co., Baltimore macadam resurfacing, $29,196.

Road from Stumptown to Trappe, Talbot County: W. B. Shafer Co., 303 Fifth Avenue, New York, concrete, $58,860.

Road from Pocomoke City to Virginia Line, Worcester County: Major Construction Co., Millington, Md., concrete, $42,998.

★**Henderson, N. C.**—Following are four lowest bids opened June 29 by G. W. Adams, City Clerk, for paving about 25,-000 feet.: R. G. Lassiter, Oxford, N. C., $23,443 (awarded contract); Raleigh Concrete & Construction Company, Raleigh, N. C., $24,360; W. M. Wilkes, Atlanta, Ga., $24,828, and Munic Engineering Constructing Company, Atlanta, Ga., $24,967.

Miami, Fla.—Lowest bid opened recently by the city for 54,000 sq. yds. asphalt paving, submitted by William P. McDonald Construction Company, Mount Vernon, N. Y., at $126,789.

★**Sebring, Fla.**—Contract awarded William P. McDonald Construction Company, Mount Vernon, N. Y., for 40,000 sq. yd. asphalt concrete pavement on Ridgewood Drive and Commerce Avenue, to cost $57,000. H. C. Brown, Mayor. H. S. Jaudon Engineering Company, Engineers, Bartow, Fla. (Bids opened June 21 by H. C. Brown and Town Council.)

★**Jackson, Tenn.**—Pomeroy Paving & Contracting Company, 1622 New York Avenue, Memphis, Tenn., secured the contract for 54,000 sq. yd. paving (Murphysboro, Ill., shale brick) at $2.05 per square yard; total, $110,780. Next three bidders: Southern Paving & Construction Company, Chattanooga, Tenn., $1.99½ per square yard; Coaldale (Ala.) shale or Robbins fire clay brick; total $107,730; or Albion (Ill.) shale brick, $2.05 per square yard; total, $110,700; Prosser & Halliday, Cairo, $2.07; total, $111,780; Thompson Graham Company, Nashville, Tenn., $2.14 per square yard; total, $115,560. H. M. Harris, Commissioner of Streets; Marshall K. White, Assistant City Engineer. (Bids opened June 27.)

Covington, Ky.—Following bids opened by Fiscal Court for constructing of Dixie Highway from Covington to Erlanger: Cooper & Company, Louisville, $64,604; O'Hearn & Metzel, Covington, $71,000; Morlidge & Co., Newport, $71,235, and Fred A. Levin, Covington, $71,000.

★**Lexington, Ky.**—The Fayette Fiscal Court awarded contract for constructing 5 miles of Maysville Pike, 3 miles Richmond Pike and 2 miles Versailles Pike with Warrenite surface to Carey Reed Co. of Lexington at $6,652 per mile.

★**Cuyahoga Falls, Ohio.**—Contracts for paving (bids opened June 19) awarded by E. D. Barstow, Village Engineer, Cuyahoga Falls, as follows: Broad Street, about 19,500 sq. yd., monolithic and mortar cushion paving, to S. W. Parshall & Son, Akron, at about $50,500; Northampton Avenue, about 13,000 sq. yd., monolithic paving and ½ mile of sanitary sewer, to Windsor Brothers Construction Company, Akron.

★**Elyria, Ohio.**—Contract for repaving Winckles, Taylor and Olive Streets, with brick and grout filler, awarded by city to Elyria Construction Company, estimated cost $12,000.

★**Port Clinton, Ohio.**—The County Commissioners awarded contract for improving Haack Rd. to Muldoon & Bergman Co. of Fremont, at $10,000.

★**Salem, Ohio.** — Contract for paving East Seventh Street with vitr. brick an concrete base (bids opened June 27 by J. N. Russell, Service Director) awarded J. D. Paxson, Salem, $10,297.

Tipton, Ind.—Lowest bid opened by city for paving with brick Mill Street submitted by Adams Bros., of Lebanon, at $11,788.

★**Toledo, Ohio.**—Contract for paving 5 miles of road with concrete macadam and bituminous base awarded Doan & Langrenderfer, 12 Spitzer Arcade, Toledo. G. Cooper, County Auditor. (Bids opened June 23.)

★**Troy, Ohio.**—Contract awarded by County Commissioners for constructing 5.3 miles of Piqua-Sidney Road to J. A. Westrick, Hoygate, at $89,899.

★**Youngstown, Ohio.**—Contract for paving Section No. 1 of Jacobs Road with brick a distance of 5735 ft. awarded Smith Construction Co., Youngstown, at $32,405. Frank H. Vogan, Commissioner's Clerk. (Bids opened June 26 by County Commissioners.)

★Contracts for paving awarded by City Board of Control as follows: Hezlep Street, with brick, to M. F. Clark at $12,185 and for Kendall Avenue to Turner Constr. Co., at $12,315.

★**Elkhart, Ind.**—Contracts for paving awarded as follows: Beardsley, Court, Jefferson and Third Streets and Laland Avenue to Andrews Asphalt Paving Company, Hamilton, Ohio, $10,523, and to Northern Construction Company, Elkhart, brick on Sherman Street, at $8,900. L. M. Russell, City Engineer.

★**South Haven, Mich.**—Contract for 2¾ miles of stone road, 16 ft. wide awarded S. S. Parr, Grand Rapids, at $20,500 (bids opened June 24). F. R. Poorman, Clerk.

Evanston, Ill.—Following are two bids opened June 19 by Board Local Improvements (H. P. Pearsons, President) for furnishing material and constructing 40,-000 sq. yd. brick pavement: M. Foley Company, 716 Main Street, $101,376, and William Kissack Company, $103,707.

★**Joliet, Ill.**—R. F. Conway Co., Joliet, secured contract for paving on South Collin and East Jefferson Streets with asphalt concrete at $10,347.

★**Peoria, Ill.**—Following are four lowest bids opened June 26 by city for paving with brick on Peoria Avenue: Canterbury Brothers, 106 Barker Avenue, $12,647 (awarded contract); A. D. Thompson Company, 1005 Jefferson Building, $12,697; D. A. Myers, 209 West Armstrong Avenue, $12,702; McElwee & Bushell, 1217 South Washington Street, $12,721. L. D. Jeffries, City Engineer.

★**Rockford, Ill.**—Following are bids opened June 12 by City for paving Eleventh Street: A. E. Rutledge, Rockford, $55,195 (awarded contract); F. K. Carrico, Rockford, $55,720. Edwin Main, City Engineer.

★**Rock Island, Ill.**—Contract for paving Seventh Avenue from Twenty-fifth to Thirtieth Streets with asphalt, including concrete curb and gutter, awarded McCarthy Improvement Company, Davenport, Iowa, at $22,430. Wallace Treichler, City Engineer.

★**Avoca, Iowa.**—Contract for 10 blocks of paving and curbing awarded John A. Beebe, Omaha, Neb., at $1.86 per sq. yd. brick paving and sand filler and 57 cts. for curbing. J. G. Mayer, Town Engineer. Council Bluffs.

★**Cedar Rapids, Iowa.**—Contract awarded Ford Paving Company, Cedar Rapids, for 24,800 sq. yd. asphaltic concrete pavement and 4100 sq. yd. grading at $39,333. L. J. Henny, City Clerk.

★**Eldora, Iowa.**—Contract for grading and incidental work on 14½ miles of county road awarded L. C. Wood & Co., Alden, Iowa, at 18 cts. per cu. yd. F. W. Sunn, County Engineer.

★**Marshalltown, Iowa.**—Contract for 33,-000 sq. yd. concrete paving awarded Western Construction Company, Sioux City, Iowa (bids opened June 26 by city).

★**Muscatine, Iowa.**—Contracts for paving amounting to about $145,000 awarded Ford Paving Company, Cedar Rapids & Kroneman & Smith, Muscatine. C. H. Young, City Engineer.

★**Oskaloosa, Iowa.**—Contract for paving portion of Ninth Street, Avenue "G," Avenue "A" and other streets (bids opened June 26), awarded Burlington Construction Company, Burlington, Iowa, at $2.07 per sq. yd T. H. Carlin, City Clerk.

★**Traer, Iowa.**—Contract for 15,800 sq. yd. concrete paving (bids opened June 26) awarded Dearborn Construction Co., Waterloo, at $1.74 per sq. yd. T. F. Stoakes, Town Clerk, Traer.

★**Junction City, Kan.**—Contract for 15,-000 sq. yd. asphaltic concrete on Pine and Eighth Streets awarded A. Jaicks Company, Kansas City, Mo. T. M. Corn, City Clerk.

★**Kearney, Neb.**—Contract for paving in Paving District No. 10 (bids opened June 19) awarded E. D. Tyner Construction Co., Kansas City, Mo., at $1.42 per sq. yd. for sheet asphalt. T. N. Hartzell, City Clerk.

★**Bellingham, Wash.**—Contract awarded by County Commissioners for laying 4½ miles of Marietta Road to T. Ryan Construction Company, Lowman Building, Seattle, at $54,994.

★**Everett, Wash.** — Reported County Commissioners awarded contract to West Coast Construction Co., Madison Building, Seattle, for constructing 6 miles of Cascade Highway, in Snohomish County, at $25,000. W. C. Bickford, County Engineer.

★**Pullman, Wash.**—Reported contract awarded by City Commissioners for paving S. Grand and Spring Streets Districts with bituminous macadam to Washington Paving Company, Smith Building, at $10,043.

★**Seattle, Wash.**—Contract awarded by County Commissioners for Renton-Hazlewood Highway Permanent Highway No. 12A to P. G. Dunn & Co., Seattle, at $44,-965. Next three bidders: L. H. Goerig, Seattle, $45,900; George Bandaret, Seattle, $52,965, and Henry Price, Seattle, $52,968. A. P. Denton, County Engineer.

★**Sedro Woolley, Wash.**—Contract for constructing concrete paving on Third and Township Streets awarded La Plant & Co., Sedro Woolley, at a total of $21,280.

★**Tacoma, Wash.**—Contract for 19,998 sq. yd. bitulithic pavement 2 in. thick on Permanent Highway No. 8 (bids opened June 24) awarded Independent Asphalt Paving Company, Tacoma, at $34,696. David H. White, County Engineer.

Astoria, Ore. — Western Paving Co., Astoria, reported to have submitted the lowest bids for paving Bond Street, as follows: (a) Engineer's estimate; (b) Western Paving Co.'s bid: Bitulithic (a) $32,670, (b) $31,292; asphaltic concrete, (a) $32,695, (b) $32,765; sheet asphalt, 5-in. concrete base, (a) $33,613, (b) $34,184; brick, 5-in. concrete base, (a) $41,864, (b) $40,149.

California.—Following are unit figures of the four lowest bids opened June 26 by State Highway Commission, Sacramento, for State Road Improvements:

Humboldt County, Div. 1, Route 1, Sec. G (Engineer's estimate, $30,446); (a) $500 cu. yd. excavation without classification; (b) 4750 cu. yd. cement concrete pavement, Class "B"; (c) total: Elsemore & Jacobs, Eureka, (a) 48 cts., (b) $4. (c) $23,080; A. J. & J. L. Fairbanks, San Francisco, (a) 50 cts., (b) $4.85, (c) $27,-287; Manuel Jacinto, Sacramento, (a) 60 cts., (b) $5.50, (c) $31,225; William A. Newsom, San Francisco, (a) 73 cts., (b) $5.90, (c) $34,230.

Contra Costa County, Division IV, Route 14, Section A (Engineer's estimate, $46,445): Unit figures of Blanchard Brown Company, San Francisco, lowest bidder, 11,000 cu. yd. excavation unclassified, 49 cts., 180 lin. ft. 12-in. corrugated iron pipe 49 cts., 40 lin. ft. 15-in. corrugated iron pipe 62 cts., 90 lin. ft. 18-in. corrugated iron pipe 75 cts., 600 lin. ft. 24-in. corrugated iron pipe $1, 410 cu. yd. cement concrete pavement, Class "B" $7.55, 4400 cu. yd. Class "C" $2.83, 31,500 sq. yd. bituminous surface 33.4 cts., 20 monuments, each 90 cts., total $32,257. Total of next three lowest: Clark & Henery Construction Company, Sacramento, $32,609; Johnson Shea Company, Oakland, $36,497, and Bates, Borland & Ayer, Oakland, $38,360.

Ventura County, Division VII, Route 2, Section C (Engineer's estimate $43,058): Unit figures of the Modern Construction Company, Inc., Los Angeles, lowest bidder, was as follows: 27,330 cu. yd. excavation without classification, 25 cts., 236 lin. ft. 18-in. corrugated metal pipe 50 cts., 26 lin. ft. 24-in corrugated metal pipe $1; 310 cu. yd. cement concrete pavement Class "B" $10, 510 cu. yd. cement concrete pavement Class "B" $3, 90,752 lin. ft. guard rail 40 cts., 82 monuments $1 each; total $31,948. Total of next three lowest: Leigh G. Garnsey, Los Angeles, $34,709; W. A. Kettlewell & Son, Kingsburg, $35,180, and Andrew Holloway, Pasadena, $35,391.

San Mateo County, Division IV, Route 2, Section B (Engineer's estimate $55,-045): United figures of J. A. Marshall, Berkeley, lowest bidder, was as follows: 31,000 cu. yd. excavation unclassified 40 cts., 760 lin. ft. 12-in. corrugated metal pipe 30 cts., 450 lin. ft. 15-in. metal corrugated pipe 40 cts., 310 lin. ft. 18-in. metal corrugated pipe 50 cts., 40 lin. ft. 21-in. metal corrugated pipe 60 cts., 270 lin. ft. 24-in. metal corrugated pipe 70 cts., 60 lin. ft. 30-in. metal corrugated pipe 80 cts., 800 cu. yd. cement concrete culverts and manholes, Class "B," $6, 6850 cu. yd. cement concrete pavements Class "A" $2.65, 8000 lin. ft. property fences (moving and resetting) 5 cts., 4200 lin. ft. new property fences (woven wire) 6 cts., 1000 lin. ft. guard rail 40 cts., 62 monuments, each, $1; total, $37,290. Totals of next three lowest: Blanchard, Brown & Company, San Francisco, $38,-417; C. H. & A. W. Gorrill, San Francisco, $39,165, and John D. Marsh, Paso Robles, $40,016.

★**Los Angeles, Cal.**—Contract awarded by Bd. of Supervisors to Fred Hoffman, 111 East Twelfth Street, Long Beach, for constructing 2.12 miles 5-in. concrete pavement 20 ft. wide, on Olive Avenue and Los Angeles-Redondo Rd. Road Dist. No. 108, at $20,500.

★Contract for 90,794 sq. ft. asphalt paving on Pico Street awarded to Coast Constr. Co., 1419 East Twenty-ninth Street, at $15,311.

★**Oakland, Cal.**—Contract for paving Fourteenth Street awarded Ransome-Crumney Company of Oakland, at $101,-225.

Riverside, Cal.—Lowest bid opened by City Council June 27 for constructing 118,878 sq. ft. macadam pavement on 7½ blocks Fairmont Boulevard submitted by Johnson-Shea Co. of Riverside, $15,389.

★**Vallejo, Cal.**—Contract awarded by City Council for paving in Northwest District to Worswick Construction Company, San Francisco, at $52,492. Other bids: Johnson, Shea & Company, San Francisco, $58,568; Federal Construction Company, San Francisco, $55,100; Ransome-Crummey Company, Oakland, $58,-718. (Bids opened June 16 by F. D. Kilkenny, City Engineer.)

★**Ventura, Cal.**—Contract for constructing concrete pavement, etc., on 8.57 miles of Oxnard to Camarillo Road on Division 14, involving approximately 19,000 cu. yd. excav., 45,263 lin. ft. shaping roadbed and 6000 lb. reinforced steel, corrugated iron or concrete pipe, culverts, etc., awarded Connor Contracting Company, 709 Higgins Building, Los Angeles, at $24,676 Next three bidders: Isbell Construction Company, San Diego, $26,300; John D. Marsh, Alhambra, $28,113; and White & Gaskill, Long Beach, $28,355.

★**St. Catharines, Ont.**—Following are three bids opened June 22 by city for constructing 13,800 sq. yd. concrete pavement: T. E. Riley, St. Catharines, $26,560 (awarded contract); Municipal Concrete Construction Company, $27,123, and Brennan & Hollingworth, Hamilton, $27,218.

★**Toronto, Ont.**—Contract for paving with bitulithic on Moore Avenue, from Grace Terrace to east side of Welland Avenue, awarded Commissioner of Works at $19,728, to be carried out under his supervision by day labor.

RAILWAYS
Steam and Electric

PROPOSED WORK.

Matamoras, Pa.—Work is about to begin on construction of the Port Jervis & Delaware Valley R. R. from Port Jervis, Matamoras and Milford, distance of 7½ miles. W. E. Soden, 19 Hubbard Bldg., Port Jervis, N. Y., Engr.

Richmond, Va.—Reported City Council has asked Southern R. R. (C. B. Herman, Ch. Engr., Washington, D. C.), to spend $30,000 for improving subway under tract at Sixteenth Street and MacDonald Avenue.

Morgantown, W. Va.—The Monongahela Valley Traction Co. of Fairmont considering constructing extension from Morgantown to Adamson.

Beaver Creek, Ky.—Baltimore & Ohio R. R. (F. L. Stuart, Chief Engineer, Baltimore, Md.) will soon let contract for constructing a 26-mile line extending from Beaver Creek, Floyd County, Ky., to Weeksbury, Knott County, Ky.; to be a single track railroad, having five tunnels from 140 to 775 ft. long. New road to be known as the Long Fork R. R.

Lansing, Mich.—Reported Pere Marquette R. R. (A. L. Grandy, Chief Engineer, Detroit, Mich.) plans spending within the next five years $8,000,000 in improvements.

Aurora, Ill.—F. W. Cherry of Princeton reported to have purchased the Aurora-DeKalb Electric Railway and will convert it into a steam railroad.

Helena, Mont.—Reported Chicago, Milwaukee & St. Paul R. R. (C. T. Loweth, Ch. Engr., Chicago, Ill.), will soon construct the proposed line from Missoula to Blackfoot Valley.

Miles City, Mont.—Reported Great Northern R. R. (A. H. Hoagland, Chief Engr., St. Paul, Minn.), will soon start construction of the McDonald Divide Tunnel, and on the 25 miles of track from Lambert, Richmond County.

McAlester, Okla.—Pittsburg County Ry. Company of McAlester incorporated by C. H. King, Jr., of McAlester, and others.

Tulsa, Okla.—Tulsa Traction Company (B. C. Redgrove, Supt., Tulsa), is considering plans for extension of the line from Tulsa to Sapulpa.

Tulsa, Okla.—Tulsa Interurban R. R. Company will soon construct a combination electric and steam railroad from Tulsa to Wagoner, 37 miles. Probable cost $480,000. Shops may be erected in Broken Arrow, but general offices will be established in Tulsa.

Seattle, Wash.—City Council Streets and Sewer Committee is considering plans proposed by Ernest A. Klanze of Seattle regarding the east side construction of an elevated roadway, 42 ft. wide with 6-ft. sidewalk on each side on east side of Railroad Avenue and Railroad Avenue West, in West Seattle, as means of solving question of rapid transit to the Fauntleroy District and all West Seattle peninsula. Cost, $700,000.

Ardenwald, Ore.—Right of way being secured from Ardenwald into Pleasant Valley District, about 9 miles. J. D. Lee of Portland interested.

Medford, Ore.—Election to be held July 10 to vote on ratification of contract with Southern Oregon Traction Co., Medford, for the building of a municipal railroad to Blue Lodge Mining District, and for which $300,000 bonds has been voted. E. T. Foss, City Clerk.

Oregon City, Ore.—Reported the Willamette Valley Southern Ry. Co. will construct an extension to Silverton.

Portland, Ore.—City Council is considering the elimination of the grade crossing at Front Street of the Oregon Electric Ry. and at Miles Street on the Southern Pacific Co.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**New York, N. Y.**—Contract for constructing the 180th Street yard on Route No. 18, the White Plains Road elevated extension of the Lenox Avenue Subway, awarded by Public Service Commission, 120 Broadway, to Thomas J. Buckley Construction Company, 303 Fifth Avenue, at $269,222. (Bids opened June 26.)

★**Philadelphia, Pa.**—Contract reported awarded by Pennsylvania R. R. to Thomas F. Reilly, Seventh and Sedgley Streets, for grading, measuring and appurtenant work for changing the grade of tracks from point south of Graver's Lane to Chestnut Hill Station, on Chestnut Hill branch out of Philadelphia and constructing bridges on line of Highland, Seminole and Hartwell Avenues.

★**Seattle, Wash.** — Contract awarded Grant Smith & Company, Henry Building, for extending for the Chicago, Milwaukee & St. Paul R. R. (C. T. Loweth, Chicago, Ill., Ch. Engr.) the Seattle, Port Angeles and Western Ry. through to Clallam Bay.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Danielson, Conn.—Preliminary plans being prepared for an addition to plant of Connecticut Mills Company, 175 Connecticut Mills Avenue.

Willimantic, Conn.—See "Reinforced Concrete."

New Rochelle, N. Y.—Reported D. & C. Distributing Company, 185 Madison Avenue, New York, has secured site here and intends erecting cereal plant.

Jersey City, N. J.—Erie Railroad Company (R. S. Parsons, Chief Engineer, New York) plans erecting terminal on the meadows between Jersey City and Newark with roundhouses and repair shops nearby.

Keyport, N. J.—Plans being prepared by Monks & Johnson, 78 Devonshire Street, Boston, Mass., for 300 x 130-ft. brick and steel aeroplane station, to be erected along Raritan Bay for Aeromarine Plane & Motor Company of New York; cost $200,000.

Philadelphia, Pa.—See "Reinforced Concrete."

Philadelphia, Pa.—Contract about to be let for erecting four-story brick factory and warehouse at 218 Race Street for R. Parot. L. H. Davis, Architect, Ambler.

Wayne Junction, Pa.—Charles W. Denny, Hale Building, Philadelphia, has prepared plans for 3-story brick, slow burning factory for National Drug Company.

Big Stone Gap, Va.—Intermont Coal & Iron Corporation incorporated to construct furnace to provide daily capacity of 150 tons of iron; to build 20 additional ovens to present plant of 80 beehive ovens. Other improvements also contemplated.

Roanoke, Va.—See "Reinforced Concrete."

Raeford, N. C.—An addition is to be erected to plant of Raeford Power & Manufacturing Company to accommodate 4000 spindles.

Salisbury, N. C.—Yadkin Bleaching Company reported organized, with N. B. McCanless of Salisbury as Secretary and Treasurer, and intends erecting a bleachery and mercerized plant to cost about $200,000.

Martins Ferry, Ohio.—An addition to Bean Brothers foundry, 50 x 100 ft., equipped with latest foundry equipment, fireproof throughout with two wings, 30 x 100 ft. each, on corner of First and Locust Streets, is contemplated; cost, $25,000.

Detroit, Mich.—See "Reinforced Concrete."

Detroit, Mich.—Reported Ford Company intends erecting a blast furnace and a plant for making automobile parts at the intersection of River Rouge and Pere Marquette Railroad in Detroit.

Rock Island, Ill.—Moline Plow Company, 1420 Third Avenue, Moline, intends erecting shops and factory buildings on Forty-Third Street and Fifth Avenue; cost approximately $150,000.

International Falls, Minn.—Minnesota & Ontario Power Company, it is reported, has applied to city for rights on certain streets adjoining a site on which it is proposed erecting a 1-story building, 250 x 400 ft., for the manufacture of wall boards by the International Insulation Company, recently incoroporated.

Great Falls, Mont.—Reported erection of a Portland cement factory contemplated here. C. A. Lindsay, Manager of Monarch Plaster Mill Company, Great Falls, may be able to give information.

Galt, Ont.—Roelofson Machine & Tool Company (E. C. Roelofson, Manager), planning to erect $50,000 factory.

London, Ont.—H. S. Hall, 215 Suydam Street, Jersey City, N. J., will locate a branch factory here in 1917 for manufacturing gloves.

Port Robinson, Ont.—Standard Steel Construction Company has leased buildings which will be re-equipped with machinery and improvements made costing $50,000.

Toronto, Ont.—Plans being prepared by Heuschlieu & McLaren, 431 South Dearborn Street, Chicago, Ill., for a cold storage plant to be erected for William Davies Packing Company, 521 Front Street, East Toronto; cost $60,000.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Torrington, Conn.**—Contract for erecting addition four stories, 50 x 309 ft. to plant of Standard Company awarded Frank W. Fuller, 79 Main Street; cost, $30,000. Bids opened June 26.

★**Peekskill, N. Y.**—Contract awarded Peekskill Construction Company, Peekskill, for erecting a one and three-story addition to plant of Standard Oil Cloth Company (H. M. Garlick, President); cost, $50,000.

Buffalo, N. Y.—See "Reinforced Concrete."

★**Schenectady, N. Y.**—Contract awarded by American Locomotive Company to John McDermott, 103 Wendell Avenue, for erecting foundry additions, 100 x 175 ft.; 55 x 200 ft. and 55 x 200 ft.; total cost, $85,000.

★**Syracuse, N. Y.**—Contract awarded E. K. Fenno, North Beech Street, for erecting a two-story, 80 x 300-ft. and one-story, 30 x 300-ft. wire mill for Anderson Works of the Crucible Steel Company of America; cost, $75,000.

★**Shady Side, N. J.**—Contract for alterations to tanning building of Bulls Ferry Chemical Co., at Shady Side, awarded by Charles Houchin Higgins, Consulting Engineer and Architect, 30 Church Street, New York, N. Y., as follows: Piles and excavation, Jersey City Piling & Foundation Co., Jersey City; alterations and additions, to Hugh Getty, Inc., 259 W. Twenty-sixth Street, New York, N. Y.

Roanoke, Va.—See "Reinforced concrete."

★**Durham, N. C.**—Contract awarded N. Underwood, Durham, for erecting storage warehouse for Durham Hosiery Mill Co., at $26,300.

Galveston, Tex.—See "Reinforced Concrete."

★**Molson, Wash.**—The Molson Union Elevator Co. awarded the contract for grain elevator to the Pioneer Engineering & Elevator Co. of Seattle. The building will be 34 x 36 x 40 ft. and capacity about 35,000 bushels. All machinery operated by electricity. A warehouse with a capacity of 100,000 bushels will also be erected.

★**Brawley, Cal.**—See "Reinforced concrete."

★**Buckingham, Que.**—Contract awarded by Electric Reduction Company for erecting $50,000 phosphate manufacturing plant to Foundation Company of Montreal.

Cap Madeline, Que.—See "Steel Bridge Work."

★**Port Arthur, Ont.**—Contract awarded S. J. McQueen of Fort William for erecting 300,000-bu. capacity elevator for Grain Growers Grain Company of Winnipeg, Man.

Sault Ste Marie, Ont.—See "Paving and Roads."

★**Sault Ste. Marie, Ont.** — Contract awarded by Algoma Steel Corporation for constructing three through plate bridges, two open-hearth furnaces and gas producer plant, to Foundation Company, Montreal, Que., at $75,000.

★**Vancouver, B. C.**—Contract awarded A. W. Quist & Company, Hoge Building, Seattle, Wash., for repairing warehouse of the New England Fish Company, at a cost of about $30,000.

BUILDINGS
Public and Private

PROPOSED WORK.

Newport, N. H.—Reported a high school costing $75,000 is to be erected here. Address Town Clerk.

Fall River, Mass.—See "Reinforced Concrete."

Springfield, Mass.—Plans being considered for $75,000 Presbyterian Church to be erected at Wilbraham Road and Dunmoreland Street. Rev. George H. McClelland, Pastor.

New London, Conn.—Plans being prepared by D. St. Clair Donnelly, New London, for a three-story brick dormitory to be erected for Connecticut College for Women; cost, $30,000.

Binghamton, N. Y.—Board of Estimate and Apportionment is about to sell $116,-000 school bonds for additions to three schools. Harry H. Evans, Comptroller.

Brooklyn, N. Y.—Plans filed for erecting five-story brick and stone addition to clubhouse of Hamilton Club at Remsen and Clinton Streets; cost $40,000. W. A. Boring, Architect, 52 Vanderbilt Avenue, New York.

Buffalo, N. Y.—See "Steel Bridge Work."

Dunkirk, N. Y.—E. E. Joralemon, Buffalo, is architect for the proposed school to be erected in the First Ward at a cost of $75,000.

Johnson City, N. Y.—Citizens June 28 voted $44,000 bonds to erect addition to Broad Street School. Address School Board.

Long Island City, L. I., N. Y.—Plans being prepared by Fred Korfmann, 406 Ninth Avenue, Long Island City, for two five-story 100 x 100-ft. apartment houses to be erected on Ninth Avenue; total cost $80,000.

Medina, N. Y.—Citizens June 29 voted $125,000 bonds to erect school. Pierce & Bickford, Archts., Elmira. Bonds will be sold about July 20. M. J. Whedoa, Clerk, Board Education.

New York, N. Y.—Plans filed for erection of following buildings: Thirteen-story fireproof apartment at Amsterdam Avenue and Eighty-seventh Street for Robert Ferguson, 119 Manhattan Avenue, cost $625,000, Schwartz & Gross, 347 Fifth Avenue, Archts.; 12-story fireproof offices and apartments at 143 East Thirty-ninth Street for A. Stanley Jones, cost $50,000, Arthur L. Harmon, 3 West Twenty-ninth Street, Archt.; 15-story fireproof hotel at 721 Fifth Avenue for W. W. Astor, cost $2,000,000, Herbert Lucas and McKim, Mead & White, Archts., 101 Park Avenue; 5-story fireproof garage at 184 East Seventieth Street for Max A. Cramer, cost $100,000, George F. Pelham, Inc., Archt., 30 East Forty-second Street; 12-story fireproof stores and lofts at 57 Vesey Street for A. M. Napier Co., cost $300,000, McKenzie, Voorhees & Gnselin, 1123 Broadway, Archts.; 16-story fireproof store and offices at 27 East Forty-first Street for Charles H. Senff Estate, cost $250,000, Emery Roth, 119 West Fortieth Street, Archt.; 2-story fireproof dormitory at Randall's Island for City of New York, cost $90,000, Donn Barber, 101 Park Avenue, Archt.; 2-story fireproof infirmary at Randall's Island for City of New York, cost $127,000, Donn Barber, 101 Park Avenue, Archt.; two 5-story brick tenements at Hoe Avenue and Jennings Street for Lymond Constr. Co., cost $100,000, Harry T. Howell, Third Avenue and 149th Street, Archt.; 6-story concrete lofts and ice plant at Mott Avenue and 156th Street for Clay Contr. & Bldg. Material Co., cost $75,000, S. J. Kessler, 232 East 165th Street, Archt.; 5-story brick stores and tenement at Macombs Road and 170th Street for Shaskin Realty Corp., cost $75,000, Sass & Springsteen, 32 Union Square, Archts.; 5-story brick garage at Grand Concourse and 188th Street for Webster & Tremont Bldg. Co., cost $70,000, Samuel J. Kessler, 232 East 165th Street, Archt.

Rochester, N. Y.—Powers Hotel, 36 Main Street, is to be enlarged and remodeled at cost of about $75,000.

Waterloo, N. Y.—All bids opened June 20 by Supervising Architect, Washington, D. C., for constructing U. S. Post Office rejected.

Elizabeth, N. J.—New York Telephone Company contemplates erecting an office building on East Grand Street.

Glen Ridge, N. J.—Borough Council considering erecting library to cost $35,000.

Hoboken, N. J.—Dr. C. Hoening, 928 Hudson Street, will erect a 2-story dwelling on Castle Point Terrace, to cost $50,000.

Lyndhurst, N. J.—Citizens voted to erect a school at Lake and Livingston Avenue; cost, $71,000, and a school at Fourth and Summit Avenues, to cost $36,000.

Greensburg, Pa.—Christian Church will erect a $50,000 building on Pennsylvania Avenue.

Philadelphia, Pa.—See "Reinforced Concrete."

Pittsburgh, Pa.—A ten-story stone, concrete and terra cotta hospital, 100 x 250 ft., to be erected for Mercy Hospital. E. M. Stotz, Archt., Monon Bank Bldg.

Scranton, Pa.—Harvey J. Blackwood, Scranton, is preparing plans for a high school costing $85,000.

West Chester, Pa.—Reported contract will be let about July 15 for erecting two-story and basement brick, stone and terra cotta school. Paul A. Davis, 3rd, Architect, 1713 Sansom Street, Philadelphia.

Baltimore, Md.—Walter M. Gieske, 65 Gunther Building, is reported preparing plans for an apartment house to cost $55,000.

George R. Morris, 533 Title Building, planning to erect an apartment house at 837 Hamilton Terrace, to cost $30,000.

Richmond, Va.—Alvin M. Smith, 1102 West Avenue, reported interested in Arcadia Amusement Company, which proposes erecting a moving picture theater at Broad and First Streets, to cost about $250,000.

Fairmount, W. Va.—See "Reinforced Concrete."

Morgantown, W. Va.—Paul A. Davis, 3rd, 1713 Sansom Street, Philadelphia, Pa., is preparing plans for a two-story dormitory building and two-story agricultural building to be erected at University of West Virginia.

Atlanta, Ga.—Robert Zahner, Peachtree Road, contemplates erecting a bank building 72½ x 162 ft., at Peachtree Road and Tenth Street.

Macon, Ga.—Citizens June 22 voted $100,000 bonds for erecting hospital and $100,000 bonds for erecting city auditorium. Alex. Blair, Architect, Macon; D. S. Jones, City Clerk.

Jacksonville, Fla.—Jacksonville Terminal Company, which has charge of operation of all rail transportation in the city, is having plans prepared for a new terminal station estimated to cost $2,000,000. J. C. Blanton, Manager.

Miami, Fla.—See "Reinforced Concrete."

Miami, Fla.—Plans prepared by George L. Pfeiffer of Miami for three-story apartment house and garage which Charles Brickell intends erecting, to cost about $60,000.

Memphis, Tenn.—Plans of John Gainsford, Goodwyn Institute Building, approved for proposed seven-story Tri-State Methodist Hospital, to be erected on Lamar Boulevard, with four wings each five stories, brick, stone and terra cotta construction; probable cost $300,000. J. H. Sherard, Chairman Building Committee.

Louisville, Ky.—All bids recently opened for improving buildings at Kentucky School for the Blind rejected by Board of Visitors, being in excess of the appropriation. New bids will soon be asked.

Akron, Ohio.—Council June 26 passed an ordinance providing $50,000 bonds for erecting an engineering college at the University of Akron.

Bucyrus, Ohio.—School bonds for $35,000 will be sold July 26 by Board Education Bucyrus Township. Consolidated Rural School Dist. (Geo. Ryan, Clerk).

Cincinnati, Ohio.—Preliminary plans for the 7-story brick and stone building to be erected at Eighth and Race Streets for the Business Men's Club are being prepared by Samuel Hannaford & Sons, Sixth and Vine Streets. Cost, approximately $1,000,000.

Cleveland, Ohio.—The New York Central R. R. contemplates constructing a new passenger station and terminal here, but at present time only preliminary work is to be done. Borings to determine subsurface conditions are being made. Construction work may not be started this year. George A. Harwood, Engineering Assistant to Vice-president, Grand Central Terminal, New York.

Plans filed for four-story fireproof garage and warehouse building to be erected by Halle Brothers Company, Euclid Avenue and Huron Road, at 1809 East Twenty-second Street; cost about $70,000.

Reported I. Margolin, 7012 Rough Avenue, will erect an apartment house on Bryant Avenue and Parkwood Drive, estimated to cost $50,000.

Reported John Kovacio, 1061 East Sixty-first Street, will erect a store and apartment house costing $25,000 at St. Clair Avenue and East Fifty-third Street.

Abraham Mednikoff, 605 Society for Savings Building, is having plans prepared for a $35,000 store and apartment building to be erected at Superior Avenue and East 114th Street.

Hough Avenue Congregational Church, Hough Avenue and East Eighty-second Street, will remodel the church at a cost of $40,000. Rev. E. H. Tippett, 7700 Sagamore Avenue, Pastor.

Warner & Swasey Company, 5809 Carnegie Avenue, will erect an astronomical observatory with library and sleeping quarters for Case School of Applied Science, Euclid Avenue and East Boulevard; estimated cost $30,000.

Euclid Baptist Church, Euclid Avenue and East Eighteenth Street, it is reported, will replace present edifice with a 16-story building, including church auditorium, Sunday School rooms, stores and offices; cost estimated at $1,550,000. Rev. W. W. Bustard, Euclid Avenue and East Eighteenth Street, Pastor.

Columbus, Ohio.—Reported erection of a convention hall on High, Town, Rich and Front Streets is under consideration. Address Secretary Chamber of Commerce.

Massillon, Ohio.—Reported erection of nurses' home contemplated at Massillon City Hospital as a memorial to Mrs. C. M. Russell; cost $50,000.

Middletown, Ohio.—Board of Education has authorized issue of $200,000 bonds to erect new high school.

Springfield, Ohio.—Erection of a nursery and hospital at I. O. O. F. Home for Widows and Orphans contemplated; cost $50,000.

Youngstown, Ohio.—See "Steel Bridge Work."

Greencastle, Ind.—Contract will be let about September for erecting a brick and stone women's dormitory at DePauw University. R. F. Daggett, architect, Indianapolis.

Terre Haute, Ind.—Trustees of Indiana State Normal School appointed Clarence Martindale, Indianapolis, to prepare plans for the science building. Contract to be let about Aug. 1. Cost $110,000. Dr. J. R. Gillum, Superintendent of Buildings and Grounds, Terre Haute.

Chicago, Ill.—John White, 3943 Sheridan Road, will erect a laundry building at North Clark and Ainslie Streets; cost about $50,000.

Anchor Leather Company, 1166 Hickory Street, proposes erecting three-story and basement building at Hickory and Division, to cost about $35,000.

Antigo, Wis.—Robert A. Messmer & Brother, Majestic Building, Milwaukee, are architects for $100,000 high school to be erected here. Address Board of Education.

Milwaukee, Wis.—See "Reinforced Concrete."

Park Falls, Wis.—Robert A. Messmer & Brother, Majestic Building, Milwaukee, are architects for proposed $65,000 school.

Superior, Wis.—All bids opened June 23 by Normal School trustees, Madison, for erecting normal training school at Superior Normal School rejected all above appropriation.

Council Bluffs, Iowa.—A three-story stone and brick addition is to be erected to Hamilton Avenue Christian Church, Hamilton and Julian Avenues; cost $35,000.

Abilene, Kan.—See "Reinforced Concrete."

Garfield, Kan.—Plans being prepared by W. E. Hulse & Company, Hutchinson, for consolidated school to be erected here, costing $25,000.

Independence, Kan.—Plans being prepared for six-story bank and office building to be erected for Commercial National Bank.

Seneca, Kan.—Election will probably soon be held to vote $30,000 bonds to erect City Hall. Address City Clerk.

Crete, Neb.—Reported all bids opened for erecting high school rejected as being too high. Address School Board.

Fremont, Neb.—Citizens of the county voted $100,000 bonds to erect a court house. Address County Clerk.

Helena, Mont.—Reported George M. Harris of Portland, Ore., engaged H. H. Johnson of Helena to prepare plans for a $200,000 fireproof theater.

Carrollton, Mo.—Atchison, Topeka & Santa Fe R. R. (E. A. Harrison, Architect, Chicago, Ill.) is preparing plans for a passenger and freight station, 190 x 30 ft., brick, tile roof and concrete floor; cost $25,000.

Kansas City, Mo.—Erection of a brick and stone Masonic Temple to be used by Masonic and Odd Fellow Lodges contemplated; cost $40,000.

Springfield, Mo.—Plans completed by George F. Reed, Holland Building, for school to be erected in Seventh Ward; cost, $40,000.

Beaumont, Tex.—Election to be held July 18 to vote $300,000 bonds for schools and improvements. Address School Board.

Oklahoma, Okla. — Erection of four-story addition to Kingkade Hotel being considered. Address Andrew Kingkade, 21 West Grand Street.

Seattle, Wash.—Contract will be let about July 15 by J. A. Creutzer, Architect, New York Block, Seattle, for three-story and basement 60 x 128-ft. brick apartment house to be erected at Fourteenth Avenue and Thomas Street for Thomas Jarritt.

All bids opened for erecting Commerce Building rejected by Board of Regents, University of Washington, Henry Building; cost, about $150,000. Revised plans to be prepared by Bebb & Gould, Denny Building, and new bids will soon be asked.

Portland, Ore.—Reported Claussen & Claussen, Archts., Maclay Building, will soon let contract for erecting 3-story and basement brick apartment house on West Park and Hall Streets for I. A. Peters. Cost $45,000.

Reported A. E. Doyle, Worcester Building, commissioned to prepare plans for the proposed "White Shield Home" to be erected at Upper Thurman Street and St. Helens Road, in Blythes-Wood Addition, to be erected with the $350,000 endowment fund provided by the late E. Henry Wemme.

Los Angeles, Cal.—Plans prepared by A. B. Rosenthal, 408 Lankershim Building, for three-story and basement, 100 x 82-ft., brick hotel, to be erected by day labor on East Seventh Street and Central Avenue for J. B. Lankershim, Lankershim Building.

Los Banos, Cal.—Citizens voted $63,000 bonds to erect a school. Address Clerk School Board.

Riverside, Cal.—Tentative plans prepared for the school. A. N. Wheelock, Clerk School District.

Sacramento, Cal.—Loring P. Rixford, Sharon Building, San Francisco, engaged to prepare plans for a library to cost $130,000. It will be some time before any further steps are taken. M. J. Desmond, City Clerk.

San Francisco, Cal.—See "Reinforced Concrete."

Turlock, Cal.—Election to be held July 28 to vote $100,000 bonds to erect a high school. Address Board of Education.

Globe, Ariz.—Plans prepared by James S. Pigott, Union Building, Newark, N. J., for Roman Catholic Church and School building to be erected here; cost about $40,000. Rev. Vincent Genevrier, Pastor.

Logan, Utah.—Citizens June 22 voted $80,000 bonds to erect high school. Address Board of Education.

Boise, Idaho.—All bids opened recently by Supervising Architect, Washington, D. C., for constructing U. S. Post Office rejected.

Marieville, Que.—Plans being prepared by Viau & Venne, 76 St. Gabriel Street, Montreal, for a parish church to cost $150,000, to be erected for the Congregation of St. Marie De Monoit.

Montreal, Que.—Plans being prepared by Gauthier & Daoust, 180 St. James Street, for a brick, stone and terra cotta Deaf and Dumb Institute, to cost $280,000.

Winnipeg, Man.—J. B. Mitchell, Commissioner, preparing plans for a school to cost $35,000.

BIDS DESIRED.

Skowhegan, Me.—Reported desired until July 15, by Edw. F. Fassett, Archt., 95 Exchange St., Portland, Me., for erecting women's reformatory, 30 x 149 ft. Probable cost, $50,000.

Massachusetts.—Until July 19, by State Board of Insanity (Michael J O'Meara, M. D.), State House, Boston, for following buildings.

Boston State Hospital, (a) for Women's Custodial Building, separate bids for heating, plumbing and wiring; (b) for fire escapes on Male Infirmary Building; (c) for extensions to sewer and water systems.

Wrentham State Hospital (d) for Dormitory "G," separate bids for the erection, heating, plumbing and wiring.

Danvers State Hospital (e) Nurses Home, separate bids for erection, heating plumbing and electric wiring; (f) for store house and service building. Separate bids for heating, plumbing and wiring, elevator, etc.

Westboro State Hospital (g) alterations to Wards 1 and 4. Separate bids for heating, plumbing and wiring.

Massachusetts School for Feebleminded (h) Recreation Building, erection only, separate bids for each building in each group. Kendall, Taylor & Co., Archts., 93 Federal Street, Boston.

New Britain, Conn.—Reported desired until July 10 for erecting two-story, 120 x 155 ft. grade school. Probable cost $125,000. Unkelbach & Perry, 162 Main Street, Archt.

Elmira, N. Y.—Until July 15 by Henry Melville, President Board Managers, New York State Reformatory for steel window frames and sash and metal covered doors for shop buildings No. 4, New York State Reformatory, Elmira, advertised in Engineering Record. Lewis F. Pilcher, State Archt., Albany.

Jersey City, N. J.—Until July 28 by Board Commissioners City Hall for erecting hospital buildings at Baldwin Avenue and Montgomery Street, advertised in Engineering Record. John T. Rowland, Archt., 100 Sip Avenue; Michael I. Fagen, City Clerk.

Llanerch, Pa.—Until July 10, by Horace B. Morse, Secy. Board Comrs. of Haverford Township, for erecting a township building. Lachman & Murphy, Archts., 933 Witherspoon Bldg., Philadelphia.

Washington Heights, Pa.—Until July 10, for erecting a school at Washington Heights for the East Pennsboro School District. M. I. Kast, Archt., Commonwealth Trust Bldg., Harrisburg.

Wilkinsburg, Pa.—Until July 10, by Board Directors School Dist. (Jas. G. Samson, Chairman) for erecting the new Horner school. Separate bids for heatin, plumbing, etc. Ingham & Boyd, Architects, 323 Fourth Avenue, Pittsburgh.

Chestertown, Md.—Until July 20 by Trustees Washington College for erecting a 2-story, brick and stone administration building costing $43,000 and a 1-story concrete heating plant costing $9,000. James W. Cain, Chairman Building Committee; John T. Barmble, Architect, 2 Lexington Street, Baltimore.

Asheville, N. C.—Until Aug. 1, by F. L. Conder, Secretary-Treasurer of City, for erecting a high school. Wm. H. Lord, Architect, Asheville.

Burlington, N. C.—Until Aug. 11 by James A. Wetmore, Acting Supervising Architect, Washington, D. C., for construction complete of the U. S. Post Office at Burlington, advertised in Engineering Record.

Lake Charles, La.—Reported desired until July 15, by Calcasieu Parish (F. M. Hamilton, Secy.), for erecting two-story 67½ x 100-ft. high school. A. H. Humphreys, Archt., Bloch Bldg.

Nashville, Tenn.—Until Aug. 28, by Jas. A. Wetmore, Acting Superv. Archt., Treas. Dept., Washington, D. C., for extensions, remodeling, etc., U. S. Post Office at Nashville.

Manor, Ohio.—Reported desired until July 14, Allyn Kathwood, Clk. Board Education, Hamilton Township, for erecting a one-story and basement, 66 x 112-ft. grade and high school. Probable cost, $40,000. Frank L. Packard, 1212 Hayden Bldg., Columbus, Architect.

Newark, Ohio.—Until July 15, by Jas. A. Wetmore, Acting Supervising Archt., Treas. Dept., Washington, D. C., for erecting U. S. Post Office at Newark.

Perrysburg, Ohio.—Reported desired until July 14 by Board Education for erecting school. Probable cost $41,000. C. H. Van Norman, Clk.

Struthers, Ohio.—Until July 19, by Jonah Richards, Village Clerk, for erecting municipal building. Miller & Son, Archts., 410 Dollar Bank Building, Youngstown.

Xenia, Ohio.—Until July 20, by Building Committee (W. S. Rogers, Secretary), St. John's A. M. E. Church, for erecting new edifice at Church and Monroe Streets.

Anderson, Ind.—Reported desired until July 15 for erecting school. Separate bids for heating, plumbing, etc. J. C. Woodward, Archt., Council Bluffs, Iowa.

Eminence, Ind.—Reported desired until July 18, by Loyd Brown, Trustee, for addition and remodeling school. Probable cost, $25,000. Layton Allen, Archt., 401 Lombard Bldg., Indianapolis.

Huntington, Ind.—Until July 28, by F. H. Diek, Secretary Board Hospital Trustees, for erecting a brick hospital costing $35,000. J. Edward Allport, 344 Overbrook Park, Cleveland, Ohio, Architect.

Alton, Ill.—Reported desired until Aug. 1 by State Board of Administration for erecting new buildings for the Alton State Hospital.

Chicago, Ill.—Reported desired until July 12, for erecting 13-story and basement, 80 x 125-ft. library and office building for John Crear Library. Holabird & Roche, Archts., 104 S. Michigan Avenue.

Joliet, Ill.—Until July 18, by Board Education (J. F. Skeel, Clk.), for erecting an addition to school. Separate bids for heating, plumbing, etc. Graham Burnham & Co., 1417 Railway Exchange Bldg., Chicago, Architects.

Springfield, Ill.—Reported desired until July 10, for erecting brick school, 5 miles north of Springfield. John I. Rinaker, 316 Ridgeley Bank Building, Springfield.

Cedar, Iowa.—Reported desired until July 25 for erecting two-story and basement, 50 x 75-ft. school for Consolidated School Dist. J. Woody, Secy. Probable cost, $25,000. H. W. Underhill, Bryant Bldg., Kansas City, Mo., Archt.

Red Oak, Iowa.—Until July 24, by Board Education (W. W. Montgomery, Secy.), for erecting a high school. Separate bids for heating, plumbing, etc. Trunk & Gordon, Archts., St. Joseph, Mo.

Sidney, Iowa.—Reported desired until July 14 by Board Education (Milton Estes, Secy.), for erecting two-story and basement brick and stone, 56 x 78-ft. school. Probable cost, $25,000. Chas. M. Nye & C. W. Robinson, Archts., Brandies Bldg., Omaha, Neb.

Williamsburg, Iowa.—Until July 20, by R. E. Misbach, Secy. Bldg. Committee, for erecting a Congregational church. Josselyn & Taylor, Archts., 617 Cedar Rapids Savings Bank Bldg., Cedar Rapids.

Austin, Minn.—Reported desired until July 11, by J. D. Sheedy, Pres. City Commissioners for alterations to Water Works building. F. W. Kinney, Archt., 1004 Plymouth Bldg., Minneapolis.

Bemidji, Minn.—Reported desired until July 18 for erecting a lodge building, B. P. O. E., to contain two stores and theater. Separate bids for heating, plumbing, etc.

Jordan, Minn.—Until July 12, by Board Directors of People's State Bank (Alois M. Schaefer, Cashier), for erecting a one-story and basement brick bank building. Peter J. Linhoff, Archt., St. Paul.

Minneapolis, Minn.—Until July 12, by Board Education (Geo. F. Womrath, Bus. Supt.), for erecting addition to Bremer School, corner Lowry and Emerson Avenues, North; also separate bids July 17 for mechanical equipment. R. V. L. Haxby, Archt., Board Education, 305 City Hall. Rose & Harris, Engrs., 470 Auditorium Bldg.

St. Paul, Minn.—Until July 10, by H. W. Austin, purchasing agent, for furnishing materials for erecting McClellan School, including cut stone, mill work, structural steel, reinforced concrete steel, salt glazed brick, cement, sand, etc.; also for repairs to engine houses 1, 6 and 8 and for reinforced steel for repairs to engine houses Nos. 1, 6 and 8.

Wabasha, Minn.—Until July 14, by John W. Murdoch, Clk. Board Education, for erecting a school. Chandler & Parks, Archts, Racine, Wis.

Kiowa, Kan.—Reported desired until July 17, by J. E. Walton, Secy. Board Education, for erecting two-story and basement school. Probable cost, $40,000.

Grand Harbor, N. D.—Reported desired until July 20, by A. Belcourt, Clk., for erecting a school. J. A. Shannon, Archt., Devils Lake.

Minot, N. D.—Until July 24, by Board Education, Minot Special School Dist., No. 1, for furnishing material and erecting a high school. W. E. Hulse & Co., Northern Pacific Bldg., St. Paul, Architects.

Streeter, N. D.—Until July 20, by Paul Kietzke, Clerk School District No. 42, for erecting a two-story and basement addition to present school. Gilbert R. Horton, Citizens National Bank Bldg., Jamestown, N. D., Architect.

Independence, Mo.—Until July 19, by the School Dist. for erecting a high school. Wm. H. Saylor and Wm. S. McCoy, Assoc. Archts., 606 Gumble Bldg., Kansas City, Mo.

Sweetwater, Tex.—Until July 24, for erecting a fireproof court house, including plumbing, heating and wiring. C. H. Page & Bros., Architect, Austin. Address John H. Cochran, County Judge, Sweetwater.

Tulsa, Okla.—Until July 20, by George Winkler, Archt., 415 Palace Bldg., Tulsa, for erecting five additional stories either structural steel and stone or reinforced concrete to the Palace Bldg. S. Jankowaky, owner.

Covina, Cal.—See "Reinforced Concrete."

Vallejo, Cal.—Until July 29, by Bureau Yards and Docks, Navy Dept., Washington, D. C., for an electric freight elevator at the Navy Yard, Mare Island.

Sault Ste. Marie, Ont.—Until July 21 by H. F. McNaughten, Minister Public Works, for erecting a courthouse. Separate bids for heating, ventilating, plumbing, etc.

Winnipeg, Man.—Until July 11, by Winnipeg Public School Board (R. H. Smith, Secretary-Treasurer), for erecting stone and brick school, bounded by McPhillips, Aberdeen and Redwood Streets. J. B. Mitchell, Commissioner School Buildings.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Portland, Me.**—Contract for erecting high school awarded F. W. Cunningham & Son of Portland at $387,684.

Rumford, Me.—Following are bids opened June 22 by Supervising Architect, Washington, D. C., for constructing of limestone U. S. Post Office at Rumford: T. F. Morreau & Company, Lewiston, $47,730; Newport Contracting & Engineering Company, Newport News, Va., $58,878, and W. H. Fissell & Company, Marbridge Building, New York, N. Y., $62,000 and $65,900 for sandstone.

★**Pittsfield, Mass.**—Contract for erecting brick and stone church and school building for St. Mary's of the Morning Star Parish on Plunkett Street, awarded Edward F. Roscoe of Pittsfield; cost about $60,000.

★**Shelburne Falls, Mass.**—Contracts for erecting gymnasium and school building for Arms Academy awarded as follows: General contract, J. H. Fowles & Son, Holyoke; heating, Holyoke Supply Company; plumbing, Sullivan & Carmody, Holyoke; cost $35,000.

★**Bridgeport, Conn.**—Cass Gilbert, 11 East Twenty-fourth Street, New York, N. Y., preparing plans for a $140,000 church for the United Congregational Church.

★**Middletown, Conn.**—Contract for constructing U. S. Post Office awarded W. H. Fissell & Company, 1328 Broadway, New York, N. Y., at $100,900 for limestone.

★**Chautauqua, N. Y.**—Contract for erecting addition to High and Grade School awarded by Board of Education to E. J. Bailey of Brockton; cost, $50,000.

★**Watertown, N. Y.**—Contract awarded by Papayamakes Brothers, Lyric Theater, to Charlebois Brothers, Watertown, for erecting two-story and basement, 78 x 175-ft. brick and steel theater, store and office building. Syracuse Bridge Company, Syracuse, has steel contract. A. F. Lansing, Archt., Burdick Building.

★**East Orange, N. J.**—Contracts for erecting addition to Elmwood School (bids opened June 19) awarded as follows: General construction to DeRiso Brothers, Inc., Weehawken, $84,672; heating and ventilating, Fred P. Merkel, 533 Central Avenue, Newark, $20,093; plumbing, P. F. Kenny Company, 33 Old Broadway, New York, $5,783; electric work, Beaver Engineering Company, 59 Mechanic Street, Newark, $3,705. Warren A. Clapp, Secretary Board of Education.

★**New Brunswick, N. J.**—Contract awarded by Board Freeholders for constructing the county jail, not including cells, to George B. Rule, New Brunswick, $83,846.

★**Pompton Lake, N. J.**—Contract for erecting school (bids opened June 26) awarded A. W. Crone & Sons, Jersey City, at $33,487. Next three bidders: George W. Cranwell & Son, West Hoboken, $33,684; DeRiso Brothers, Weehawken, $35,932; Fred Haertes, 970 Hudson Avenue, West New York, $36,853.

★**Riverview, N. J.**—Contract awarded McCloskey & Bahls, 1326 Chestnut Street, Philadelphia, Pa., for erecting two-story, 60 x 65-ft., brick and stone school for Upper Pemis Neck Township.

★**Carlisle, Pa.**—Contract awarded August Wildman of Harrisburg for rebuilding school in East Pennsboro Township destroyed by fire; cost $28,000.

★**Columbia, Pa.**—Contract awarded G. W. Paules by Board of Education for erecting a $60,000 school.

★**Jeannette, Pa.**—Contract for erecting Grace Reformed Church on North Second Street awarded J. E. Myers, of Penn, at $30,035, not including heating, etc.

★**Parsons, Pa.**—Contracts for erecting high school awarded as follows: General construction, Herman Mailander, 167 Barney Street, Wilkes-Barre, $45,441; plumbing, A. J. Speicher, Parsons, $2,835; electrical work, E. F. Roth, 75 North Main Street, Wilkes-Barre, $1,980.

★**Philadelphia, Pa.**—Contract for erecting addition to John H. Taggart School at Fourth and Porter Streets awarded Meolody & Keating, 1322 Race Street, at $189,599.

★**New York, N. Y.**—Following are unit figures of four lowest bids opened June 13 by Board Water Supply for Contract 144, construction of two gate chamber superstructures, balustrades and brick paving and miscellaneous work at Silver Lake Reservoir, Borough Richmond, New York City: (a) P. T. Cox, Manhattan Bridge Plaza, Canal Street and Bowery, New York, $40,923 (awarded contract); (b) The Alpha Painting Corporation, 103 Park Avenue, New York, $42,752; (c) Emerson Building Co., 103 Park Avenue, New York, $45,984; (d) William H. Eagan, 147 E. 125th Street, New York, $54,748.

	*(a)	(b)	(c)	(d)
200 bbl. gray Portland cement	$1.90	$1.50	$1.93	$1.75
100 bbl. white Portland cement	3.65	3.45	3.50	3.98
820 sq. yd. vitrified brick pavement	2.60	2.85	2.08	2.25
1,400 lin. ft. electrical conduits	0.25	0.95	0.64	0.60
2 cranes, hand cranes	300.00	375.00	630.00	475.00
North Gate-Chamber superstructure, exclusive of Items 1 to 5, inclusive, and Item 8 (lump sum)	10,073.00	10,815.00	12,693.00	17,949.00
South Gate-Chamber superstructure, exclusive of Items 1 to 5, inclusive, and Item 8 (lump sum)	10,073.00	10,875.00	12,693.00	18,349.00
Balustrades on Middle dike (lump sum)	16,950.00	16,000.00	16,000.00	14,067.00

★Contract awarded Wm. Steel & Sons Company, 1600 Arch Street, for erecting two-story and basement, 44 x 180-ft. brick, stone and concrete store building with a wing 30 x 44 ft., at 1006 Market Street, for S. Snellenburg; cost $55,000.

★Contract awarded by Jason Bailey Company, of Boston, Mass., for erecting a store building at 1006 Market Street, to William Steele & Sons Company, 1600 Arch Street; cost, about $175,000.

★**Pottstown, Pa.**—See "Reinforced Concrete."

Pottstown, Pa.—Following are four lowest bids opened June 26 by Supervising Architect, Washington, D. C., for constructing U. S. Post Office (a) limestone, (b) sandstone: Wise Granite & Construction Company, Richmond, Va. (b) $74,000; J. L. Robinson Construction Company, Baltimore, Md. (a) $71,510; Richardson & Burgess, Washington, D. C. (a) $69,888; Olin Gerlach, Frostburg, Md. (b) $75,900; Edward F. Fonder, Philadelphia, Pa. (a) $71,700; (b) $74,700; James Duvall Canton, Ohio (a) $69,999; (b) $71,224.

★**Wilkes-Barre, Pa.**—Contract awarded William B. Richards of Wilkes-Barre for erecting school at New Grove and Andover Streets, at about $88,000.

★**Baltimore, Md.** — Contract awarded Cowan Building Company, 106 West Madison Street, for erecting stone addition to Sunday school building of Boundary Avenue Methodist Episcopal Church at Forty-second Street and York Road; cost approximately $25,000.

★**South Boston, Va.**—Contract for constructing U. S. Post Office, using limestone and granite, awarded Newport Contracting & Engineering Company, Newport News, at $42,438.

★**Mocksville, N. C.**—Contract for rebuilding court house destroyed by fire awarded J. L. Crouse of Greensboro, at $27,500.

★**Jacksonville, Fla.**—Contract awarded W. P. Richardson, Jacksonville, for erecting 12-room Central Riverside School at Grape and Acostia Streets.

Minden, La.—Following are four lowest bids opened June 22 by Supervising Architect, Washington, D. C., for constructing U. S. Post Office: Algernon Blair, Montgomery, Ala., $45,570 (awarded contract); George A. Shaul, Seneca, Kan., $45,953; Tom Lovell Sons, Weatherford, Tex., $47,313, and George W. Stiles Construction Company, Rookery Building, Chicago, Ill., $47,425.

Alliance, Ohio.—Following are four lowest bids opened June 23 by Supervising Architect, Washington, D. C., for constructing U. S. Post Office, (a) limestone, (b) sandstone: Ohio Building & Construction Company, Cincinnati (a) $98,268; (b) $102,400; James Devault, Canton, Ohio (a) $99,000; (b) $103,000; Robert Mellor, Alliance (a) $91,000; (b) $94,500; Cleveland Fireproof Construction Company, Cleveland (a) $97,545; (b) $99,897.

★**Cincinnati, Ohio.**—Contracts for erecting New Thought Temple on McMillan Street awarded by Garber & Woodward, Architects, 2803 Union Central Building, as follows: Carpentry, A. Holthaus, 520 Prospect Place; brick, hollow tile and furring, August Hitzman, 2614 Spring Grove Avenue; plumbing, Schuster & Wagner, 1228 Walnut Street; cement work, Charles V. Maescher, 517 Hunt Street.

★**Elyria, Ohio.**—Contract awarded John Kaiser & Brother Company, Elyria, for erecting the church for St. Paul Congregation on Third Street, to cost $25,000.

★**Seville, Ohio.**—Contract for erecting school (bids opened June 21) awarded E. Converse, Massillon, at about $30,000. E. R. Alexander, Clerk Board Education.

★**New Albany, Ind.**—Contract for rebuilding Poor Asylum, destroyed by fire, awarded Stephen Day & Son of New Albany at $28,820.

Indianapolis, Ind.—See "Reinforced Concrete."

Washington, Ind.—Following are lowest bids opened June 23 by Supervising Architect, Washington, D. C., for constructing U. S. Post Office: H. G. Mitchell, Stotsburg, Ind., $49,995, brick, faced with limestone, or $52,095 stone with limestone: Dunlap & Company, Columbus, $53,685, brick, faced with sandstone; and R. P. Farnsworth & Company, Owensboro, Ky., $56,900, stone, faced with sandstone.

★**Plymouth, Mich.**—Contracts for erecting school (bids opened June 24) awarded as follows by Board of Education (J. J. Travis, President): General contract, Beyers Construction Co., Kalamazoo, $92,404; heating and ventilating, Bryce Heating & Ventilating Co., Toledo, Ohio, $15,011; plumbing, Wheeler & Blaney Co., Kalamazoo, $4,424.

★**Milwaukee, Wis.**—Contract awarded George A. Fuller Company, Chicago, Ill., for erecting main telephone exchange and general office building for Wisconsin Telephone Company on Broadway and Wisconsin Street; cost, $300,000.

★**Neenah, Wis.**—Contract for constructing U. S. Post Office awarded Charles W. Gindele Company, Chicago, Ill., at $45,750.

Grinnell, Iowa.—Following are four lowest bids opened June 26 by Supervising Architect, Washington, D. C., for constructing U. S. Post Office, (a) limestone, (b) sandstone: George A. Shaul, Seneca, Kan. (a) $61,134; Northern Construction Company, Milwaukee, Wis. (b) $66,750; Charles W. Gindele Company, Chicago, Ill. (a) $62,250; William O'Neil & Sons Company, Faribault, Minn. (a) $60,060; Charles Weitz Sons, Des Moines (a) $60,500; C. W. Snnis, Toledo, Ohio (b) $72,000.

Lewis, Iowa.—See "Reinforced Concrete."

★**Byron, Minn.**—Following are four lowest bids opened June 22 by Charles J. Webb, Clerk Consolidated School District No. 41, for erecting a school: G. Schwartz & Co., Rochester, Minn., $29,870 (awarded contract); McDonald Williams Co., Minneapolis, $32,955; Farnam Brothers Co., Minneapolis, $34,677.

★**Alliance, Neb.**—Following are four lowest bids opened June 23 by Supervising Architect, Washington, D. C., for constructing U. S. Post Office, (a) limestone, (b) sandstone: G. A. Shaul, Seneca, Kan. (a) $56,995 (awarded contract); Charles Weitz Sons, Des Moines, Iowa (a) $57,548; (b) $59,500; G. W. Stiles Construction Company, Rookery Building, Chicago, Ill. (a) $61,826; R. E. Campbell, Salt Lake City, Utah (a) $67,485.

★**Chadron, Neb.**—Contract awarded by State Normal Board for erecting building here to F. E. Mulholland, Chadron, at $49,850; plumbing and heating to Burke & Son of Kearney.

★**Havelock, Neb.**—Contract for erecting two-story brick high school awarded by School Board to H. A. Jones of Cedar Rapids, Iowa, at $48,000.

★**Kearney, Neb.**—Contracts for erecting gymnasium on State Normal School grounds (bids opened June 23) awarded as follows: General construction to Walter Kuntzen, Kearney, $50,017; heating and plumbing, C. J. Burke & Son, Kearney, $1,437; electric wiring, State Engineering Company, Lincoln, $741. A. L. Cavinesse, Secretary State Board Education, Lincoln.

★**Wayne, Neb.**—Contract awarded by State Normal Board, Lincoln, for erecting gymnasium and manual training building to J. P. Riddle of Creighton at $62,000; plumbing and heating to Burke & Son of Kearney.

Redfield, S. D.—Following are bids opened June 26 by Supervising Architect, Treasury Department, Washington, D. C., for constructing U. S. Post Office, (a) limestone, (b) sandstone: G. W. Stiles Construction Company, Rookery Building Chicago, Ill. (a) $59,355; W. D. Lovell, Minneapolis, Minn. (a) $59,600; H. F. Stoltz, Redfield (a) and (b) $63,950; Charles Weitz Sons, Des Moines, Iowa (a) $58,780.

★**Dillon, Mont.**—Contract awarded A. B. Dekay of Helena for erecting Hartwig Theater, three stories; cost approximately $50,000. Link & Haire, Architects, Helena.

Corpus Christi, Tex.—Lowest bid, opened June 22 by Supervising Architect, Washington, D. C., for furnishing and installing electric passenger elevators in U. S. Post Office at Opelika, Ala., and Corpus Christi, Tex., submitted by Kaetsner & Hecht Company, Chicago, Ill.; in Opelika P. O., $3,509, and in Corpus Christi P. O., $3,535.

★**Culver City, Cal.**—Contract awarded W. Kent & Son, Glendale, for erecting two-story and basement, 202 x 160-ft., brick school at about $39,500. O. P. Dennis, Architect, Fay Building, Los Angeles.

★**Los Angeles, Cal.**—Contract awarded L. T. Mayo, 530 Beack Building, for erecting four-story brick apartment house at 672 South Rampart Boulevard, for F. J. Miller; cost, about $60,000. L. L. Jones, Archt., Central Building.

San Francisco, Cal.—See "Reinforced Concrete."

★**Douglas, Ariz.**—Contract for constructing U. S. Post Office awarded Grant Fee, San Francisco, Cal., at $77,000 for limestone.

★**Nampa, Idaho.**—Reported A. S. Whiteway of Boise has secured contract on revised plans for erecting high school at $43,315.

★**Montreal, Que.**—Contract for erecting an apartment house for F. Lecavalier, 65 Cherrier Street, awarded J. Dominique, 166 Marcil Avenue. Cost, $60,000.

★Contract awarded to Ruthenian Catholic Corporation, 992 Sherbrooke Street West, for erecting a brick church to Filion Freres, 2419 St. Denis Street; cost, $65,000.

★**London, Ont.**—Contracts for erecting technical school (bids opened June 12), awarded by Board of Education as follows: General construction to John Putherbough, 1006 Wellington Street, at $120,-500; plumbing and heating to Egget & Company, 336 Ridout Street, $30,000; electric wiring, Benson & Wilcox, 264 Dundas Street, at $5500. A. E. Nutter, architect, Dominion Bank Building.

★**Petrolea, Ont.**—Contract for erecting $35,000 bank building for Crown Savings & Loan Company awarded Robert Jackson of Petrolea.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Albany, N. Y.—State Canal Board, Albany, has approved plans for construction of the barge canal terminal in Lyons, estimated to cost $57,925.

State Canal Board, Albany, has approved plans and specifications for the Junction Lock, to be constructed at Mohawk, known as Contract 133, estimated cost $47,534. Board also approved plans for installing steel derrick on terminal sites at Albany, Whitehall, Little Falls, Rome, Lockport and Tonawanda, estimated cost $21,891.

Marshall, N. C.—All bids opened June 20 for constructing a masonry dam for the Capitola Manufacturing Company of Marshall, dam to be constructed over French Broad River in Madison County rejected. Dam was to be of cyclopean concrete, approximately 515 ft. long and 10 ft. high, together with abutments and gate sections, etc. Chas. E. Waddell, Consulting Engineer, 78 Patton Avenue, Asheville.

Miami, Fla.—Reported U. S. Corps Engineers have granted to Commissioners of Dade County a permit to construct a causeway across Biscayne Bay from Miami to Ocean Beach, to be 100 ft. wide, 3 miles long and have three divisions, one for street railway, one for automobiles and wagons, and one for pedestrians. Earth and rock construction will form the wagon way; a viaduct 2000 ft. long with a draw span at each end is included in the work. Klyce & Klyce of Miami are engineers; estimated cost $600,000.

Great Falls, Mont.—County Commissioners plan replacing present bridge with $200,000 steel and concrete structure. B. C. Johnston, County Engineer.

Fresno, Cal.—San Joaquin Light & Power Company will construct a hydro-electric plant and install transformers costing approximately $232,000 if State R. R. Commission grants application for permission to issue bonds.

Crabtree Mills, Que.—Plans being prepared by R. S. Kelsch, Power Building, Montreal, for a dam and power plant to be constructed for the Crabtreee Paper Company, to cost $70,000.

Almonte, Ont.—Construction of a hydro-electric plant is under consideration by Town Council; estimated cost $18,000.

Vancouver, B. C.—Reported plan of Vancouver Harbor Board to issue $5,000,-000 bonds for acquiring waterfront property and carrying out development work, covering period of five years, including wharfs, etc., has been approved by Government.

BIDS DESIRED.

Brooklyn, N. Y.—Until July 13, by the Park Board, at office of Department of Parks (Cabot Ward, President), for furnishing and delivering 1900 cu. yd. trap rock and trap rock screening to park and parkways in the Borough of Brooklyn.

Milwaukee, Wis.—Until July 10, by Lighthouse Inspector, for furnishing rip rap stone.

Portland, Ore.—Until July 19 by John B. Coffey, County Auditor, for constructing a concrete arch and retaining wall on Bass Line extension quantities include: 22,500 lb. reinforcing steel and 256 lin. ft. railing for retaining wall, 250 cu. yd. concrete in superstructure, 75 cu. yd. concrete in foundation, 200 cu. yd. concrete and 14,000 lb. reinforcing steel in retaining wall. John B. Yeon, County Road Master.

Warwick, Ont. — Nathaniel Herbert, Watford (not Waterford as previously stated) Ont., may be able to give information regarding hydro-electric power plant which Council of Warwick Township contemplates constructing.

Moose Jaw, Sask.—Until July 14, by City Commissioners Moose Jaw (W. W. Davidson, Chmn.), for constructing a pile dam about 875 ft. long at city of Moose Jaw Waterworks, Caron, Sask.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Massachusetts. — Following are bids opened June 28 by Harbor and Land Commission, Statehouse, Boston:

At Hull, Mass.—Furnishing 20,000 tons of stone for breakwater at Gun Rock Point, Hull: Rockport Granite Company, Rockport, $1.55 per ton; Dennis F. Crowley, East Milton, $1.63, and Cape Ann Granite Corporation, Beverly, $1.65.

At Dartmouth, Mass.—Furnishing 8500 tons stone to be used in building breakwater at Salter's Point, Dartmouth: John R. Burke, 78 Devonshire Street, Boston, $1.78 per ton; E. S. Belden & Son, Hartford, Conn., $2.13, and Rockport Granite Company, Rockport, Mass., $2.90.

At Sandwich, Mass.—Furnishing 2000 tons of stone to be used in extending jetties at Sanwich: Rockport Granite Company, Rockport, $2.40; Bay State Dredging Company, 247 Atlantic Avenue, Boston, $2.49, and Dennis F. Crowley, East Milton, $2.85.

At Plymouth, Mass.—Dredging 50,000 cu. yd. material in Plymouth Harbor, Mass.: Boston Dredging Company, 40 Central Street, Boston, 24.9 cts., Bay State Dredging Company, 254 Atlantic Avenue, Boston, 25 cts., and J. S. Packard Dredging Company, Providence, R. I., 24.75 cts.

Salem, Mass.—Until July 13, by County Commissioners (Moody Kimball, Chairman), for rebuilding Essex bridge over the Danvers River between Salem and Beverly, to consist of removing all portions of old pile structure 1508 ft. long, except the draw span, furnishing material and putting in place a wooden pile and timber bridge of a total length of about 820 ft., and solid fill approaches with rip rap slopes and masonry abutments, together with granite block pavement on roadways and granite sidewalks.

Albany, N. Y.—Following are unit figures of the lowest bid opened June 27 by W. W. Wotherspoon, State Superintendent Public Works, for Contract A-1, Cayuga and Seneca Canal, Section 1, making repairs to and constructing a fish ladder around Dam No. 1, near Cayuga, N. Y. (Engineer's estimate, $29,272): Sherman Statler Company, Lyons, coffer dams, pump bail and draining, lump sum, $1,000; 1570 cu. yd. excavation, 75c.; 250 cu. yd. forming embankment, 25c.; 555 cu. yd. lining, $1.25; 12,850 sq. ft. steel sheet piling, $1.25; 235 cu. yd. second-class concrete, $8; 90 cu. yd. concrete in fish ladder, $15; 120 lb. metal reinforcement, 4c.; repairing, maintaining and removing temporary dam, $3,600; total, $25,831. Total of next three bidders: E. Brown Baker, Herkimer, $27,947; Larkin & Sangster, Buffalo, $28,720, and Walsh Construction Company, Davenport, Iowa, $29,272.

★**New York, N. Y.**—Contracts awarded to Raymond Concrete Pile Co., 140 Cedar Street, include concrete base for machine shop floor for Maryland Steel Co., Sparrow Point, Md.; 2 reinforced concrete trestles for Wheeling & Lake Erie R.R. over Nimishillen Creek, Canton, Ohio; concrete piling and foundations for new building for Garside Shoe Co., Long Island City, L. I., N. Y.; concrete piling for foundations of 2 new buildings for the Schoelkopf Aniline & Chemical Works, Inc., Buffalo, N. Y.; concrete piles for foundation of Barrett Co.'s new plant at Detroit, Mich.; concrete piling foundation for new power house for Connecticut Co., New Haven, Conn.; concrete piling for foundation for new building for American Can Co., Seattle, Wash.; concrete piling foundation for new building for American Can Co., Brooklyn, N. Y.; concrete piles for the foundations of John T. Milliken Co. Building, St. Louis, Mo.; set of ship ways of concrete for Marine Department of the Maryland Steel Co., Sparrow Point, Md.; concrete piling and concrete foundations complete for five new buildings for General Chemical Co., Marcus Hook, Pa.

★**New York, N. Y.**—Foundation contracts awarded Underpinning & Foundation Company, 290 Broadway, New York, as follows: Twelve-story loft building at 44 East Thirty-second Street for Hasco Building Company, 245 West Fifty-fifth Street; Architect Walter Haefli, 245 West Fifty-fifth Street; twelve-story loft building at Twenty-ninth Street and Madison Avenue, northeast corner, for Brunswick Realty Company, 35 West Thirty-ninth Street; Architect Frederick C. Zobel, 35 West Thirty-ninth Street; sixteen-story office building at 18 West Forty-fifth Street, for Berkeley Arcade Corporation, 19 West Forty-fourth Street; Architects, Starrett & Van Vleck, 8 West Fortieth Street; General Contractors, Fred T. Ley & Company, 52 Vanderbilt Avenue.

★**Baltimore, Md.**—Reported contract for constructing reinforced concrete pier for Baltimore & Ohio Company, at Locust Point, awarded H. S. Kerbaugh, Baltimore, at about $500,000.

★**Fort Dodge, Iowa.**—Contracts awarded as follows for constructing the hydro-electric plant: Dam and power house, etc., to Koss Construction Company, Des Moines, at $80,000; machinery, Merkle Hines Machinery Company, Interstate Building, Kansas City, Mo. Burns & McDonnell, Engineers, Interstate Building, Kansas City, Mo.

★**Seattle, Wash.**—Contract for constructing guide wall (bids opened June 12) awarded by U. S. Engineer to Lester & Monohahan, Seattle, at $17,285.

TUNNELS AND SUBWAYS

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Connecticut.**—Contracts awarded by State Highway Commissioner, Hartford, for constructing a subway at Windsor (bids opened June 20), to Hyde Park Construction Company, 164 Federal Street, Boston, Mass., at $39,178.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Albany, N. Y.—See "Buildings."

Bartow, Fla. — Supervisors of Peach Creek Drainage District have approved plans prepared by Elliott & Harman, Peoria, Ill., for the drainage of about 50,000 acres of lands. There will be about 22 miles of main branch and 120 miles of laterals, 12 highway bridges included in the work. Total excavation is estimated at 2,432,743 cu. yd.

Bunnell, Fla.—J. I. Moody and J. F. Lambert, of the Bunnell Development Company, and J. E. Ingraham, president of the Model Land Company and vice-president of the Florida East Coast Ry. Co., St. Augustine, are reported interested in the organizing of the drainage district which is being formed for the purpose of draining 53,000 acres of rich farm land around Bunnell, St. Johns County; cost estimated at $200,000.

Louisville, Miss.—Bonds for $19,000 will be sold July 17, by W. C. Hight Drainage Commissioner, for completing the Town Creek Drainage Canal.

Paducah, Ky.—It is proposed to construct the Mayfield Creek Drainage District, to include 23 miles of main channel, 17 miles laterals, and estimated to cost $200,000. Contract will be let about August. J. E. Johnson, Chief Engineer, Paducah.

Geneseo, Ill.—Drainage District to enlarge Green River from point north of the city to a point 7½ miles long. Henry Waterson, Geneseo, may be able to give information.

Rock Island, Ill.—Drury Drainage District has sold $58,500 bonds. Levee improvements are to be made. Charles Stickler, Drury, is Secretary of the District.

Windom, Minn.—All bids opened June 28 by County Commissioners for constructing Judicial Ditch No. 18 of Cottonwood and Murray Counties, including 211,-410 ft. 5 to 26 in. tile, estimated cost $151,880, open work, estimated at $278.80, rejected. S. H. Brown, County Auditor.

Kansas City, Mo.—The diversion of Turkey Creek from Kansas City, Mo., and running through what is known as Greystone Heights, on the Kansas side of the line. The tunnel proper will be 1200 ft. long, with a bore of 28 ft. in diam. Work is to be done by the city of Rosedale, Kan., under the supervision of Harrington, Howard & Ash, Engineers, of Kansas City, representing Kansas City, Mo. Cost, including tunnel, dam and diversion, will be about $350,000. Plans and specifications completed.

Dallas, Tex.—Petition has been filed with the County Clerk by Hurt & Hurt, Attorneys, property owners in the Trinity River district, for the establishment of the Dallas County Levee and Improvement District No. 3.

Cucamonga, Cal. — Storm protection bonds for $80,000 will be sold July 15 by Board of Directors of Alta Loma Storm Protection Dist. H. G. Klysman, Secy.

Boise, Idaho.—Construction of the Brunwau Irrigation project will begin Aug. 1 by Wickahoney Land & Water Company, Boise (D. Miller, President) District covers about 10,000 acres.

Toronto, Ont.—Harbor Commission has filed with Public Works Department plans for the bastion seawall to be built at the mouth of Humber River.

BIDS DESIRED.

Mt. Gilead, Ohio.—Until July 12 by Thad. E. Buck, Engineer, Mt. Gilead, for excavation of 24,390 cu. yd. county ditch work. Small steam shovel can be used to advantage.

Jacksonville, Ill.—Until July 27, by Caldwell Engineering Company, Jacksonville, for constructing Hillview Levee and Drainage District, requiring about 220,579 cu. yd. of excavation. Plans may be obtained from the engineer on a deposit of $5.

Rock Island, Ill.—Until about July 20 by William McConochie, Mayor, for constructing storm drains, 4500 ft., 42 x 42 ft., 5 ft. x 7 ft., and 7 ft. x 10 ft. storm drains, costing $40,000. Wallace Treichler, City Engineer.

Council Bluffs, Iowa.—Reported desired until July 15, by Mosquito Creek Drainage Dist. No. 74, for drainage. J. D. Hannan, County Auditor.

Emmetsburg, Iowa.—Until July 11, by W. T. Eagan, County Auditor, Emmetsburg, not Des Moines as previously stated, for constructing Des Moines River Ditch, about 1,849,000 cu. yd., advertised in Engineering Record.

Nevada, Iowa.—Reported desired until July 14 by F. E. King, Co. Aud., for constructing drain known as Boone Story Joint Drain No. 7. Probable cost, $30,000.

St. Cloud, Minn.—Until July 21, by N. Thomey, Co. Aud., for constructing Ditch No. 37, to include 94,305 cu. yd. subdrain ditch and five branches containing a total of about 181,548 cu. yd., together with five reinforced concrete arch culverts, etc. Cost $21,693. Chute & Bradley, Engrs., St. Cloud.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Albany, N. Y.—See "Waterworks and Sewerage Systems."

Albany, N. Y.—See "Foundations, Piers and Dams."

★**Albany, N. Y.**—Following are four lowest bids opened June 27 by W. W. Wotherspoon, State Superintendent Public Works, Albany, for Contract No. 72-B, Champlain Canal, Section 1, widening the canal prism in the Hudson River from mouth of Hoosic River to south end of Green Island, (a) price per cubic yard, about 67,000 cu. yd., (b) total: James Stewart & Company, Inc., 30 Church Street, New York; N. Y. (a) $1.62; (b) $108,540 (awarded contract); Great Lakes Dredge & Dock Company, Albany (a) $2.15; (b) $144,050; Troy Public Works Company, Inc., Utica (a) $2.39½; (b) $160,465; E. Brown Baker, Herkimer, and Frank L. Cohen, Buffalo, each bid the same, (a) $2.40; (b) $160,800.

★**Philadelphia, Pa.**—Contract awarded American Dredging Company, 308 Chestnut Street, Philadelphia, Pa., for dredging at the Navy Yard, Philadelphia, at $24,465.

★**Baltimore, Md.**—Contract for dredging in Elk and Little Elk Rivers (bids opened June 30 by U. S. Engineer, Room 309 Custom House, awarded Maryland Dredging & Contracting Company, Fidelity Bldg., at 27 cts. per cu. yd.

★**Crookston, Minn.**—Contract for constructing Ditch No. 98 (bids opened June 23) awarded United Dredging Company, Grand Rapids.

MISCELLANEOUS

PROPOSED WORK.

Conduit System—Camden, N. J.—Victor Talking Machine Company has applied for permission to lay additional railroad tracks across Delaware Avenue and to construct an underground conduit system for electric wires and cables from the power plant to Delaware River. A 16-in. pipe will be laid.

Park Bonds—Hagerstown, Md.—Park bonds for $15,000 sold. Address City Clerk.

Garbage Disposal—Lincoln, Neb.—Lincoln Garbage & Sanitary Company has made a proposition to the City Council for a garbage incinerator, garbage collection and garbage disposal. Adna Dobson, City Engineer.

BIDS DESIRED.

Conduits—Boston, Mass.—Until July 10, by John Grady, Fire Commissioner, for constructing an underground fire alarm service including laying about 2965 ft. single duct 473 ft. 2 ducts 26 ft. four ducts 473 ft. 2 ducts 26 ft. of four ducts and setting about 22 lamp posts and one test

post, also separate bids for rubber insulated lead covered cable comprising about 1000 ft. of 61 conductor, 3761 ft. 20 conductor, 4543 ft. 15 conductor, 12,482 ft. 10 conductor, 10,162 ft. 6 conductor and 4928 ft. 4 conductor.

Metal Furniture—Albany, N. Y.—Until July 18, by Trustees Public Buildings, Executive Chamber, Capitol, Albany, for metal furniture and equipment for State House, Albany, advertised in Engineering Record. Lewis F. Pilcher, State Architect, Albany.

Guard Rails—New York, N. Y.—Until July 14, by Board of Elections (S. Howard Cohen, Chief Clerk), for furnishing and delivering metal guard rails (Items 1, 2A and 2B), Contract No. 2.

Incinerator—Belleville, N. J.—Until July 19, by Committee on Public Buildings, Board Chosen Freeholders, Newark, for furnishing material and erecting an incinerator plant at Essex County Hospital for Contagious Diseases at Soho, Belleville, N. J. Jos. B. Allen, Archt., 1019 Sanford Avenue, Irvington.

Coal Trestle—Philadelphia, Pa.—Until July 14, by Pennsylvania Railroad at office of Chief Engineer, A. C. Shand, for furnishing material and constructing coal trestle, ash pit, and crane runway in Reed Street Freight Yard.

Sprinkler Systems—Pittsburgh, Pa.—Until July 13 by George W. Gerwig, Seecy. Board Education, 725 Fulton Bldg., for installing sprinkling systems in Franklin, Hancock, Somers, Moorehead, Grant and Minersville Schools.

Fire Escapes—Pittsburgh, Pa.—Until July 11, by John P. Moore, County Controller, for erecting two wire inclosed fire escapes for Detention Home of the Juvenile Court. J. G. Chalfant, County Engineer, 308 Court House, Pittsburgh.

Electric Trucks and Trailers—Jacksonville, Fla.—Until July 24, by Board Port Commissioners, Room 405 Realty Building, for electric trucks and trails, advertised in Engineering Record.

Lamp Posts—Cleveland, Ohio.—Reported desired until July 8, by E. G. Krause, Clerk County Commissioners, for constructing lamp posts on Brooklyn Brighton Bridge. W. A. Stinchcomb, County Surveyor.

Smoke Stack—Jacksonville, Ill.—Reported desired until July 8, for constructing brick smoke stack at County Courthouse.

Garbage Disposal—Des Moines, Iowa.—Until Aug. 2, by John MacVicar, Mayor, for erection and installation of an incinerator reduction or other approved form of garbage and light refuse disposal plant, of 100 tons daily capacity, advertised in Engineering Record.

Heating Plant—Rock Rapids, Iowa.—Until July 12, by City Council at office of W. F. Gindrich, Supt. Water, Light and Heating Dept. for installing heating plant in streets. Separate bids desired conduit system and piping system. Proposal A. excavation, conduit, manholes, anchor pits and pipe covering. Proposal B, steam piping, fitting and specialties. L. A. Larsen, Consulting Engr., St. Paul.

Transmission Line—Alcester, S. D.—Until July 19, by A. A. Treick, City Aud., for furnishing material and constructing an electric transmission line and distribution system for city. Earle D. Jackson, Consulting Engr., St. Paul.

Proposals

For Proposals Advertised See Pages 41, 42, 43 and 44.

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.		See Eng. Record.
Jul. 10.	Great Falls, Mont. Adv. Jun. 24, Jul. 1.	Jun. 24
Jul. 10.	Spartan, Ill. Adv. Jul. 1.	Jul. 1
Jul. 11.	Thief River Falls, Minn.	Jul. 1
Jul. 11.	Berwyn, Ill.	Jul. 1
Jul. 11.	Jersey City, N. J.	Jul. 1
Jul. 11.	New York, N. Y.	Jul. 1
Jul. 11.	Ironton, Ohio.	Jul. 1
Jul. 11.	Boston, Mass.	Jul. 8
Jul. 11.	Shreveport, La.	Jul. 8
Jul. 12.	Sylvania, Ohio Adv. Jul. 1, 8.	Jul. 1
Jul. 12.	Bellwood, Neb.	Jul. 1
Jul. 12.	Baldwin, Miss.	Jul. 1
Jul. 12.	Salisbury, N. C. Adv. Jun. 24, Jul. 1.	Jun. 24
Jul. 12.	Troup, Tex.	Jul. 1
Jul. 12.	Little Falls, N. J.	Jul. 1
Jul. 12.	Perth Amboy, N. J.	Jul. 8
Jul. 12.	Celina, Ohio	Jul. 8
Jul. 12.	Batavia, N. Y.	Jul. 8
Jul. 12	Blackwell, Okla	Jul. 8
Jul. 13.	Saskatoon, Sask.	Jul. 1
Jul. 13.	Woonsocket, R. I. Adv. Jul. 1.	Jul. 1
Jul. 13.	Decatur, Ill. Adv. Jul. 8.	Jul. 8
Jul. 13.	Mounds Bayou, Miss. Adv. Jul. 8.	Jul. 8
Jul. 13.	Ellis, Kan.	Jul. 8
Jul. 13.	Worthington, Minn. Adv. Jul. 8.	Jul. 8
Jul. 13.	Tulsa, Okla.	Jul. 8
Jul. 14.	Panama	Jul. 1
Jul. 14.	Erie, Pa.	Jul. 1
Jul. 14.	Sheridan, Mont.	Jul. 1
Jul. 14.	Columbia Heights, Minn.	Jul. 8
Jul. 14.	Boston, Mass.	Jul. 8
Jul. 15.	Skowhegan, Me.	Jul. 1
Jul. 15.	Lovelock, Nev.	Jun. 24
Jul. 15.	Charter Oak, Iowa	Jun. 17
Jul. 15.	Mapleton, Iowa	Jun. 17
Jul. 15.	Lowellville, Ohio	Jul. 8
Jul. 17.	Red Lake Falls, Minn.	Jul. 1
Jul. 17.	New York, N. Y.	Jul. 8
Jul. 17.	Canby, Ore.	Jul. 8
Jul. 18.	St. Ignatius, Mont.	Jun. 24
Jul. 18.	Newark, N. J. Adv. Jul. 1, 8.	Jul. 1
Jul. 18.	Henderson, N. C.	Jul. 8
Jul. 18.	Winnipeg, Man.	Jul. 8
Jul. 18.	Ossian, Iowa Adv. Jul. 8.	Jul. 8
Jul. 19.	Halifax, N. S. Adv. Jul. 1, 8.	Jul. 1
Jul. 19.	Wilmington, N. C.	Jul. 8
Jul. 20.	Evansville, Ind.	Jun. 17
Jul. 20.	Bridgeport, Conn. Adv. Jun. 24 to Jul. 8.	Jun. 24
Jul. 20.	Thiells, N. Y. Adv. Jul. 8.	Jul. 8
Jul. 20.	Atlantic City, N. J. Adv. Jul. 8.	Jul. 8
Jul. 21.	East Youngstown, Ohio	Jul. 8
Jul. 24.	West Park, Ohio	Jul. 1
Jul. 24.	Saskatoon, Sask.	Jul. 8
Jul. 24.	Skillman, N. J.	Jul. 8
Jul. 24.	Somerville, N. J.	Jul. 8
Jul. 28.	Chaffee, Mo. Adv. Jul. 8.	Jul. 8
Jul. 29.	Oregon City, Ore.	Jul. 1
Aug. 3.	Miami, Fla.	Jul. 1

STEEL BRIDGE WORK.

Jul. 11.	Luverne, Minn.	Jul. 1
Jul. 11.	Marshall, Mich. Adv. Jul. 1.	Jul. 1
Jul. 11.	Athens, Pa.	Jul. 1
Jul. 11.	Pepperton, Minn.	Jul. 8
Jul. 11.	Hastings on Hudson, N.Y. Adv. Jul. 1 and 8.	Jul. 1
Jul. 12.	Manhattan, Kan.	Jul. 1
Jul. 12.	Hackensack, N. J. Adv. Jul. 8.	Jul. 8
Jul. 13.	Sidney, Mont.	Jul. 1
Jul. 14.	Aitkin, Minn.	Jul. 1
Jul. 18.	Maryland Adv. Jul. 1.	Jul. 1
Jul. 18.	Saginaw, Mich. Adv. Jul. 8.	Jul. 8
Jul. 20.	Dayton, Ohio	Jul. 1
Jul. 21.	Holyoke, Mass. Adv. Jul. 8.	Jul. 8
Jul. 28.	Easton, Pa.	Jul. 8
Jul. 29.	Louisville, Ky. Adv. Jul. 8.	Jul. 8
Aug. 1.	Pascagoula, Miss	Jun. 24
Aug. 4.	Newman, Ga.	Jul. 8
Aug. 8.	La Moure, N. D.	Jul. 8
Aug. 15.	Petersburg, Va. Adv. Jul. 8.	Jul. 8

REINFORCED CONCRETE

Jul. 11.	Rehoboth, Del. Adv. Jun. 17.	Jun. 17
Jul. 11.	Chippewa Falls, Wis.	Jul. 1
Jul. 11.	Shakopee, Minn.	Jul. 8
Jul. 12.	Illinois	Jul. 1
Jul. 12.	Westmoreland, Kan.	Jul. 8
Jul. 17.	Cocoa, Fla.	Jul. 1
Jul. 17.	Galva, Ill.	Jul. 8
Jul. 17.	Salt Lake City, Utah	Jul. 8
Jul. 17.	Belgrade, Minn.	Jul. 8
Jul. 20.	Chestertown, Md.	Jul. 8
Jul. 21.	Holyoke, Mass. Adv. Jul. 8.	Jul. 8
Jul. 22.	Lewisburg, Pa.	Jul. 8
Jul. 24.	Los Angeles, Cal.	Jul. 1
Jul. 27.	Prairie Du Chien, Wis.	Jul. 8
———.	Cincinnati, Ohio Adv. Jun. 17.	Jun. 17

ROADS AND PAVING.

Jul. 10.	Beaver Falls, Pa. Adv. Jul. 1.	Jul. 1
Jul. 10.	Montclair, N. J. Adv. Jul. 1, 8.	Jul. 1
Jul. 10.	Albany, N. Y. Adv. Jun. 24 to Jul. 8.	Jun. 24
Jul. 10.	Glen Ellyn, Ill. Adv. Jul. 8.	Jul. 8
Jul. 11.	Berwyn, Ill.	Jul. 1
Jul. 11.	Rockville, Md.	Jul. 1
Jul. 11.	Jersey City, N. J.	Jul. 1
Jul. 11.	Indiana	Jun. 24
Jul. 11.	Concrete, Wash.	Jun. 24
Jul. 11.	Bayonne, N. J.	Jun. 24
Jul. 11.	Seattle, Wash.	Jun. 24
Jul. 11.	Springfield, Ill.	Jun. 24
Jul. 11.	Howell, Mich.	Jul. 1
Jul. 11.	St. Louis, Mo.	Jul. 8
Jul. 11.	Oneida, N. Y.	Jul. 8
Jul. 11.	Murfreesboro, Tenn. Adv. Jul. 8.	Jul. 8
Jul. 11.	Durango, Col.	Jul. 8
Jul. 11.	Estacada, Ore.	Jul. 8
Jul. 11.	Pasadena, Cal.	Jul. 8
Jul. 11.	Kansas City, Mo.	Jul. 8
Jul. 11.	Massachusetts	Jul. 8
Jul. 11.	Plainfield, Ind.	Jul. 8
Jul. 12.	Hazard, Ky. Adv. Jul. 1.	Jul. 1
Jul. 12.	Sylvania, Ohio Adv. Jul. 1, 8.	Jul. 1
Jul. 12.	Dayton, Ohio	Jun. 24
Jul. 12.	Albany, N. Y. Adv. Jun. 24 to July 8.	Jun. 24
Jul. 12.	Dyersburg, Tenn. Adv. Jul. 1, July 8.	Jul. 1
Jul. 12.	Defiance, Ohio	Jul. 1
Jul. 12.	Rhode Island	Jul. 1
Jul. 12.	Baltimore, Md.	Jul. 8
Jul. 12.	Erwin, Tenn.	Jul. 8
Jul. 12.	Mount Vernon, Ohio	Jul. 8
Jul. 12.	Monticello, Ill.	Jul. 8
Jul. 12.	Baltimore, Md.	Jul. 8
Jul. 12.	Milwaukee, Wis.	Jul. 8
Jul. 12.	Illinois	Jul. 8
Jul. 13.	Newark, N. J.	Jul. 1
Jul. 13.	Anaheim, Cal.	Jun. 24
Jul. 13.	Jersey City, N. J.	Jul. 1
Jul. 13.	Newark, N. J.	Jul. 8
Jul. 14.	Albany, N. Y. Adv. Jun. 24 to Jul. 8.	Jun. 24
Jul. 14.	York, Pa. Adv. Jul. 1.	Jul. 1
Jul. 14.	Indiana	Jul. 1
Jul. 14.	Oneida, N. Y.	Jul. 8
Jul. 14.	St. Louis, Mo.	Jul. 8
Jul. 14.	Covington, Ky.	Jul. 8
Jul. 14.	Buffalo, N. Y.	Jul. 8
Jul. 14.	Beatrice, Neb. Adv. Jul. 8.	Jul. 8
Jul. 14.	Cincinnati, Ohio	Jul. 8
Jul. 14.	North Vernon, Ind.	Jul. 8
Jul. 15.	Batavia, Ohio	Jul. 1
Jul. 15.	Waynesville, Ohio	Jul. 1
Jul. 15.	Dubuque, Iowa	Jul. 1
Jul. 15.	West Allis, Wis.	Jul. 1
Jul. 15.	Atlanta, Ga. Adv. Jul. 1, 8.	Jul. 1
Jul. 15.	Smithville, Ohio	Jun. 24
Jul. 15.	Waynesville, Ohio	Jul. 8
Jul. 15.	Hamilton, Ala.	Jul. 8
Jul. 15.	Grand View Heights, Ohio	Jul. 8
Jul. 15.	Port Angeles, Wash.	Jul. 8
Jul. 16.	Sparta, Wis.	Jul. 8
Jul. 17.	Cleveland Heights (P. O. Warrensville), Ohio	Jun. 24
Jul. 17.	East View, Ohio	Jun. 17
Jul. 17.	Lakewood, Ohio	Jul. 1
Jul. 17.	Westfield, N. J. Adv. Jul. 1.	Jul. 1
Jul. 17.	Stanberry, Mo.	Jul. 1
Jul. 17.	Fairfield, Ill.	Jul. 8
Jul. 17.	Cincinnati, Ohio	Jul. 8
Jul. 17.	Indiana	Jul. 8
Jul. 18.	Rockville, Md. Adv. Jul. 1, 8.	Jul. 1
Jul. 18.	Maryland Adv. Jul. 1, 8.	Jul. 1
Jul. 18.	Bound Brook, N. J. Adv. Jul. 1, 8.	Jul. 1
Jul. 18.	Hopkinsville, Ky.	Jul. 8
Jul. 18.	Independence, Mo.	Jul. 8
Jul. 19.	Pennsylvania	Jul. 1
Jul. 19.	Mt. Gilead, Ohio	Jul. 8
Jul. 20.	Huntington, W. Va.	Jul. 8
Jul. 20.	Bozeman, Mont.	Jul. 8
Jul. 20.	Newark, N. J.	Jul. 8
Jul. 21.	Lincoln, Neb.	Jul. 8
Jul. 24.	Wetumpka, Ala.	Jul. 1
Jul. 24.	Fairview, N. J.	Jul. 8
Jul. 25.	Amite, La.	Jul. 8
Jul. 25.	Somerville, N. J.	Jul. 8
Jul. 25.	Toledo, Ohio	Jul. 8
Jul. 25.	Great Falls, Mont.	Jul. 8
Jul. 27.	Lake Charles, La. Adv. Jul. 8.	Jul. 8
Jul. 27.	Indiana	Jul. 8
Aug. 1.	Guntersville, Ala.	Jul. 1
Aug. 1.	Gary, Ind.	Jul. 1
Aug. 1.	Shaker Heights, Ohio	Jul. 8
Aug. 1.	Helena, Ark.	Jul. 8
Aug. 7.	Cleveland Heights (P. O. Warrensville), Ohio	Jul. 8
Aug. 7.	Baltimore, Md.	Jul. 8
Aug. 14.	Birmingham, Ala.	Jul. 8
Aug. 14.	Birmingham, Ala.	Jul. 8
Aug. 14.	Perrysburg, Ohio	Jul. 8

INDUSTRIAL PLANTS AND WAREHOUSES.

Jul. 12.	Akron, Ohio	Jul. 8
Jul. 15.	West Allis, Wis.	Jun. 10
Jul. 17.	Toronto, Ont.	Jul. 1

BUILDINGS.

Public and Private

Jul. 11.	Argyle, Minn.	Jul. 1
Jul. 11.	Austin, Tex.	Jul. 8
Jul. 11.	Winnipeg, Man.	Jul. 8
Jul. 12.	Red Wing, Minn.	Jul. 1
Jul. 12	Mineral, Kan.	Jul. 1
Jul. 12.	Jordan, Minn.	Jul. 8
Jul. 12.	Chicago, Ill.	Jul. 8
Jul. 12.	Minneapolis, Minn.	Jul. 8
Jul. 13.	New Brighton, Pa.	Jul. 1
Jul. 13.	Martins Ferry, Ohio	Jun. 24
Jul. 14.	Madison, S. D.	Jul. 1
Jul. 14.	Sidney, Iowa	Jul. 1
Jul. 14.	Lockbourne, Ohio	Jun. 24
Jul. 14.	Massilion, Ohio	Jun. 24
Jul. 14.	Van Buren, Ohio	Jun. 24
Jul. 14.	Perrysburg, Ohio	Jun. 24
Jul. 14.	New York, N. Y.	Jul. 1
Jul. 14.	Wabasha, Minn.	Jul. 8
Jul. 14.	Sidney, Iowa	Jul. 8
Jul. 14.	Manor, Ohio	Jul. 8
Jul. 15.	Quincy, Pa.	Jul. 1
Jul. 15.	Skowhegan, Me.	Jul. 8
Jul. 15.	Lake Charles, La.	Jul. 8
Jul. 15.	Anderson, Ind.	Jul. 8
Jul. 15.	Newark, Ohio	Jul. 8
Jul. 15.	Elmira, N. Y. Adv. Jul. 8.	Jul. 8
Jul. 17.	Uniontown, Pa.	Jul. 1
Jul. 17.	Osage, Iowa	Jul. 1
Jul. 17.	Lakewood, Ohio	Jul. 1
Jul. 17.	Kiowa, Kan.	Jul. 8
Jul. 17.	Conua, Cal.	Jul. 8
Jul. 17.	Minneapolis, Minn.	Jul. 8
Jul. 18.	Kingman, Kan.	Jul. 1
Jul. 18.	Bemidji, Minn.	Jul. 8
Jul. 18.	Joliet, Ill.	Jul. 8
Jul. 18.	Eminence, Ind.	Jul. 8
Jul. 19.	Toledo, Ohio	Jul. 1
Jul. 19.	Harrisburg, Pa.	Jul. 8
Jul. 19.	Struthers, Ohio	Jul. 8
Jul. 19.	Massachusetts	Jul. 8
Jul. 19.	Independence, Mo.	Jul. 8
Jul. 20.	Tylertown, Miss.	Jul. 1
Jul. 20.	New Straitsville, Ohio	Jul. 1
Jul. 20.	Union Grove, Wis.	Jul. 1
Jul. 20.	North Baltimore, Ohio	Jul. 1
Jul. 20.	Chillicothe, Ohio	Jun. 10
Jul. 20.	Xenia, Ohio	Jul. 8
Jul. 20.	Grand Harbor, N. D.	Jul. 8
Jul. 20.	Tulsa, Okla.	Jul. 8
Jul. 20.	Streeter, N. D.	Jul. 8
Jul. 20.	Chestertown, Md.	Jul. 8
Jul. 20.	Williamsburg, Iowa	Jul. 8
Jul. 21.	Bowling Green, Ohio	Jul. 1
Jul. 21.	Girard, Ohio	Jul. 1
Jul. 21.	Sault Ste. Marie, Ont.	Jul. 8
Jul. 22.	Lincoln, Neb.	Jul. 1
Jul. 22.	Bucyrus, Ohio	Jul. 1
Jul. 24.	Sweetwater, Tex.	Jul. 8
Jul. 24.	Red Oak, Iowa	Jul. 8
Jul. 24.	Minot, N. D.	Jul. 8
Jul. 25.	Webster, S. D.	Jul. 1
Jul. 25.	Jersey City, N. J. Adv. Jul. 8.	Jul. 8
Jul. 25.	Cedar, Iowa	Jul. 8
Jul. 25.	Jersey City, N. J. Adv. Jul. 8.	Jul. 8
Jul. 26.	Washington, D. C. Adv. Jul. 1, 8.	Jul. 1
Jul. 28.	Huntington, Ind.	Jul. 8
Jul. 29.	Vallejo, Cal.	Jul. 8
Aug. 1.	Irwin, Pa.	Jul. 1
Aug. 1.	Newburyport, Mass.	Jun. 24
Aug. 1.	Alton, Ill.	Jul. 8
Aug. 1.	Asheville, N. C.	Jul. 8
Aug. 2.	New Orleans, La.	Jun. 24
Aug. 7.	Portland, Ore. Adv. Jun. 10, 17.	Jun. 10
Aug. 11.	Burlington, N. C. Adv. Jul. 8.	Jul. 8
Aug. 28.	Nashville, Tenn.	Jul. 8
———.	Reidsville, N. C. Adv. Jun. 17.	Jun. 17

FOUNDATIONS, PIERS AND DAMS.

Jul. 10.	Saraosta, Fla. Adv. Jun. 17 to July 8.	Jun. 17
Jul. 11.	Cleveland, Ohio Adv. Jun. 17 to July 8.	Jun. 17
Jul. 11.	Rehoboth, Del. Adv. Jun. 17.	Jun. 17
Jul. 13.	Brooklyn, N. Y.	Jul. 8
Jul. 13.	Salem, Mass.	Jul. 8
Jul. 14.	Port Colborne, Ont.	Jul. 1
Jul. 14.	Moose Jaw, Sask.	Jul. 8
Jul. 15.	Yukon, Pa.	Jul. 8
Jul. 17.	Galveston, Tex. Adv. Jul. 1, 8.	Jul. 1
Jul. 18.	Albany, N. Y. Adv. Jun. 24 to July 8.	Jun. 24
Jul. 18.	Somerville, N. J.	Jul. 8
Jul. 19.	Portland, Ore.	Jul. 8
Jul. 22.	Ottawa, Ohio	Jul. 8
Jul. 24.	Girard, Kan.	Jul. 8
Jul. 31.	Warren, Ohio	Jul. 8

TUNNELS AND SUBWAYS.

Jul. 13.	New York, N. Y.	Jul. 1

EXCAVATION, DREDGING AND DRAINAGE.

Jul. 11.	Emmetsburg, Iowa	Jul. 1
Jul. 11.	Baltimore, Md. Adv. Jun. 10 to Jul. 8.	Jun. 10
Jul. 11.	Urich, Mo.	Jun. 24
Jul. 12.	Mt. Gilead, Ohio	Jul. 8
Jul. 14.	Philadelphia, Pa.	Jul. 1
Jul. 14.	Nevada, Iowa	Jul. 8
Jul. 15.	Benson, Minn.	Jul. 1
Jul. 15.	Council Bluffs, Iowa	Jul. 8
Jul. 17.	San Diego, Cal.	Jul. 1
Jul. 20.	Rock Island, Ill.	Jul. 8
Jul. 21.	St. Cloud, Minn.	Jul. 8
Jul. 25.	Morris, Minn.	Jul. 1
Jul. 25.	Wilmar, Minn.	Jul. 1
Jul. 26.	Charleston, S. C. (2 Props) Adv. Jul. 1.	Jul. 1
Jul. 27.	Jacksonville, Ill.	Jul. 8
July 28.	Richfield, Utah Adv. Jul. 1.	Jul. 1
———.	Yemassee, S. C. Adv. Jun. 24.	Jun. 24
———.	El. Rys., New York City Adv. Apr. 29 to May 13.	Apr. 29

MISCELLANEOUS.

Jul. 11.	Fire Escapes, Pittsburgh, Pa.	Jul. 8
Jul. 12.	Engine, etc., Monticello, Wis.	Jul. 1
Jul. 12.	Heating Plant, Rock Rapids, Iowa	Jul. 8
Jul. 13.	Garbage, Newark, N. J.	Jul. 1
Jul. 13.	Water Tube Boilers for Penitentiary, East View, N. Y. Adv. Jul. 1.	Jul. 1
Jul. 13.	Sprinkling Systems, Pittsburgh, Pa.	Jul. 8
Jul. 14.	Guard Rails, New York, N. Y.	Jul. 8
Jul. 14.	Coal Trestle, Philadelphia, Pa.	Jul. 8
Jul. 14.	Conduits, Boston, Mass.	Jul. 8
Jul. 17.	Lease Power, Joliet, Ill. Adv. Jun. 24, Jul. 1.	Jun. 24
Jul. 18.	Metal Furniture, Albany, N. Y. Adv. Jul. 8.	Jul. 8
Jul. 19.	Incinerator, Belleville, N. J.	Jul. 8
Jul. 19.	Transmission Line, Alcester, S. D.	Jul. 8
Aug. 2.	Garbage Disposal, Des Moines, Iowa Adv. Jul. 8.	Jul. 8
Aug. 23.	Purchase of Locomotives, Panama Adv. Jul. 1.	Jun. 24
Jul. 24.	Elec. Trailers and Trucks, Jacksonville, Fla. Adv. Jul. 8.	Jul. 8

Structural-Steel Business for First Half Heavy

Unfilled Tonnage of Steel Corporation Shows First Decline of Year—Much Construction Reported—Freight Situation Improves

AFTER barely failing to pass the 10,000,000-ton mark on June 1, unfilled orders of the U. S. Steel Corporation decreased almost 300,000 tons last month. This is further proof that the steel business has passed the peak of orders and that the price and delivery situation may be expected to improve as regards structural material. Nevertheless, the enormous flood of orders for steel products let loose this spring will insure a large steel production far into 1917. Some idea of the size of these orders may be gained from the following table of structural steel and railway equipment purchased between Jan. 1 and July 1 in 1916, 1915 and 1914:

	First Six Months of		
	1916	1915	1914
Structural steel, tons..	810,000	554,000	706,000
Rails, tons.....	3,066,000	814,000	931,000
Cars	89,293	32,052	69,540
Locomotives	1,177	539	949

While steel-making capacity has been expanded in almost every line, structural capacity has not been taken up by orders. The need of both the material and the capacity for other purposes has been responsible for high prices and the difficulty of securing deliveries. These factors, in turn, have kept many projects out of the market, and but for them it is likely that orders would have pushed structural capacity during the past six months. Now that the steel business is getting ahead, so that the pressure on the structural shops can be relieved, structural orders will probably increase. It is said that many thousand tons of business for which plans have been filed in New York City alone would be brought out by such a turn of affairs.

Notwithstanding the fact that structural mills with a six months' capacity estimated at 900,000 tons took only 810,000 tons of business between Jan. 1 and June 1, general construction contracted for in the same time has been well above normal, as is indicated by the Dodge reports for the Eastern and Central states. These reports, giving $596,000,000 as the value of contracts awarded, show this period to have exceeded that for any year since 1910 by a wide margin. Cement has been put in a strong position by the coincidence of this construction movement with the shortage of steel. Indeed, two new mills—the first projected for some time—are to be built, one in Minnesota and the other in Texas.

The ocean freight situation is being greatly relieved by the commissioning of newly built vessels and the release from government service of a large tonnage of British merchant shipping. This is especially interesting to Southern contractors, as the serious curtailment of export trade in cotton and lumber has held back business progress in that section. The cotton report of July 1 estimates this crop at 15,000,000 bales, slightly above the average and 25 per cent above that of last year. With better shipping facilities a much larger share of this crop may be sold abroad than the scant 5½ million bales sent out during eleven months of the current cotton year.

Buildings

A large volume of building work noted under the headings for buildings and industrial plants is summarized below.

Contracts awarded:	Kind of Building	Cost
West Hoboken, N. J..	Church buildings....	$250,000
Niagara Falls, N. Y..	Chemical plant.....	750,000
Erie, Pa.	High school.....	475,000
Pittsburgh, Pa.....	Hospital	500,000
Pittsburgh, Pa.....	Government building	287,000
Bids to be opened:		
Kansas City, Mo.....	Hospital	155,000
Proposed work:		
New York, N. Y.....	Nurses' home	300,000
New York, N. Y.....	Apartment	400,000
New York, N. Y.....	Apartment	200,000
New York, N. Y.....	Garage	240,000
New York, N. Y.....	Office building.....	987,000
Johnson City, N. Y...	Power plant.....	500,000
Syracuse, N. Y.....	Factory	250,000
Jamestown, N. Y.....	Railroad station.....	500,000
Bayonne, N. J.....	Terminal project....	20,000,000
Bloomfield, N. J.....	Power plant.....	800,000
Philadelphia, Pa.....	Factory	300,000
Philadelphia, Pa.....	Hospital	2,300,000
Tampa, Fla.	Court house.....	500,000
Enslie, Ala.	Industrial buildings.	250,000
Cincinnati, Ohio	School	200,000
Lakewood, Ohio	High school	300,000
Youngstown, Ohio....	Hotel	250,000
Louisville, Ky.....	Auditorium	300,000
South Bend, Ind.....	Hotel	300,000
South Bend, Ind.....	Industrial buildings.	400,000
Fort Worth, Tex.....	School	225,000
St. Valician, Que.....	Pulp mill	200,000

Waterworks and Sewers

Bids have been received for constructing in Brooklyn, N. Y., a sewer to cost $111,000. A low bid of $115,000 has been received at Plainfield, N. J., for constructing a sewage pumping station and sewers. Sewer work to cost $106,000 has been contracted for at Tucson, Ariz. The sanitary sewer construction, comprising about 40 miles of pipe, to be undertaken by Shreveport, La., has been readvertised, and bids for it will be opened July 25. The construction of waterworks at a cost of $300,000 is under consideration at Sault Ste. Marie, Ont. An engineer has been selected for the design and construction of waterworks to cost $1,500,000 at Oklahoma, Okla.

Roads and Paving

Important road and paving work noted in this issue is summarized below.

Contracts awarded:	Kind	Cost
Yonkers, N. Y.....	Paving	$106,000
Montclair, N. J.....	Asphalt	82,900
Wilmington, Del.....	Paving	200,000
Salt Lake City, Utah.	Paving	92,000
Los Angeles, Cal.....	Highway	86,000
Bids opened:		
Albany, N. Y.....	23 road contracts...	1,159,500
Elyria, Ohio.....	Asphalt	146,000
Bids desired:		
Brooklyn, N. Y.....	Paving	*65,200
New York, N. Y.....	Paving	*101,700
Illinois	State roads.....	90,000
Proposed work:		
Boston, Mass.....	Paving	500,000
Greenwood, Miss.....	Highways	600,000
Paulding, Miss.....	Roads	125,000
Cleveland, Ohio.....	Highway	150,000
St. Paul, Minn.....	Paving	73,800
St. Paul, Minn.....	Paving	124,800
Dallas, Tex.....	Asphalt	100,000
Seattle, Wash.....	Paving	145,000
Ottawa, Ont.....	Highway	600,000
Bonds sold:		
New Smyrna, Fla....	Roads	250,000
Lexington, Miss.....	Roads	455,000
Yazoo City, Miss.....	Roads	645,000
Xenia, Ohio	Highway	125,000

*Total security.

Miscellaneous Headings

Reinforced Concrete.—A contract for building a $200,000 locomotive shop has been awarded at Schenectady, N. Y. Bids are desired for erecting a $500,000 courthouse at Sioux City, Iowa. The construction of a $90,000 bridge is contemplated at Scranton, Pa. Plans have been completed at Chicago for a $200,000 club building. A contract is soon to be let for a $100,000 laundry building at Los Angeles, Cal.

Foundations, Piers and Dams.—A breakwater contracted for at Milwaukee will cost $178,500. Bids are desired at Bay St. Louis, Miss., for constructing a sea wall 1½ miles long. Plans have been approved for dam construction at Carlsbad, N. M., to cost $150,000. It is reported that a shipbuilding concern will undertake drydock construction at Seattle, Wash., to cost $1,000,000.

Railroads.—It is reported that a $200,000 contract for railroad construction has been awarded at Spokane, Wash. Surveys are to be made near Clinton, S. C., for an 85 mile electric line. Additional grade-crossing-elimination work to cost $247,000 is under consideration at Cleveland. An electric-railway company has been incorporated with a capital of $250,000 to construct a line from Akron to New London, Ohio. A railroad company has been incorporated to build a 250-mile line between Aransas Pass and Eagle Pass, Tex.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Dunkirk, N. Y.—F. W. Ballard of Cleveland, Ohio, in a report to City Commissioners recommended extensions and improvements to the municipal electric light and water station; cost about $200,000.

Newark, N. J.—City contemplates constructing sewers in Foster Street and Frelinghuysen Avenue. William Tries, Pres. Board Street and Water Commissioners.

Perth Amboy, N. J.—Contract will soon be let by Water Commissioners for 36-in. pipe and specials for collecting mains at Runyon, additional wells to be driven; cost of pipe about $10,000. Samuel J. Mason, City Engineer.

Pitman, N. J.—Construction of sewerage system contemplated. Address City Clerk.

Pleasantville, N. J.—Sixteen miles of 8, 10, 12 and 15-in. sewers, clarification tank, disinfection and pumping station is to be constructed at Pleasantville. Bond election will be held in the fall. Remington & Vosburg of Camden, Engrs.

Ashley, Pa.—Plans being prepared by Clyde Potts, 30 Church Street, New York, N. Y., for a joint sewerage and disposal works for Township of Hanover, Township of Wilkes-Barre, Borough of Ashley, and portion of Wilkes-Barre.

Bellwood, Pa.—Kenneth Allen, 1235 Municipal Building, New York, N. Y., approved plans prepared for sewage disposal plant to be constructed for Bellwood. Harvey Linton of Altoona, Engineer. Address Borough Clerk.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Philadelphia, Pa.—Council passed ordinance authorizing Water Bureau to extend the high pressure fire mains in the vicinity of Baldwin Locomotive Works and for improvements to Torresdale, Lardner's Point, Queen Lane and Wentz Farm Pumping Stations. Council also authorized condemnation of land in Forty-fifth Ward for site for sewage disposal plant for Franklin Creek area and authorized lettings of contracts and construction of plant.

West Point, Va.—Extension to waterworks and sewerage system contemplated. J. B. McCrary Co. of Atlanta, Ga., Engrs. H. Anderson, Mayor.

Wilmington, N. C.—Extension of water system to eastern section of city contemplated. Address City Clerk.

Manchester, Ga.—Election to be held soon to vote $50,000 bonds for waterworks and sewerage system. Address Mayor.

Calhoun City, Miss.—Construction of water works and light plant contemplated. Address Town Clerk.

Alliance, Ohio.—Waterworks bonds for $120,000 will be sold Aug. 7 by Chas. O. Silver, City Aud.

Rocky River, Ohio.—Bonds for $10,000 will be sold July 25 for water mains. Frank Mitchell, City Clk.

Evansville, Ind.—Board Public Works granted Public Service Co. permission to construct dry well and pumping station at Water and Division Streets and a pipe line to connect well with plant at Indiana Street and Elsas Avenue.

Duluth, Minn.—The City Commissioners will spend $35,000 for construction of storm and sanitary sewers.

Lawrence, Kan.—Citizens at second election voted $175,000 bonds for purchase of the plant of the Lawrence Water Works Company.

Oxford, Neb.—Preliminary plans being prepared for constructing sewer system; cost about $10,000. Election will soon be held to vote bonds. Grant & Fulton of Lincoln, Neb., Engrs., Aaron Arnsburger, City Clerk.

Red Cloud, Neb.—Preliminary plans being prepared for sewer system to cost $15,000. Election will soon be held to vote bonds. O. C. Teel, City Clerk. Grant & Fulton of Lincoln, Neb., Engrs.

Great Falls, Mont.—City Council adopted a resolution providing for a 9-in. vitrified lateral sewer in third alley south, between Fifteenth and Thirty-second Streets; cost $14,280. L. B. Evensen, City Engineer.

Dallas, Tex.—Contract soon to be let for constructing the West Oak Cliff outlet sewer, a 15-in. main. Appropriation available $20,000. Address City Engineer.

City is about to purchase water pipe and fittings, at a cost of $12,000. Address J. B. Winslett, City Secretary.

Lufkin, Tex.—Improvements to sewage treatment plant proposed. Address R. B. Bledsoe, City Health Officer.

Cleveland, Okla.—Further reports state no election will be held in Cleveland for construction of waterworks. David B. Holler, City Clerk.

Miami, Okla.—The installation of an electric light plant and waterworks system in Miami being considered. Address City Clerk.

Oklahoma, Okla.—Henry A. Pressey, 50 Church Street, New York, N. Y., is Consulting Engineer for proposed waterworks; cost $1,500,000. Address City Commissioners.

Poteau, Okla.—Election to be held July 29 to vote $85,000 bonds for water supply system from Cavanaugh Mountain, also for $15,000 bonds for extension to sewer system and disposal plant. Benham Engineering Co., Engrs., Oklahoma, Okla.

Enumclaw, Wash.—The City Council voted to construct sewerage system.

Seattle, Wash.—The City Council voted to construct sewers in Alki Avenue, from West Atlantic Street to Fifty-fifth Avenue, S. W., and East Fifty-fourth Street, from trunk sewer at Twenty-sixth Avenue, N. E., to Thirteenth Avenue, N. E. A. H. Dimock, City Engr.

La Grande, Ore.—The City Council approved plans for trunk sewer system for southeast La Grande. Contract will soon be let.

Chino, Cal.—Contract will be let about Aug. 1 by Olmsted & Gillen, Engrs., Hollingsworth Bldg., Los Angeles, for construction of sewer system; about $58,000 available.

Coalinga, Cal.—Coalinga Nome Lake Oil Co. contemplates laying pipe lines to supply water to a number of oil companies operating in the Coalinga fields.

Election will be held Aug. 7 to vote $14,000 bonds for constructing an auxiliary fire protection system, consisting of a 200,000-gallon reservoir, pumping plant, mains, etc.

Los Angeles, Cal.—Election will be held Sept. 5 to vote $200,000 bonds for constructing a water-distributing system to serve annexed territories of Bairdstown, Sierra Vista, etc., to include a supply main approximately three miles long. Address William Mulholland, Ch. Engr. Bd. of Public Service.

Pasadena, Cal.—San Gabriel Valley Water Co., Oak Knoll Avenue and Canyon Drive, Pasadena, plans to construct an 8-in. water main in Oak Knoll Avenue for a distance of about one-half a mile, and will install a pumping unit at the reservoir now being constructed at the end of Oak Knoll Avenue.

Wickenburg, Ariz.—The citizens voted $5,000 bonds for improvement to water works system. H. P. Ward, Town Clk.

Salt Lake City, Utah.—The City Commissioners and City Engineer reported considering site for erection of a reservoir in Little Cottonwood Canyon.

Hespeler, Ont.—City Council plans to extend water system and lay 6-in. mains. Address M. E. Jardine of Hespeler for further information.

London, Ont.—The City Council contemplates constructing sewage disposal plant.

Sault Ste. Marie, Ont.—The City Council considering constructing waterworks; cost $300,000. R. G. Campbell, City Engineer

Vancouver, B. C.—All bids opened June 28 for 75,000 lin. ft. 6, 8 and 12-in. lap-welded steel pipe rejected. New bids will be received at some later date. Jas. Stewart, City Purchasing Agent.

BIDS DESIRED.

Boston, Mass.—Until July 18, by Edw. F. Murphy, Comr. Public Works, for laying water pipe and appurtenances for high pressure fire-service distribution system.

Holbrook, Mass.—Reported desired until July 22 by city for 5695 ft. of 6-in. water pipe in South Street. Address City Clerk.

New York, N. Y.—Until July 17 by Marcus M. Marks, Borough Pres., for constructing sewers and appurtenances in W. 131th Street between Twelfth Avenue and Broadway. Security $5,000.

Until July 18 by Marcus M. Marks, Borough President, for receiving basins and all work incidental thereto in Park Avenue, Sixth Avenue, Third Avenue and a number of other streets. Security $24,100.

Until July 26, by Department Public Charities (John A. Kingsbury, Comr.), for furnishing material required for fire protection work in the group of buildings under jurisdiction of the Department of Public Charity, except those of Randalls Island and at N. Y. City Farm Colony, Borough of Richmond.

Oxford, N. Y.—Until July 18 by Georgina Griffith, Pres. Board Managers N. Y. State Women's Relief Corps Home, Oxford, for sewage disposal plant at said home. Lewis F. Pilcher, State Archt., Capitol Buildings, Albany.

Red Creek, N. Y.—Until Aug. 10, by Village Trustees, for constructing water works, advertised in Engineering Record. F. M. Jones, Village Clerk.

Hoboken, N. J.—Until Aug. 2 by City Commissioners, for Contract 1, the Seventh Street sewer; Contract 2, the Eleventh Street sewer, and Contract 3, the Fifth Street sewer, advertised in Engineering Record. D. A. Haggerty, City Clerk.

Rahway, N. J.—Until July 25, by Common Council, 4167.5 ft. 8 and 10 in. vitr. tile sewer, with necessary Y branches, etc. Advertised in Engineering Record. Franklin Marsh, City Engr.

Ridgefield Park, N. J.—Until Aug. 1, by Village Commissioners, for constructing sewers, sewer treatment work for sewer diversion for village, advertised in Engineering Record. Harry F. Ayer, Chmn. Comrs

Trenton, N. J.—Until July 19, for constructing sewers in George and Fall Streets and Lyndale and Chestnut Avenues. Leon D. Hirsch, City Clk.

Philadelphia, Pa.—Until July 18, by Geo. E. Bateman, Dir. Public Works, for following work: Superstructure of basin, steam heating plant for intake house, waterproofing tank, pumping plant, ash handling apparatus, etc., all for Torresdale Water Works.

Takoma Park, D. C.—Until July 31, by Ben. G. Davis, Town Clerk, Takoma Park, D. C., for furnishing and erecting a steel water tank and tower and internal combustion oil engine for pumping station, advertised in Engineering Record.

Burnsville, La.—See "Paving and Roads."

Shreveport, La.—Until July 25 (readvertised), by City Commission, City Hall, for construction of 40 miles of sanitary sewers in South and West Dists. of city, advertised in Engineering Record. George O. Lilley, Secy. and Treasurer, Shreveport.

Canton, Ohio.—Water bonds for $30,000 will be sold Aug. 7 by Saml. E. Barr, City Auditor.

Medina, Ohio.—See "Foundations, Piers and Dams."

Medina, Ohio.—Until July 22, by Board of Public Affairs of Village (M. R. Root, Pres.), for constructing mechanical water filtration and pumping plant, 1,000,000 gal. capacity per day, advertised in Engineering Record.

South Charleston, Ohio.—Until Aug. 1, by Bd. of Trustees of Public Affairs of South Charleston (S. B. Rankin, Clerk), for constructing waterworks, advertised in Engineering Record.

Indianapolis, Ind.—Until July 28, by Board Public Works, for constructing sewers in Congress, Shrivers and Merriam Streets.

Ann Arbor, Mich.—Until July 19 by Board Public Works, for constructing storm and sanitary sewers. Cost, approximately, $25,000. Mansley Osgood, City Engr.

Wilmington, Ill.—Until July 18 by Board Local Improvements (W. H. Carter, Clk.) for a system of underground sewers with discharge into Kankakee River, together with manholes, catch basins, automatic discharge flush tanks, syphons under Forked Creek, etc.

Kaukauna, Wis.—Reported desired until July 22 for constructing sewers in Tenth, Quincy and Brooks Avenue. Address City Clerk.

Racine, Wis.—Reported desired until July 24 for constructing lateral tile sewers. James L. English, City Commissioner.

Mapleton, Iowa.—Reported desired until July 18, by City Clerk, for sewers and sewage disposal plant. Bruce & Standeven, Bee Building, Omaha, Neb., Engrs.

Mt. Pleasant, Iowa.—Until July 18 for constructing approximately 11,000 ft. 6 to 15-in. sewers and two sewage disposal plants. W. D. Worthington, City Clerk. M. G. Hall, Engr., Centerville.

Fergus Falls, Minn.—Until July 18 by Board Control for constructing a sewage disposal plant and filter. Sund & Dunham, Archt. Rose & Harris, Engrs., Minneapolis, Minn.

Chanute, Kan.—Until July 18 by City Clerk for constructing approximately 4300 ft. 8-in. sewers. Geo. N. Wood, City Engr.

Wahoo, Neb.—Reported desired until July 26 by George F. Loder, City Clerk, for extending water works and electric light plant. Probable cost $10,000.

Garrison, N. D.—Until July 24 by Fred Gebner, City Auditor, for constructing water works. Also same time and place for constructing sewer system.

Sheridan, Mont.—Until Aug. 9, by City Council, for constructing waterworks, advertised in Engineering Record. Frank Carey, Town Clerk.

Kingsville, Tex.—Until July 26, by Board of Commissioners, for furnishing c. i. water pipe, special castings, valves, fire hydrants, etc., advertised in Engineering Record. Henry C. Porter, City Engr.

Eufaula, Okla.—Until July 24 by W. C. Metcalfe, Mayor, for constructing municipal water works to cost $25,000. M. L. Smith, Engineer, McAlester.

Los Angeles, Cal.—Until July 24, by Board Supervisors (H. J. Leland, Clk.), for furnishing material and constructing two sewer placement pumps and remodeling present sewer system at the County Farm.

Pasadena, Cal.—Until July 18, by Heman Dyer, City Clk., for furnishing 109 tons water pipe, from 24 to 12 in.

PRICES AND LETTINGS.

★Indicates award of contract.

★Boston, Mass.—Following are four lowest bids opened July 6 by Commissioner of Public Works for constructing circular concrete conduit pipe sewers, etc.: William J. Barry, 431 Ashland Street, West Roxbury, $55,600 (awarded contract); Anthony Bamffalde, 9 Parker Place, $58,394; West Roxbury Trap Rock Co., Grove Street, $59,039; Anthony Cifalo, 316 Belgrade Avenue, $64,894. William J. McGleuchy, Supervisor of Contracts.

Mayor has approved a contract with Peter W. Hill for pipe sewers and drains in Brookline Avenue between Audubon Road and Jersey Street, Roxbury, at $11,287.

★Greenwich, Conn.—Contract for constructing pumping station and sewage disposal works (bids opened June 29) awarded by Sewerage Commission to Suburban Engineering Co., 15 W. 38th Street, New York, N. Y., at $68,000.

★Batavia, N. Y.—Additional contracts in connection with the water works have been awarded as follows: Furnishing a surface condenser and pump (Item 5), to Worthington Pump & Machinery Corporation, Buffalo, at $2,800; 200-kw. unaflow engine-driven generator with switchboard and equipment (Item 7), to Ames Iron Works, Oswego, at $11,600, and to General Electric Co., Schenectady, 300-kw. rope-driven generator, at $3,271 (Item 8) and 67½-kw. rope-driven generator (Item 9), at $1,580 for equipment for filters to Pittsburg Filter Mfg. Co., Pittsburgh, Pa. Chester & Fleming, Engrs., Pittsburgh, Pa.

Brooklyn, N. Y.—Following is the unit figures of the lowest bidder, the B. G. D. Company, 5904 Fourteenth Avenue, Brooklyn, for furnishing material and constructing sewers in Pacific Street and Rochester Avenue: 940 lin. ft. 78-in. brick sewer, $37; 724 lin. ft. 72-in. brick sewer, $34; 778 lin. ft. 60-in. brick sewer, $23; 763 lin ft. 54-in. brick sewer, $14; 774 lin. ft. 42-in. brick sewer, $9; 421 lin. ft. 30-in. brick sewer, $7; 38 lin. ft. 30-in. brick and concrete sewer, $8; 15 lin. ft. special sewer "A," $15; 39 lin. ft. special sewer "B," $30; 8 lin. ft. 24-in. pipe sewer, $6; 14 lin. ft. 18-in. pipe sewer, $5; 770 lin. ft. 15-in. pipe sewer, $3.50; 1043 lin. ft. 12-in. pipe sewer, $3; 144 lin. ft. 8-in. house connection drain, $1.50; 2 overflow manholes ("A" and "E") $300; 1 overflow manhole "B," $150; 2 overflow manholes "C" and "D" with drop chambers, $300; 1 special manhole "X," $100; 2 manholes Class "C," $125; 9 manholes Class "E," $60; 13 manholes on pipe sewers Class "D," $60; 13 sewer basins reconnected, $50; 63 house connections reconnected, $5; 750 M ft. sheeting and bracing, 1 ct.; 8.5 M ft. board measure of foundation planking, $30; 100 cu. yd. Class "B" concrete, $7; 10 cu. yd. brick masonry, $13; 10 bbls. cement, $2; 2000 lb. steel rods, 5 cts., and 1000 lin. ft. piles, 10 cts.; total, $111,039. Next three lowest bids: Rice & Ganey, 2 Rector Street, New York, $114,888; Murphy Brothers, Brooklyn, $118,483, and Culp Company, Inc., Passaic, N. J., $124,783.

★Mt. Holly, N. J.—Contract for drilling artesian well for water system for Northampton Township, awarded to Samuel J. Taylor of Mt. Holly.

Plainfield, N. J.—Following are four bids opened July 3 by J. T. MacMurray, City Clerk, for constructing a sewage pumping station and 44,677 ft. 8 to 24-in. vitr. pipe and 4944 ft. 8 to 24-in. c.-i. pipe, manholes, etc.: Lange & Haslam Co., Ridgefield, $115,235; James Gerry & Sons, Inc., Baltimore, Md., $119,113; John M. Kelley Co., Camden, $124,202, and Joseph F. Burke Co., Plainfield, $129,892.

★Monessen, Pa.—Contract for laying force mains awarded by Tri-Cities Water Co. to Brooke & Cornish of Uniontown. Chester & Fleming, Engrs., Pittsburgh.

★Washington, D. C.—Contract awarded by Commissioners District of Columbia for furnishing 7000 ⅝-in. water meters (bids opened June 23) to Worthington Pump & Machinery Corporation, 115 Broadway, New York, N. Y.

★Shreveport, La.—Contract awarded W. M. Moore, Lampasas, Tex., for laying about 4 miles of water mains.

All bids opened July 11 by city for laying 40 miles pipe sewers in south and west districts rejected; lowest bid submitted was $95,712. See "Bids Desired."

★Greenville, Tenn.—Contract for constructing 30 x 60 ft. standpipe awarded to Pittsburgh-Des Moines Steel Co., Curry Bldg., Pittsburgh, Pa., at $5,250. C. E. Cole, City Engr.

★Canton, Ohio.—Contract for furnishing pump (capacity 1,500,000 gal. per day), for producing well in Cook Park, awarded by Board of Control, on June 30, to Hill-Tripp Pump Co. of Anderson, Ind.

★Pawnee City, Neb.—Contract for constructing sewerage system and extension to water system awarded to Hamilton Brothers of Cleburne, Tex., at $44,345. Archer & Co., 514 New England Building, Kansas City, Mo., Engineers.

★Bozeman, Mont.—Contract reported awarded by Council for constructing sanitary sewers to White Construction Co., Bozeman, at $40,907. Next three lowest: Oregon Engineering & Construction Co., Portland, Ore., $43,164; R. M. Bardsen Co., Bozeman, 43,219, and Lindstrom & Oron, Bozeman, $45,042.

★Following are four lowest bids opened recently for constructing storm sewers: Ezra Bandriff, Bozeman, $36,805 (awarded contract); Lindstrom & Oron, Bozeman, $38,090; White Construction Co., Bozeman, $38,206, and C. H. Kelly, Bozeman, $39,017.

★Oregon City, Ore.—Contract for constructing 5,000,000-gal. reservoir awarded by Board Water Commissioners to Litherland & Abrey of Portland at $29,587.

★Tucson, Ariz.—Contract awarded (bids opened by City Council June 26) to T. J. Shea, 1800 Oxford Avenue, Los Angeles, Cal., for constructing sewer system involving approximately 84,000 lin. ft. 10 to 30-in. pipe, 117 manholes, 11 flushtanks, etc., at $67,647, using vitrified clay pipe or $64,678 for concrete pipe; and for outfall sewer involving 16,446 lin. ft. concrete pipe, 5 wier manholes, etc., at $41,750. Other low bidders: Jas. Kennedy of Los Angeles, Cal., $38,602 (brick), $43,316 (concrete); Bent Bros. of Los Angeles, Cal. $45,500, and T. M. Torson & Sons of San Diego, Cal., $46,800.

Vancouver, B. C.—See "Proposed Work."

STEEL BRIDGE WORK

PROPOSED WORK.

Woodbine, Ga.—Construction of a bridge over Satilla River at Woodbine being considered; cost about $20,000. Address F. C. Battey, Pres. Savannah Automobile Club, Savannah.

Molino, Fla.—County Commissioners at Pensacola will construct steel bridge over Escambia River at Molino. Estimated cost $15,000. Address County Clerk.

Birmingham, Ala.—Reported contract soon to be let for erecting six-story steel frame annex for Loveman, Joseph & Loeb, at Nineteenth Street and Third Avenue. Starrett & Van Vleck, 8 West Fortieth Street, New York, N. Y., and Joy & Gallup of Birmingham, Associate Architects.

Franklin, Ky.—Contract will soon be let for constructing 220-ft. steel bridge over Red River at Wade farm. Estimated cost $10,000.

BIDS DESIRED.

Tulsa, Okla.—Until Aug. 7, for furnishing material and constructing four steel bridges. Lewis Cline, County Clerk.

Gunnison, Col.—Until Aug. 2, for constructing steel bridge over Gunnison River, at Sapinero. Roy S. Lobell, Co. Clk.

Klamath Falls, Ore.—Until Aug. 7, by Commissioner of Indian Affairs, Washington, D. C., for constructing 2 steel bridge spans, one 20 ft. and one 60 ft. span, at Klamath Indian Reservation, Oregon, advertised in Engineering Record. Plans and specifications on file at office Engineering Record, 239 West Thirty-ninth Street, New York, N. Y.

PRICES AND LETTINGS.

★Indicates award of contract.

★New York, N. Y.—Contract reported awarded by Lehigh Valley R. R. Company to Pennsylvania Steel Company, Steelton, Pa., for constructing a bridge over Erie Barge Canal, requiring about 600 tons of structural steel.

★Contract for painting pier sheds (Contract 1527) awarded by Commissioner of Docks and Ferries to Harry D. Gelenter, 203 Hart Street, Brooklyn.

★New Brunswick, N. J.—Contract reported awarded by Board of Freeholders for steel cell work in new county jail to Van Dorn Iron Works, 189 Broadway, New York City, at $37,225.

Harrisburg, Pa.—See "Reinforced Concrete."

★Harrisburg, Pa.—Contract awarded by Philadelphia & Reading R. R. Co. (Samuel T. Wagner, Chief Engr., Philadelphia) for construction of superstructure steel bridge at Boyd Station, 4 miles west of Harrisburg, to Pennsylvania Steel Co., 1421 Chestnut Street, Philadelphia.

★Lansdale, Pa.—Contract for constructing superstructure of bridge on Bethlehem Branch near Lansdale awarded by Philadelphia & Reading R. R. Co. (Samuel T. Wagner, Chief Engineer) to Cantrell Construction Co., Real Estate Trust Bldg., Philadelphia.

★Media, Pa.—Contract for constructing bridge over Ridley River between Chester Ridley Township and Eddystone Borough, awarded by County Commissioners to Gibbons & Buckley of Lansdowne, at $17,474. Orwin L. Davis, County Comptroller.

★Peterson (P. O. Creighton), Pa.—Contract awarded by Pennsylvania Iron & Steel Company to Fort Pitt Bridge Company, Canonsburg, for erecting steel plant here to consist of four buildings.

★Cincinnati, Ohio.—Contract for steel for new power plant to be erected for Union Gas & Electric Company on Fourth Street awarded Cambria Steel Company of Pittsburgh, Pa., and for foundations to Foundation Company, 233 Broadway, New York, N. Y.

★St. Johns, Mich.—Contract for constructing four 60-ft. Warren riveted bridges awarded by County Drain Commissioner to Beach Manufacturing Company of Charlotte at $7,900.

★Illinois.—Contract for constructing Keesner steel span bridge in Fulton County awarded by State Highway Commission, Springfield, to Miller & Husband, Springfield, at $6,899.

★Butte, Mont.—Contract awarded by Commissioners of Silver Bow and Beaverhead Counties for constructing steel intercounty bridge over Big Hole River to Clifton, Applegate & Toole, Anaconda, at $14,200.

★Houston, Tex.—Contract for constructing a lift bridge over Bray's Bayou at Harrisburg Road awarded by County Commissioners to E. B. Van de Greyn of Houston at $35,797.

★Benton, Wash.—Reported contract awarded by County Commissioners for constructing 233 ft. steel bridge across Yakima River between Kiona and Benton City to Coast Bridge Co., Portland, Ore., at $15,700.

27% of the Contracting News Items in June were "Bids Desired"

Out of 3697 contracting news notes published in these pages in June, 1012 told of work on which bids were wanted—work on which contractors could obtain definite information and compete in the bidding.

The Engineering Record for July 1 contained 288 "Bids Desired" news items—and the quality and number of these news notes is the real measure of the value of a contractng news service.

The Engineering Record gives contractors what they want—prints the most quality news of work on which bids are wanted and presents it in the most convenient form. That's why contractors say the **Engineering Record** gives

The Best Contracting News Service

★**Woodland, Cal.**—Contract for constructing Yolo Solano Bridge across Putah Creek on state highway awarded to Clinton Constr. Co. of San Francisco at about $35,000. Solano County and Yolo Counties to share cost.

★**Dauphin, Man.**—Contracts for constructing bridge over Valley River, Township 26, awarded as follows: Superstructure to L. O. Beam, 623 Twenty-fifth Street, East Saskatoon, Sask., and for substructure to Alex Scobie, 74 Isabel Street, Winnipeg, Man. J. A. Gorby, Secretary-Treasurer, Rural Municipality of Dauphin.

REINFORCED CONCRETE

PROPOSED WORK.

Trenton, N. J.—See "Steel Bridge Work."

Trenton, N. J.—Pennsylvania R. R. (Alex. C. Shand, Ch. Engr., Philadelphia, Pa.) will construct steel and concrete bridge over Delaware and Raritan canal at Baker's Basin; estimated cost $25,000.

Scranton, Pa.—Construction of a bridge 454 ft. long and 55 ft. wide, concrete construction, to connect Harrison Avenue, East Scranton, with Crown Avenue, South Scranton, contemplated, at cost of about $90,000. Address Alex. I. Prawdzik, Secy. South and East Scranton Bridge Assoc.

Atlanta, Ga.—Plans completed for 5-story, 100 x 200-ft. reincorced concrete addition to annex building of Chamberlain, Johnson, Du Bose Co. on Whitehall Street; cost, approximately $150,000.

Birmingham, Ala.—Linde Air Products Company, Forty-seventh Street Building, New York, N. Y., reported having plans prepared for a $100,000 steel concrete building for manufacture of oxygen for welding.

St. Bernard, Ohio.—Ward Baldwin, consulting engineer, 809 Commercial Tribune Building, Cincinnati, engaged to prepare plans for two additional three-story and reinforced concrete buildings to be erected for Union Distilling Co. on Reading Road.

Indianapolis, Ind.—Diamond Chain & Manufacturing Company (Lucius M. Wainwright, President), 241 West Georgia Street, will erect a four-story 60 x 380 ft. reinforced concrete factory on Kentucky Avenue.

Chicago, Ill.—Plans completed by Francis M. Barton Company, 178 West Jackson Boulevard, for three-story, fireproof, concrete building to be erected at Ashland Boulevard and Van Buren Street for Division 241 of the Amalgamated Association of Street and Electric Railway Employees; cost $200,000.

Clarinda, Iowa.—A three-span concrete double-track bridge is to be constructed over West Nodaway River near Clarinda fair grounds; cost about $25,000. Address Bd. of Supervisors of Page County.

Hutchinson, Kan.—Four S Razor Company of Ness City has opened an office in Room 510, Rorabaugh-Wiley Building, and intends erecting a one-story, 80 x 200 ft., fireproof, concrete and steel factory here.

Wichita, Kan.—County Commissioners considering plans for two concrete bridges to be constructed across Little River, one about 7 miles north of Wichita and the other about 3 miles north of Wichita, each bridge about 300 ft. long. E. V. Moon, County Engineer.

Independence, Mo.—Waddell & Son, Kansas City, Mo., preparing plans for a reinforced concrete overhead viaduct to be constructed by the Kansas City Southern crossing at their tracks near Independence.

Beaumont, Tex.—Plans being prepared by Babin & Beck of Beaumont for proposed 120 x 300 ft. brick and concrete warehouse, to be erected at Main, Pearl and Washington Streets, for E. L. Wilson Hardware Company (John L. Keith, President).

San Antonio, Tex.—Contract will soon be let by School Board for erecting South Side High School of reinforced concrete, brick and rock, at Garden and Bismark Streets.

California. — A reinforced concrete bridge is to be constructed over Arroyo Calloguas one mile east of Camarillo in Ventura County, by State Highway Commission, Sacramento.

Los Angeles, Cal.—Plans being prepared by R. D. King, Van Nuys Building, for three-story, 75 x 120, brick factory with concrete foundation, steel beams and composition roofing.

Contract soon to be let for erecting three-story and basement Class A reinforced concrete laundry building at Eighth Street and Towne Avenue for Diamond Laundry Company, 241 East Fifth Street; probable cost $100,000. Train & Williams, Archts., Exchange Building.

Contracts will probably be let in August by John Parkinson, Architect, Security Building, for erecting two 1250 x 100 ft. six-story and basement reinforced concrete warehouses, and two two-story and basement brick and concrete market buildings, 80 x 1250 ft. and 40 x 1500 ft., at Seventh Street and Central Avenue, for Los Angeles Union Terminal Company (Benjamin Johnson, President).

San Diego, Cal.—See "Foundations, Piers and Dams."

BIDS DESIRED.

Cranston, R. I.—Until July 20, by Board Contract and Purchase for constructing reinforced concrete bridge on Wilbur Avenue. Edw. E. Goff, City Engr., 17 Exchange St., Providence. Daniel D. Waterman, City Clk., Cranston.

Babylon, L. I., N. Y.—Reported desired until July 18 by the Town Boards of Islip and Babylon for constructing concrete bridge on the dividing line. Address Town Clerk.

Peekskill, N. Y.—Until July 20, by State Armory Commission, 158 State Street, Albany (Franklin W. Ward, Secy.), for constructing concrete storage house at State Camp of Instruction in Westchester County, in vicinity of Peekskill, advertised in Engineering Record.

Ayersville, Ga.—At once by C. W. Lane & Co., Inc., for from 15,000 to 20,000 yd. concrete on Southern Railway, all of which is for one structure. If interested wire.

Gadsden, Ala.—Until July 18 by County Commissioners for constructing a concrete bridge. Probable cost $3,500. E. Smith, City Engr. S. J. Cummings, Co. Engr.

New Orleans, La.—Until Aug. 2 by Jas. A. Wetmore, Acting Superv. Archt., Treas. Dept., Washington, D. C., for constructing three interior safety vaults of reinforced concrete in U. S. Custom House, New Orleans.

Dayton, Ohio.—Until Aug. 3, by Board County Commissioners (Walter H. Aszling, Clk.), for furnishing material and constructing approaches to Bridge 74, together with 13,925 sq. ft. concrete riprap, guard rail, etc.

Medina, Ohio.—See "Foundations, Piers and Dams."

Youngstown, Ohio. — Reported desired until July 17 by Frank B. Hogan, Clk. County Comrs., for constructing concrete slab and railings on bridge at Petersburg and Springfield Roads.

Illinois.—By the State Highway Department, Springfield, for constructing the following bridges:

Until July 26:

Elizabethtown, Bassett Bridge, reinforced concrete span 35 ft. on skew, 16 ft. roadway; engineer's estimate $1,495.

Until July 31:

Hardin, Narrows Bridge, one steel 100 ft. with 16-ft. roadway, two concrete piers, 30 ft. overall; engineer's estimate $6,700.

Shawano, Wis.—Reported desired until July 27 by Electric Light and Water Commission for constructing concrete dam, with concrete flumes, corewalls, draft tube, abutments, power house, etc. Power Eng. Co., Corn Exchange Building, Minneapolis, Minn., Engr.

Geneva, Iowa.—Until July 22 by Board Education (R. A. Waddington, Secy.) for erecting two-story and basement, stone and reinforced concrete fireproof school. A. J. Gage, Archt., Youngerman Building, Des Moines, Iowa.

Ida Grove, Iowa.—Reported desired until July 25 by H. C. Hardy, Archt., Estherville, for erecting 3-story and basement, 75 x 100-ft., brick, stone and reinforced concrete semi-fireproof hotel for Ida Grove Hotel Co. Probable cost, $32,000.

Sioux City, Iowa.—Reported desired until July 24 for erecting reinforced concrete brick and stone fireproof 4-story and basement, 150 x 150-ft. courthouse with tower 6-story, 60 x 60 ft. Probable cost, $500,000. E. E. Hosmer, County Aud.

Blue Earth, Minn. — Reported desired until July 24 by Jesse L. Herring, County Auditor, for a 24-ft. reinforced concrete slab span, 12-ft. reinforced concrete slap span and a 14-ft. reinforced concrete slab span.

Sheridan, Mont.—See "Waterworks and Sewerage Systems."

Greenwood, Ark.—Reported desired until July 19, by County Judge, for erecting a two-story and basement, 65 x 98 ft. brick stone, and reinforced concrete courthouse. Cost $60,000. A. Klingensmith, Archt., Ft. Smith.

Colfax, Wash.—Reported desired until Aug. 7 by A. R. Metz, Co. Aud., for constructing following concrete bridges, one 30-ft. span, one 25-ft. span, a 40-ft. span, a 70-ft. span concrete or steel and a number of wooden bridges. John M. McCaw, County Engr.

Napa, Cal.—Reported desired until July 25 for constructing concrete bridge over Conn Creek. N. W. Collins, County Clerk.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Schenectady, N. Y.**—Contract awarded by American Locomotive Company to H. S. Bennett of Schenectady, for erecting a 175 x 304 ft., reinforced concrete, fireproof cylinder shop; cost $200,000.

★**Yonkers, N. Y.**—Flynn Building & Construction Company, 30 Church Street, New York, secured contract to erect 2 and 3-story brick and reinforced concrete addition to manufacturing plant at Glenwood Dock, Yonkers, for Habirshaw Electric Cable Company, 10 East Forty-third Street, New York; cost about $100,000. Fletcher & Thompson Engineering Company, Bridgeport, Conn., architects and engineers.

★**Berkley, Pa.**—Contract for constructing 2-span concrete arch bridge south of Berkley awarded, by Philadelphia & Reading R. R. Co. (Samuel T. Wagner, Chief Engr., Philadelphia), to C. H. Reimard of Bloomsburg.

★**Philadelphia, Pa.**—Contract for constructing a concrete bridge over Pennypack Creek awarded by city to Day & Zimmerman, 611 Chestnut Street.

★Contract awarded Irwin Leighton, Twelfth and Cherry Streets, for erecting two-story and basement, 74 x 139 ft., brick and concrete oil building in West Philadelphia, for West Philadelphia Stock Yards; cost $100,000.

★**Pittsburgh, Pa.**—Contract awarded by County Commissioners for constructing a concrete span across Reardon Run, Findlay Township, 25 ft. long, roadway 20 ft. wide, to Farris Engineering Co., Jenkins Arcade, at $3,500.

★**Durham, N. C.**—Contract awarded J. T. Salmon of Durham, for erecting three-story, 114 x 295 ft. building with reinforced concrete floors at Fuller and Randolph Streets for Liggett-Myers Tobacco Company; cost $100,000.

★**Jasper, Ala.**—Contract for constructing concrete bridge over Patoka River (bids opened July 3) awarded by County Comrs. to Blemkee & Guhlhamen, Evansville, at $9,978.

★**Dayton, Ohio.**—Contract awarded by County Commissioners for constructing Shroup Mill concrete bridge and Upper Union concrete bridge to E. H. Fauver, Dayton, at $25,000.

★**Fort Wayne, Ind.**—Contract awarded Buesching & Hagerman, Fort Wayne, for erecting four-story, reinforced concrete, brick and stone building for Harmony Lodge, I. O. O. F.; cost approximately $80,000.

★**Geneseo, Ill.**—Contract for constructing concrete highway bridge awarded by James H. Redd, County Supt. Highways, at Cambridge, to Capperrune & Deyo, of Bradford, at $3,125.

Northfield, Minn.—No contract let for constructing concrete retaining wall (bids opened July 6). Work will probably be done by day labor. C. E. Hoppin, City Recorder.

★**Larned, Kan.**—Contract for constructing double arch concrete bridge over Pawnee River awarded by County, to Topeka Bridge & Iron Company of Topeka. W. C. Ware, County Clerk.

★**Dallas, Tex.**—Contract awarded S. S. Self of Dallas for erecting a 56 x 320 ft., reinforced concrete, brick and terra cotta building for Wells Fargo and American Express Companies; estimated cost $100,000.

★**Seattle, Wash.**—Lowest bid opened by Alaska Engineering Commission, Bell Street Dock, Seattle, for constructing concrete approaches to Fremont Avenue bridge across Lake Washington, Government Canal, submitted by West Coast Construction Company, Alaska Building, Seattle, at $9,103, for south approach and $8,444 for north approach.

★**Santa Barbara, Cal.**—Contract awarded by Board of Supervisors for constructing reinforced concrete bridges as follows: Over Gaviota Creek at Station No. 148 on State Highway in Fourth Road District, over Southern Pacific Railway tracks at Station No. 109, plus 50 in Section G, on State Highway in Third Road District, over Gaviota Creek at Station No. 109 on State Highway in Fourth Road District, all three to J. C. Lillis, Santa Barbara, at $9,460, $8,000 and $7,930 respectively; over San Antonio Creek at Station No. 12 plus 50 on Harris-Lompoc Road in Fourth and Fifth Road Districts, to Munoz & Munoz, 800 Central Bldg., Los Angeles, $9,973. (Bids opened July 3.)

★**Visalia, Cal.**—Contract awarded by Board of Supervisors for constructing reinforced concrete and steel bridges as follows: To Johnson Bros., Kingsburg, for Rocky Ford bridge, 160 ft. long, over Tule River, west of Porterville, and 140-ft. bridge over Tule River near Success, at $10,200 and $7,250 respectively; Kettlewell & Son, Kingsburg, for bridge over Kings River, south of Kingsburg, at $31,000 (bids opened July 3).

★**Salt Lake City, Utah.**—Contract for constructing concrete bridge over Jordan River at Twenty-first Street South awarded by City Commission to Midland Bridge Co. of Kansas City, Mo., at about $11,543.

★**Dundas, Ont.**—Contract for constructing concrete dam 18 x 80 ft. awarded to McAllister & Taylor of Hamilton at $6,-300. J. E. McGinty, Secy.

★**Toronto, Ont.** — Contract for constructing three-span concrete bridge at Catharine Avenue, one 82 ft. and two 62 ft. spans, awarded Arnot Construction Company, Toronto, at $23,513 (bids opened June 19). Frank Barber, County Engineer, 57 Adelaide Street East, Toronto.

★**Lansdowne, Man.**—Contract awarded by City Council for constructing concrete bridge over White Mud River to S. Brown, Winnipeg, at $5,458.

ROADS AND PAVING

PROPOSED WORK.

Boston, Mass.—City Council appropriated $500,513 for repair and reconstruction of streets in downtown section.

Cranston, R. I.—About 2 miles of Cranston Street is to be paved with waterbound macadam and asphalt penetration; cost about $30,000. Address City Clerk.

Little Valley, N. Y.—Citizens voted to pave Main Street with concrete. Estimated cost $10,000. Address City Clerk.

New Rochelle, N. Y.—City Council appropriated $19,000 for improving streets. Address City Clerk.

Troy, N. Y.—Board of County Supervisors adopted resolutions for constructing 30 miles of county highways. Address Clerk of Board.

Atlantic City, N. J.—City Commissioners passed ordinances for hardsurfacing number of streets. Estimated cost $150,000. Address City Clerk.

Kearney, N. J.—Town Council will improve ¾ mile of Passaic Avenue. Address Town Clerk.

Trenton, N. J.—Contract will soon be let by Board of Chosen Freeholders for heavy and light asphaltic oils for all important highways and Ugite road oil for Yardville-Allentown and Hightstown-Manalapan Roads.

West Hoboken, N. J.—Town Council considering paving Savoye Street from Clinton Avenue to Hudson Boulevard with bituminous concrete on concrete foundation. A. L. Wachlin, Town Clerk.

Hazleton, Pa.—City Council rescinded contract recently let for paving. Reported new bids will be received. B. E. Youngman, City Engr.

Philadelphia, Pa.—In the general repaving ordinance passed by Council is the repaving of Eighth Street from Chestnut to Arch Streets with wood block.

Surveys Committee Councils passed ordinance authorizing $1,000,000 to be spent on opening new streets and widening old ones.

Pittsburgh, Pa.—City Council voted to pave South Twenty-first and Fredonia Streets at a cost of $19,000.

Royersford, Pa.—Borough Council will spend $15,000 for street paving. Address Borough Clerk.

Spencer, W. Va.—Paving bonds for $208,000 will be sold July 20 for paving in Walton Dist. with concrete. W. A. Carpenter, Co. Clk.

Atlanta, Ga.—Council passed ordinance providing for paving of Peachtree Street from Fifteenth to city limits, county to pay $15,000 toward cost. Address Commissioner Public Works.

Gainesville, Ga.—Reported city will soon let contracts for constructing concrete roads. Address Supt. of Streets.

Kissimmee, Fla.—No bids opened by County Commissioners for constructing St. Cloud-Melbourne highway through eastern portion of Osceola County. About $150,000 available for improvement.

New Smyrna, Fla.—Bd. County Commissioners sold $250,000 road bonds.

Canton, Miss.—Citizens voting on issuing $40,000 bonds for street improvements. W. B. Jones, Commissioner.

Greenwood, Miss. — County Commissioners will spend $600,000 for constructing and improving highways. Address County Clerk.

Jackson, Miss.—Board of Supervisors will issue $130,000 road bonds. Address Clerk of Board.

Lexington, Miss.—Board of Supervisors sold $475,000 road bonds. Address Clerk of Board.

Paulding, Miss.—Jones County Bd. of Supervisors about to let contracts for constructing roads; cost $125,000.

Yazoo City, Miss.—About $645,000 Yazoo County road bonds sold. Address County Clerk.

Crowley, La.—Sub-committee of Arcadia Paris Good Roads Association plans a system of highways to be constructed with proposed bond issue of $600,00 for road purposes. Committee made recommendations for road system to Police Jury of Parish.

Cincinnati, Ohio.—City Council authorized bond issue of $175,000 for improving and repairing existing streets. Work to be undertaken this summer.

Council has approved Frank S. Krug, City Engineer's, approximate estimate of $11,676 as cost of improving Gilsey Avenue, from Liberty to Taibert Streets, with bituminous macadam and 6-in. water main.

County Commissioners approved William Boeh's County Surveyor's etimate of $16,244 as cost of improving Wolftangle Road. Contract to be let soon. Commissioners also preparing to build a macadam road 8 ft. wide parallel Cleveland and Bridgetown Pike.

Cleveland, Ohio.—County Commissioners voted to pave 5 miles of Son Center Road between North Woodland and North Miles Roads; estimated cost $150,000.

Cleveland, Ohio.—About $265,000 will be spent by the city for park and boulevard improvements, establishment of playgrounds and erection of bath houses and comfort stations, including $20,000 for West Boulevard, $30,000 for East Boulevard, and $10,000 Speedway Boulevard.

Defiance, Ohio.—Paving bonds for $28,000 will be sold July 24 by Roger Daoust, Co. Aud.

Lisbon, Ohio.—County Commissioners sold $25,000 bonds for improving Main Market Road No. 3. Address County Clerk.

New Philadelphia, Ohio.—City Council sold $17,000 street improvement bonds. Address City Clerk.

Sandusky, Ohio.—Clifford King, County Surveyor, preparing plans and estimates for repairing several miles of roads in Margaretta and Groton Townships. Address County Clerk.

Tuscarawas, Ohio.—Road improvement bonds for $83,275 will be sold July 27 by County Commissioners. R. H. Nussdorfer, Co. Aud.

Xenia, Ohio.—County Commissioners sold $124,500 inter-county highway bonds. Address County Clerk.

Greenfield, Ind.—County Commissioners sold $14,400 road improvement bonds. Address County Clerk.

Marion, Ind.—County Commissioners sold $15,200 bonds for improving road in Center and Franklin Townships and $10,000 bonds for improving road in Jefferson Township. Address County Clerk.

Warsaw, Ind.—County Commissioners sold $16,890 bonds for constructing Ora Anglin Road in Scott Township. Address County Clerk.

Bloomington, Ill.—City Council appropriated $27,000 for paving during year. Address City Clerk.

Chenoa, Ill.—City Council passed ordinance for paving Cemetery, Green, Veto and Owsley Streets. Estimated cost $27,600. Address City Clerk.

Peoria, Ill.—Peoria Heights Trustees will pave Galena Road with concrete; estimated cost $22,000.

Board of Local Improvements will pave Pennsylvania and Western Avenues. Address Clerk of Board.

Board of Local Improvements will let contract about July 17 for paving Gruenwald Avenue. Address Clerk of Board.

St. Paul, Minn.—City Council is considering the paving of Capitol Avenue from Hamline Avenue to Minnehaha Street, including curbing, etc.; estimated cost $73,836; paving of Grand Avenue from Milton Street to Cretin Avenue; estimated cost $124,850.

Bozeman, Mont.—City Council voted to pave North Church, North Black, South Seventh Avenues, also construct concrete curbs and sidewalks on South Grand Avenue.

Great Falls, Mont. — Reported City Council adopted resolutions for improving Boulevard, Second Street North; estimated cost $12,740. L. B. Evensen, City Engineer.

Jefferson City, Mo.—Election to be held Aug. 1 in the county to vote $300,000 bonds for good roads.

Bonham, Tex.—Election will be held Aug. 4 to vote on $135,000 bonds for constructing good roads. Address County Clerk.

Clarksville, Tex.—It is proposed to pave with concrete on Walnut, Main, West and other streets in District No. 2, 3 and 4, at $90,000. J. R. Welsh, City Clerk.

Dallas, Tex.—City Commission voted to pave Beckley Avenue from Tenth Street to city limits on the north with Uvalde rock asphalt; cost $100,000.

City Council will pave two miles of Twelfth Street with vibrolithic.

City Council will soon pave Virginia Avenue from Fitzhugh to Annex Avenue with bitulithic. Address City Clerk.

Hillsboro, Tex.—Election to be held July 29 to vote on issue of $10 000 street improvement bonds. Address City Clerk.

Taylor, Tex.—Citizens voted $50,000 bonds for additional street paving. W. E. Dozier, City Manager.

Ardmore, Okla.—Election will probably be held to vote $100,000 road bonds. Address County Clerk.

Astoria, Ore.—City Council voted to pave 7 blocks on Commercial Street. Plans being prepared by City Engineer.

Salem, Ore.—It is proposed to pave with asphaltic concrete about 35,000 sq. yd. under city management; cost $30,000. Walter Skilton, City Engineer; Charles F. Elgin, City Recorder.

Kent, Wash.—Reported City Council passed ordinance for surfacing Meeker Street with bituminous concrete on concrete base. B. Bonidron, City Engr.

North Yakima, Wash.—County Commissioners will construct 6 miles of road in Parker Bottom District. Estimated cost $18,000. O. E. Brashears, County Engineer.

Seattle, Wash.—Streets and Sewer Committee of City Council voted to improve West McGraw and other streets on Queen Anne Hill; cost about $109,366; also pave Rainier Avenue with brick at cost of $36,347.

Plans filed with Bd. of Public Works by A. H. Dimock, City Engineer, for grading and paving East Eightieth; cost $40,000.

Toppenish, Wash.—City Council voted to construct concrete walks 15 ft. wide on both sides of Toppenish Avenue; estimated cost $13,000. C. A. Wyckoff, City Clerk.

Spokane, Wash.—Reported State Highway Commission approved plans prepared by J. W. Strack, County Engineer, for resurfacing 2 miles of Day Road. Address County Clerk.

California.—Contracts soon to be let by State Highway Commission, Sacramento, for state-aid work as follows:

Mariposa County, 7.9 miles of highway between Cathay and Agua Fria Creek.

Humboldt County, .47 mile of highway across Eel River north and south of Rio Del and the Dell, including 2 bridges, one at Rio Del and one at Scotio.

Santa Clara County, .49 mile between Tomas and Ayuino Creek and Scott Lane.

Marion County, 5.1 miles between Larkspur and Sausalito.

Glenn County, 1.04 miles near Walker Creek.

Sonoma County, 5.14 miles between Petaluma Creek and Fairville.

Chino, Cal.—City Trustees will soon select engineer to prepare plans and specifications for street work to be commenced this fall; estimated cost of work $75,000.

Los Angeles, Cal.—Homer Hamlin, City Engr., preparing plans and specifications for grading about 2 miles of West First Street, to grade about 4½ per cent, widening from 58 to 90 ft., paving and constructing cement curb, gutters and walks.

San Francisco, Cal.—Bill was passed by the U. S. House appropriating $30,000 for constructing road in the Presidio, from Ft. Winfield Scott.

San Jose, Cal.—No bids opened July 3 by Board of County Commissioners for 18,952 lin. ft. concrete pavement on Saratoga and Los Gates Highway. Plans and specifications being revised. Eugene M. Don, Deputy Commissioner.

Globe, Ariz.—Contract about to be let by Gila County Bd. Supervisors for paving highway from Globe to Mackay pumping station on Globe-Miami Highway. Roy G. Thomas, County Engineer.

Price, Utah.—State Road Commission will spend $22,000 on county roads. Address County Clerk.

Rexburg, Idaho.—Citizens, June 22, voted $50,000 bonds for roads and bridge improvements. Address County Clerk.

Westmount, Que.—P. E. Jarman, Engineer, preparing plans for asphaltic concrete pavements; estimated cost $30,000.

Ottawa, Ont.—Department of Public Works (Finley McDiarmid, Chmn.) will prepare plans for highway between Ottawa and Prescott; estimated cost $600,000.

Windsor, Ont.—Plans will be prepared for paving London Street; estimated cost $50,000. Address City Clerk.

BIDS DESIRED.

Albany, N. Y.—Until July 17, by Board Contract & Supply (Isidore Waschman, Secy.), for repaving Central Ave., South Pearl Street, Ledale St. and other streets.

Brooklyn, N. Y.—Until July 19, by L. H. Pounds, Borough Pres., for paving portions of Clay Street, Park, Prospect, Robinson and a number of other streets, in all about 16,555 sq. yd. granite block pavement, 45,387 sq. yd. asphalt, 3950 sq. yd. stone block and 14,060 sq. ft. sidewalks, together with all curbing, etc. Security $65,200.

Long Island City, L. I., N. Y.—Until July 19, by Maurice E. Connolly, Pres. Queens Borough, for paving portions of Putnam Avenue, Meadow Street, and other streets, in all about 1730 sq. yd. granite block pavement, 3300 sq. yd. bituminous macadam, constructing sidewalks on Jackson Avenue, Thirty-eighth Street and Van Alst Avenue. Security, $11,150.

New York, N. Y.—Until July 17, by Marcus M. Marks, Borough President, for improving portions of Beekman Street with granite block. Engineer's estimate 5,100 sq. yd. granite block pavement outside railroad area, removing 26,000 old stone blocks, curbing, manholes, etc.; security, $6,000. Portions of Grand Street. Engineer's estimate 4130 sq. yd. granite block, 3420 lin. ft. curbing, sewer manholes, etc.; security $7,000. Portions of Twenty-second Street. Engineer's estimate 5430 sq. yd. granite block pavement, together with curbing, etc.; security, $7,000. Portions of Lafayette Street. Engineer's estimate 1750 sq. yd. sheet asphalt, together with curbing, etc.; security, $700. Portions of Twenty-fifth Street. Engineer's estimate 2700 sq. yd. sheet asphalt, curbing etc.; security, $2,000. Portions of Forty-ninth Street. Engineer's estimate 5270 sq. yd. sheet asphalt, curbing, manholes, etc ; security, $4,000. Portions of Sixty-third Street. Engineer's estimate 2750 sq. yd. sheet asphalt, curbing, etc.; security, $2,000. Portions of Delancey Street. Engineer's estimate 7600 sq. yd. wood block pavement, curbing, manholes, etc.; security, $8,000.

Until July 18, by Douglas Matthewson, Pres. Bronx Borough, for paving with sheet asphalt and granite block portions of Jerome Avenue, together with curbing, etc., in all about 45,670 sq. yd. sheet asphalt, 13,950 sq. yd. granite block pavement, 11,600 cu. yd. Class B concrete, 16,200 lin. ft. curb, etc. Security $65,000.

Paterson, N. J.—Until July 26, by Board Chosen Freeholders (Geo. W. Botbyl, Clk.), for improving Midvale and Greenwood Lake Road, in Pompton Township, with a bituminous concrete and macadam surface, about 32,474 sq. yd.

Until July 18, by the Board Public Works, for about 30,000 sq. yd. macadam resurfacing, on portions of River, Market, Harrison and other streets.

Rutherford, N. J.—Until July 28 by F. A. Stedman, Borough Clerk, for 6185 sq. yd. asphalt macadam pavement on E. Pierrepoint Avenue and The Terrace. R. M. Watson, Station Square, Rutherford, Engineer.

Trenton, N. J.—Until July 25, for heavy asphalt road oil for several roads in Mercer County. Theo. Tobish, Co. Engr.

Bradford, Pa.—Until July 17 for paving Kendall Avenue, Clarence and Bageley Streets, in all about 6000 sq. yd. brick pavement, 6000 cu. yd. curbing, etc. Cost $23,000. B. A. Wise, City Engr.

Lebanon, Pa.—Until July 26, by City Clerk, for about 5300 sq. yd. wood block, bituminous concrete or cement concrete pavements, advertised in Engineering Record. Paul A. Volcker, City Engr.

Windber, Pa.—Until July 20, by Borough, for approximately 5700 sq. yd. vitr. block on concrete base. W. J. Vickroy, Borough Engineer.

Bluefield, W. Va.—Until July 21, by City Council, for paving of approximately 15,000 sq. yd. of bituminous macadam on concrete base, together with 14,000 lin. ft. combined concrete curb and gutter, also 1600 sq. yd. concrete pavement. H. O. Wiles, City Engr.

Burnsville, W. Va.—Until July 18, by the Town Council, for constructing about one mile of brick pavement with concrete curb, including necessary sanitary storm sewers, etc. Frank Amos, City Recorder. Dudley D. Britt, Engr., Empire Bldg., Clarksburg, W. Va.

Elkins, W. Va.—Until Aug. 10 (readvertisement) by P. B. Bloomfield, Chief Engineer, for constructing about 19 miles of improved roads. All bids opened July 1 rejected.

Fairmont, W. Va.—Until Aug. 3, by County Court (A. G. Martin, Clk.), for constructing approximately 32 miles of improved roads in Lincoln Dist. Advertised in Engineering Record. J. Russell Wilson, Engr., First Natl. Bank Bldg., Mannington, W. Va.

New Martinsville, W. Va.—Until Aug. 9 for constructing about 15 miles improved roads in Church District of Wetzel County, advertised in Engineering Record. S. Myers, County Clerk.

Birmingham, Ala.—Until Aug. 14, by Bd. of Revenue of Jefferson County, for constructing about 14 miles of highway, from Birmingham to Warrior River, advertised in Engineering Record. George H. Clark, County Engineer.

Evergreen, Ala.—Until Aug. 1, by County Commissioners, for constructing the Evergreen-Castleberry Road. F. J. Dean, Probate Judge. L. B. Rutledge, Road Supervisor.

Tuscumbia, Ala.—By County Commissioners, for grading, draining and graveling 8 miles of roads. A. S. Keller,, State Highway Eng., Montgomery.

Corinth, Miss.—Until July 31, for constructing 15 miles of gravel road to the Gulf Road Dist. in Alcorn County, advertised in Engineering Record. Address N. C. Rinehart, Corinth.

Lexington, Miss.—Until July 28, at office of J. H. Fuqua, Chancery Clerk and Clerk of Bd. of Supervisors for constructing 26½ miles highways, advertised in Engineering Record.

Hammond, La.—Until July 25, by Road Dist. No. 3, for constructing 20 miles of gravel roads. J. E. Kerrigan, Engr., Hammond.

Albany, Ky.—Until July 22 by Fiscal Court (J. G. Sloan, Clerk) for improving two sections of county roads from Albany to Cartwright via Guinn Valley, a distance of 6.64 miles, and from Cartwright to the Wayne County line, a distance of 4.61 miles.

Frankford, Ky.—Until July 17 by County Fiscal Court for improving following roads from Lovelanceville to Buckner Creek, about 4 miles, from Barlow to Clearlake Bridge, about 2½ miles; from McCraken County Line to Gage, about 3¾ miles; from Oscar to Bain Ridge, about 1 mile; from Hall and Bradshaw Places to South Moores Place, about 2 miles, and from La Center to Old Hazelwood, about 1 mile. Also same time and place for steam rollers, 10-ton weight, culvert pipe, etc. Separate bids until July 20 for road improvements in the town of Independence and Piner, to consist of ditching, shaping of roadways, culverts, etc. John B. Dillon, County Clerk.

Columbus, Ohio.—Reported desired until July 17, by Board of Purchase (L. G. Guthke, Secy.), for furnishing material, to include 100,000 old-style street paving blocks, 150,000 new-style paving blocks, 2000 cu. yd. sand, etc.

Defiance, Ohio.—Reported desired until July 17, by Roger Daoust, Clerk County Commissioners, for 3½ miles of gravel roads. Probable cost $19,512.

Mt. Gilead, Ohio.—Until July 21, by County Commissioners, for improving the Sexton Thatcher Road, about 2½ miles, and the Beach Grove Road, about 5 miles, both in Gilead and Canaan Townships. C. O. Higgins, Co. Aud. Morrow County.

Ohio.—By State Highway Department, Clinton Cowen, Comr., for constructing following road:
July 20:
Cuyahoga County, Section B, of the Cleveland-Massilion Road, I. C. H. No. 17, in Independence Township. Length 3000 ft.; estimated cost $14,015. Rocky River Berea Road, I. C. H. No. 37, in West Park and Middleburg Township, length 2500 ft; estimated cost $12,239.
July 21:
Hamilton County, for constructing reinforced concrete bridge over West Fork on Mill Creek at Woodlawn-Springfield Township; estimated cost $41,194.
July 21:
Trumbull County, on Section A, of the Paynesville, Warren Road, in Warren Township. Length 2.09 miles; estimated cost $37,134.
July 22:
Cuyahoga County, for grading, draining and improving Richmond Road No. 4, in Euclid and Warrensville.

West Park, Ohio.—Until July 24, by Fred Feuchter, Village Clerk, for constructing stone and cement sidewalks on West Park Boulevard, Warren-Munns Trickett Road, Riverside Drive and other streets.

Indiana.—By County Commissioners for constructing roads as follows:
July 20:
Bloomington, for constructing gravel roads in Bloomington, Indian Creek, Washington and Chester Townships. W. F. Kinser, Co. Aud.
July 22:
Greencastle, for 5943 ft. gravel road in Madison Township, and 6436 ft. gravel road in Washington Township. Joe. M. Allen, Co. Aud.
July 28:
Indianapolis, constructing two gravel roads in Center Township. Leo. K. Fesler, Co. Aud.
Aug. 7:
Jeffersonville, constructing road in Silver Creek Township. Geo. W. Stoner, Co. Aud.
Aug. 9:
Columbia City, constructing roads in Jefferson Township. Thos. A. McLaughlin, Co. Aud.

Indianapolis, Ind.—Until July 28, by Board Public Works, for paving and curbing Pennsylvania, Forty-third, Forty-seventh and other streets.

Chicago, Ill.—Until July 17, by Board County Commissioners, for 6 miles of asphaltic concrete road from Chicago city limits northwest on Higgins Road. Engineer's estimate $127,224. Geo. A. Quinlan, Co. Highway Supt.

Illinois.—Until July 19, by State Highway Department, Springfield, for constructing following roads:
Manlius, Bureau County, Sect. E, 1950 ft. concrete. Engineer's estimate, $4,960.
Tiskilwa, Bureau County, Sect. F, 2558 ft. concrete. Engineer's estimate, $4,686.
Ohio, Bureau County, Sect. G, 2350 ft. concrete. Engineer's estimate, $4,600.
Malden, Bureau County, Sect. H, 2175 ft. concrete. Engineer's estimate, $4,805.
Ladd, Bureau County, Sect. I, 2436 ft. concrete. Engineer's estimate, $4,613.
Neponset, Bureau County, Sect. J, 2500 ft. concrete. Engineer's estimate, $4,571.
Petersburg, Menard County, Sect. C, 1400 ft. concrete. Engineer's estimate, $5,269.
Sandoval, Marion County, Sect. D, 22,460 ft. earth. Engineer's estimate, $10,602.
Milan, Rock Island, Sect. C, gravel, 5300 ft. Engineer's estimate, $5,332.
Watertown, Rock Island County, Sect. D, 3000 ft. gravel. Engineer's estimate, $6,424.
Jacksonville, Morgan County, 33,780 ft., Sect. B, oiled earth. Engineer's estimate, $17,273.
Amboy, Lee County, Sect. B, 5950 ft. waterbound macadam. Engineer's estimate, $9,960; (alternative) gravel, $7,921.
Dixon, Lee County, Sect. C, waterbound macadam, 6300 ft. Engineer's estimate, $10,069; (alternative) gravel, $10,185.

Mattoon, Ill.—Until July 18, for paving North Twenty-first, South Eighteenth Streets and Manhattan Avenue with brick, about 30.060 ft., together with concrete curbs, etc. Probable cost $75,000. J. A. Goetz, City Engineer.

Park Ridge, Ill.—Until July 18 by Board Local Improvements (A. W. Lorenz, Secretary, 400 Pullman Building, Chicago) for 9000 sq. ft. concrete cement sidewalks and sidewalk approaches on Belle Plaine Avenue and other streets.

Kenosha, Wis.—Reported desired until July 21, for paving portions of Pomeroy and Wisconsin Streets. B. C. Brennan, City Engr.

Atlantic, Iowa.—Until July 18, by T. E. Nichols, City Clk. Atlantic, for 24 blocks concrete pavement.
Same time as above, by Secretary of Commercial Club, for constructing ½ mile road. J. H. Mayne, City Engr.

Emmetsburg, Iowa.—Until July 17 by J. F. Rutledge, City Clerk, for about 21,000 sq. yd. paving, either sheet asphalt, bitulithic asphaltic concrete, Portland cement concrete, or brick.

Missoula, Mont.—Until July 18 by Ruth E. Kellogg, City Clerk, for furnishing material for grading, parking and curbing, together with all accessories in Special Improvement Dist. No. 42, South Higgins Avenue, in all about 11,700 sq. yd. pavement, of either vitr. brick on 4-in. concrete base, creosoted wood block on 4-in. concrete base, standard bitulithic, on 6-in. base, or asphaltic concrete on 4-in. concrete base. E. S. Hathaway, City Engr.

Paragould, Ark.—Until July 25, by Commissioners of Improvement Dist. No. 2 (R. W. Meriwether, Pres.), at office of Messrs. Block & Kirsch, attorneys, for constructing 9000 lin. ft. combination concrete curb and gutter, 10 catch basins, etc., advertised in Engineering Record.

Albuquerque, N. M.—Until Aug. 7 by Thomas Hughes, City Clerk, for paving 8 blocks with Trinidad or Bermudez asphalt, artificial asphalt and Tarvia, including grading and curbing.

Olympia, Wash.—Reported desired until July 24, by Jas. Allen, Secy. Highway Board, for surfacing 1.3 miles of Pacific Highway from Vancouver northerly in Clarke County.

Republic, Wash.—Until Aug. 8, by W. T. O'Connell, for construction of Permanent Highway No. 1B.

Seattle, Wash.—Reported desired until July 14, by C. B. Bageley, Secy. Board Public Works, for grading, paving, etc., Thirty-ninth Avenue, Twentieth Avenue, S., and Warren Avenue and Corwin Place. A. H. Dimock, City Engr.
Reported desired until July 24 by Byron Phelps, County Auditor, for constructing an extension to Sylvester Road, to include bulkheading, etc. Cost about $10,000. A. P. Denton, Co. Engr.

Los Angeles, Cal.—Until July 17, by H. J. Lelande, Clk. Board Supervisors, for concrete paving with granite base and sand base expansion joints and bituminous wearing surface, including grading, culverts, etc., on streets in Road Improvement Dist. No. 95.

Idaho Falls, Idaho.—Until July 22, by City Clerk, for paving in Districts 6 and 7.

Lewiston, Idaho. — Reported desired until Aug. 7 for paving, curbing, constructing sidewalks and storm sewers, etc., in Improvement Dist. No. 10, to include 13.395 sq. ft. sidewalks, 3650 lin. ft. curb, 2760 sq. yd. concrete paving, etc.

Toronto, Ont.—Until July 18, by Registered post only, addressed to T. L. Church (Mayor), Chmn. Board Control, for paving with asphalt on Heatth Street, Lauder Avenue and Kingmont Park Road, with brick block portions of Kingmont Park Road, and concrete pavement on Glenfern Avenue.

PRICES AND LETTINGS.

★Indicates award of contract.

★Maine.—Following are four lowest bids opened July 6 by State Highway Commission at Augusta, for constructing 4.55 miles of gravel road in Gardiner: Smith & Havey, West Sullivan, $23,568 (awarded contract); E. T. Mitchell, Oakland, $31,583; Noyes & Campbell, Augusta, $37,651, and Forgionne & Romano, Portland, $38,408.

Boston, Mass.—Following are three lowest bids, opened July 3 by Commissioner Public Works, for paving 21,850 sq. yd. on various streets in Jamaica Plain and West Roxbury: (a) sheet asphalt, (b) Topeka, (d) bitulithic: Central Construction Company, 228 Southampton Street, Roxbury, (a) $51,507, (b) $51,721; Edward Tracey, Derby, Conn., (a) $54,827, (b) $54,398; Bernard E. Grant, 99 West Cedar Street, Boston, (a) $55,621, (b) $54,332, (c) $70,020; Warren Brothers Company, 59 Temple Place, Boston, (c) $62,568; James Doherty, 33 Calumet Street, Roxbury, (c) $63,427.
★Contract for paving with sheet asphalt with binder on Commonwealth Avenue (bids opened June 30) awarded by Park and Recreation Dept. to Central Construction Company, 228 Southampton Street, at $38,763.

★Massachusetts—Following are three lowest bids opened July 5 by Massachusetts State Highway Commission, Boston, for constructing five sections of state road:
★Dartmouth. — Acushnut Construction Company, New Bedford, $13,880 (awarded contract); H. E. Cushing Company, Seekonk, Mass., $16,065, and Edward J. Rourke, Abington, $16,700.
★Mattapoisett.—Acushnut Construction Company, New Bedford, $11,380 (awarded contract); H. E. Cushing Company, Seekonk, Mass., $14,805, and Edward J. Rourke, Abington, Mass., $15,200.
Northbridge.—Southbridge Engineering & Supply Company, Southbridge, $23,415; James H. Ferguson, Dorchester, $24,341, and Fred E. Ellis, Melrose, $24,371 (not yet awarded).
★Marlborough.—John A. Gaffey, Medford, $6,891 (awarded contract); J. Keating & Company, Fitchburg, $7,080, and Framingham Construction & Supply Company, Framingham, $7,063.
North Adams.—James H. Ferguson, Dorchester, $15,264; Davis & Brock, Brookline, $16,400, and Middlesex Construction Company, Medford, $19,225 (not yet awarded).

★Bristol, Conn.—Contract for paving with granite block on Main Street (bids opened July 5) awarded by city to Brabara & D'Auriolio, Waterbury, at $3.85 per sq. yd. C. W. Buill, City Engineer.

Albany, N. Y.—Following are bids opened by State Highway Commission, 55 Lancaster Street, July 10, for constructing following roads by state aid:
Road No. 948A, Voorheesville-New Salem, Albany County, .17 miles (2 bidders): Burnham & Rose, Albany, $2,212; C. S. Mathusa, Albany, $2,332.
Road No. 1371, Watervliet-Cohoes, Albany County, .88 mile (4 bidders): Sewage Disposal & Water Plant Co., Schenectady, $26,562; A. Hisler & L. D. Devlin, Albany, $26,878; Fallkill Constr. Co., Poughkeepsie, $27,311; La Porte & Hall, Mechanicville, $27,515.
Road No. 5610, Montezuma-Port Byron, Cayuga County, 4.39 miles (2 bidders): Sullivan Constr. Co., Syracuse, $66,365; Guy B. Dickinson, Syracuse, $74,630.
Road No. 1027, French Creek-Findlay Lake, Chautauqua County, 4.33 miles (3 bidders): Town of Mina, Findlay Lake, $51,472; Elmer M. Love & Son, Corry, Pa., $65,072; J. A. Hughes & Co., Jamestown, $70,583.
Road No. 1378, Elmira-North Elmira, Chemung County, 4.14 miles (4 bidders): Peter F. Connolly, Horsehead, $99,195; Bradeley & McGreevey, Elmira, $102,239; Sullivan Constr. Co., Syracuse, $102,626; Bison City Eng. & Constr. Co., Buffalo, $103,592.
Road No. 1394, Norwich South-New Berlin, Part 2, Chenango County, South New Berlin-New Berlin, Part 1, 7.9 miles (3 bidders): Paddleford & King, Sherburne, $90,429; E. P. Abrogast, Stroudsburg, Pa., $92,219; Newport Constr. Co., Newport, $96,945.
Road No. 1938, Moffitsville-Franklin County Line, Clinton County, 10.46 miles (only bidder): Rich. Hopkins, Troy, $111,888.
Road No. 5607, Franklinville-Machias, Cattaraugus County, 4.73 miles. No bids received.
Road No. 1412, Wappingers Falls Village-South Avenue, Dutchess County, 0.56 mile (2 bidders): Fallkill Constr. Co., Poughkeepsie, $8,071; Jos. Heisler & Gullotte, Schenectady, $8,116.
Road No. 1410, Westport Village-Main Street, Essex County, 1.76 miles (only bidder): Bluff Point Stone Co., Plattsburg, $24,163.
Road No. 620, Ephratah Kecks Center, Part 1, Fulton County, 5.13 miles (2 bidders): Brady Oltarsch Co., Inc., 49 West 140th Street, New York City, $49,044; Easton Constr. Co., Inc., Utica, $65,987.
Road No. 1365, Greenville-Coxsachie, Part 1, Green County, 2.39 miles: Geo. H. McEvoy, Greek Locks, $26,620; Jos. Walker Constr. Co., Albany, $28,266; Albany Constr. Co., Albany, $30,520.
Road No. 1346, Frankfort-Gulph, Herkimer County, 5.10 miles (4 bidders): Dale Eng. Co., Utica, $66,449; C. W. Tryon, Poland, $66,997; Albany Constr. Co., Albany, $69,604; Eastover Constr. Co., Utica, $93,449.
Road No. 1360, Munnsville-Pratts Hollow Pine Woods, Madison County, 6.54 miles (only bidder): C. W. Tryon, Poland, $64.672.
Road No. 1390, Chili-Coldwater, Monroe County, 2.92 miles (3 bidders): Roco Co., Inc., Rochester, $36,955; Thos. Grady, Rochester, $39,939; Peter F. Connolly, Horsehead, $41,766.
Road No. 1342, Roslyn-Port Washington, Nassau County, 5.24 miles (4 bidders): Thos. O'Hern Co., Yonkers, $84,480; Rosenthal Constr. Co., Inc., Brooklyn, $90,556; Ulrich Persicano, Brooklyn, $91,727; Leo. E. Kelly, 189 Montague Street, Brooklyn, $95,715.
Road No. 1355, North Western-Boonville, Part I, Oneida County, 5.24 miles (only bidder): Albany Constr. Co., Albany, $76,252.
Road No. 1408, Three Mile Point-Springfield Center, Warren, Otsego County, 8.13 miles (4 bidders): D. J. Snell & Co., Canajoharie, $88,569; J. L. Richmond, Hinckley, $99,366; Albany Constr. Co., Albany, $94,763; Newport Constr. Co., Herkimer, $101,372.
Road No. 1117, Rexford Flats-Wait Corners, Groom Corner, Saratoga County, 8.1 miles (3 bidders): W. G. Fox, Saratoga, $79,254; Albany Constr. Co., Albany, $79,317; John B. Dower Cons. Co., Ballston Spa, $88,900.
Road No. 1406, Marion-Williamson, Part 2, Wayne County, 3.67 miles (4 lowest): Hendrickson McCabe Constr. Co., Syracuse, $35,000; Thos. Brady, Rochester, $35,953; Dale Eng. Co., Utica, $35,959; Chambers & Barnes, Rochester, $36,169.
Road No. 1370, Harts Corners-White Plains, Westchester County, 1.74 miles (2 bidders): Harlem Contr. Co., 2 Rector Street, New York City, $50,959; Brady Oltarsch Const. Co., 49 West 140th Street, New York City, $50,971.
Repair Contract No. 992, Erie County, 9.14 miles. No bids received.
Repair Contract No. 947, Fulton County, .59 mile (3 bidders): Burnham & Rose, Albany, $3,814; Clarence E. Welsh & Co., Gloversville, $3,837; John P. Dugan Co., Inc., Amsterdam, $3,842.
Repair Contract No. 845, Nassau County, 2.51 miles. No bids received.
Repair Contract No. 947, St. Lawrence County, 2.5 miles (2 bidders): Richard Hopkins, Troy, $11,995; Herbert W. Pearl, Potsdam, $12,009.
Repair Contract No. 985, Ulster County, .83 mile (3 bidders): Jos. Walker Cons. Co., Albany, $5,659; Bohl & Goetz, Albany, $5,680; Geo. F. McEvoy, Creek Locks, N. Y., $5,769.

★Yonkers, N. Y.—Contract awarded by Board of Contract and Supply for paving North Broadway to Warren Bros. Paving Co., 50 Church Street, New York, at $106,000.

★Montclair, N. J.—Contract awarded by Town Council for asphalt concrete pavement on Upper Mountain Avenue and Bloomfield Avenue to Continental Public Works Co., 2 Rector Street, New York, N. Y., at $82,916.

★Princeton, N. J.—Contract awarded Harlin Contracting Company, 2 Rector Street, New York, N. Y., at $32,120, for 19,940 sq. yd. 2-in. asphalt block surface in reconstructing Nassau Street. B. Cook, Borough Clerk.

★Trenton, N. J.—Contract awarded by Board Freeholders for resurfacing as follows (bids opened July 1): Nottingham Way and Trenton-Lawrenceville Road, both to Newton Paving Company of Trenton, at $83,070 and $26,000 respectively; Trenton-Hopewell Road to L. W. Klockner of Merserville at $48,362.

★Bedford, Pa.—Contract for reconstructing 1.6 miles of road in Woodbury Township awarded C. I. Detwiler & Brother, New Enterprise, at $11,885. G. R. Shuck, Commissioner's Clerk. (Bids opened July 6.)

★Corry, Pa.—Contract awarded by City Commissioners for paving Pleasant Street to Keystone Construction Co., Meadville, at $11,075.

Harrisburg, Pa.—Following bids opened July 13 by W. N. Lynch, Supt. of Streets for paving and curbing: (a) May Street, (b) Green Street, (c) Swatara Street, (d) Cream Alley, (e) Snow Alley; (price given per sq. yd.): Stucker Bros., Harrisburg, (a) $1.95, (b) $1.89, (c) $1.89, (d) $1.95 and (e) $1.95; Central Construction Co., Harrisburg, (a) $1.96, (b) $1.72, (c) $1.72, (d) $2, and (e) $2.

★Norristown, Pa.—County Commissioners awarded contract for constructing 6 miles of waterbound macadam road on Sunneytown and Greyville Turnpike to William Evans, Ambler.

★Washington, Pa.—Contract for improving (bids opened June 26) 1.8 miles Cecil-Venice Road, 1600 ft. Pike Run Road, 1.3 miles Cannonsburg-Thomas Road, 1 mile Westland Road, 1 mile Claysville-Burnsville Road, 1.2 miles Gastonville Road, 1.2 miles Dynora-Eldora Road, and 5100 ft. Marianna Road, awarded by County Commissioners to Luther F. Edwards of Greensburg, at $24,759. T. J. Underwood, County Comptroller.

★West Chester, Pa.—Contract for constructing 17,795 lin. ft. state road 16 ft. wide of concrete construction awarded to Neff, Horn & Co. of Slatington at $60,000.

★Wilmington, Del.—Contract for about $200,000 worth of street pavements awarded by Street and Sewer Dept. to Union Paving Co. of Schenectady, N. Y.

★Towson, Md.—Contract awarded by County Commissioners for improving 2 miles to James Frederick, Parkton, at $24,303.

Parkersburg, W. Va.—Burdett Woodyard of Parkersburg is engineer for the road improvements for which citizens June 24 voted $100,000 bonds. C. E. Pahl, Commissioners' Clerk.

★Roanoke Rapids, N. C. — Contract awarded by Borough Council for improving streets to Moore & Abeel, Wilmington, at $20,000.

★Lake City, Fla.—Contract for 21,000 sq. yd. brick pavement awarded by Board Public Works (J. N. Layne, Secretary) to Alabama Paving Company of Birmingham, Ala., at $1.28½ per sq. yd.

★Somerset, Ky.—Contract for constructing about 50 miles of macadam road in Pulaski County awarded June 27 by Fiscal Court to the Conly Construction Company, Somerset. C. M. Langdon, County Clerk.

★Ashland, Ohio.—Contract for improving Arthur and Sandusky Streets awarded to D. A. Phillips of Ashland. Earl Fox, Director Finance and Public Record.

★Cincinnati, Ohio.—Contracts awarded by County Commissioners for improving Pippin Road to O. E. Robinson, 4649 Hamilton Avenue, at $16,400.
★City Board of Control has awarded the following contracts: Construction of Glenmore Avenue from Werk Road to Bridgetown Road with brick, to the Kirchner Construction Co., 221 West Ninth Street, Cincinnati, Ohio, at $14,808; construction of Louis Avenue from Vine Street to Eden Avenue with bituminous macadam, to the Kirchner Construction Co., at $11,188.

★Cleveland, Ohio.—Contract awarded by Director Public Service for paving Bulkley Boule. to Cleveland Trinidad Paving Co., Cleveland, at $22,180 (bids opened July 5).
★Contract for paving Meadowbrook Boulevard and Westminster, Stillman, Clarkson and Lamberton Roads awarded by Meadowbrook Land Co., East Ohio Gas Bldg., to Cleveland Trinidad Paving Co., of Cleveland, at $90,000.

Elyria, Ohio.—Following are lowest bids opened by State Highway Dept. at Columbus for paving Lake Road with bituminous concrete with asphalt surface: Public Contracting Co. of Elyria, $146,900; Ohio Engineering Co. of Lorain, $157,000, and Cleveland Trinidad Paving Co. of Cleveland at $157,005.

★**Fremont, Ohio.**—Contract awarded by City Council for paving East State Street to Ziegler & Reardon, Fremont, at $29,-634.

★**Hamilton, Ohio.**—Contract awarded by Board of Control for paving South Seventh Street to Andrews Asphalt Paving Co., Hamilton, at $19,987.

New Boston, Ohio.—Street improvement bonds for $28,000 will be sold July 24 by Thos. D. O'Neal, Village Clk.

Sandusky, Ohio.—Paving bonds for $25,-750 will be sold July 26 by Board County Commissioners. Fred. Herbel, Clk.

★**Toledo, Ohio.**—Contract for paving with Atlantic asphalt concrete on glutrin base about 17,057 sq. yd. on Broadway, and Waute Street awarded A. G. Trapper, Peru, Ind., at $38,079. George Champe, Engineer, 619 the Nesby Building.

★**Brownstown, Ind.**—Contracts awarded by County Commissioners for constructing roads as follows: To Masters Construction Co., Seymour, at $54,900 for concrete road, James De Golyer, Seymour, for concrete and gravel road at $53,000 and for macadam road at $15,-159 (bids opened July 1.)

★**Indianapolis, Ind.**—Contract awarded by County Commissioners to Charles E. Redington, Indianapolis, for constructing Falmouth-Glenwood Pike, at $45,800, and William Benson Road at $19,240.

★**Lawrenceburg, Ind.**—Contract awarded by County Commissioners for constructing William Cutter free gravel road, Center Township, to Alvah G. Miller, Washington Township, at $12,979.

★**Plymouth, Ind.**—Contract for constructing 2 gravel roads awarded by County Commissioners as follows (bids opened July 5): To Arthur W. O'Keefe, Plymouth, for Road No. 1 at $27,811, and for Road No. 2 at $18,498. Arthur W. Thomson, County Surveyor.

★**Rushville, Ind.**—Contract awarded by County Commissioners for constructing 14,650 ft. of macadam road in Anderson Township to Wilk & Co., Rushville, at $13,160.

★**Illinois.**—Contract for state highway work awarded by State Highway Department, Springfield, as follows:

★On June 14, to James V. Wright, Harvard, for gravel road in McHenry County, Section G, at $11,791.

★On June 28, to John E. Bretz, Springfield, brick road in Sangamon County, Section I, at $12,979, and in Douglas County, brick roads, Sections D and E, both to Goggin Construction Company, Arcola, at $12,835.

★On July 5, to C. A. Michael, Mattoon, for brick road in Champaign County, at $22,509; to Stipes & Pilcher, Champaign, for brick road in Champaign County, at $11,425, to Frederick J. Ward, 28 East Jackson Street, Chicago, for oiled earth road in Henry County, at $22,955; to F. L. Shidler, Kankakee, for brick road in Kankakee County, at $17,867; to Lehigh Stone Co., Kankakee, for waterbound macadam road in Kankakee County, at $8,339; to Jansen & Zoeller, Pekin, for oiled earth road in Mason County, at $9,-972, and to Gund-Graham Co., Freeport, for waterbound macadam road in Stephenson County, at $11,939.

★**Mendota, Ill.**—Contract awarded by City Council for paving to D. A. Thacher & Co., Chicago, Ill., at $48,455.

★**Normal, Ill.**—Contract awarded by City Council for paving Division Street, to I. D. Lain, Bloomington, at $29,735.

★**Park Ridge, Ill.**—Following are three bids opened July 5 by Board Local Improvements (A. W. Lorenz, Secretary) for 9000 sq. yd. asphaltic concrete pavement on Ashland Boulevard: Standard Paving Company, Chicago, $21,819 (awarded contract); R. F. Conway Company, Chicago, $22,470, and J. A. McGarry & Company, Chicago, $21,944.

★**De Pere, Wis.**—Contract for 22,000 sq. yd. asphaltic concrete (Aztec asphalt) pavements awarded to Williston Construction Company of Chicago, Ill., at $1.41 per sq. yd. R. F. Rupiper, Chairman Street Committee.

★**Burlington, Iowa.**—Contract for paving with cement concrete 6 blocks on Market Street (bids opened July 6) awarded to George Peterson of Burlington at $1.18 per sq. yd. E. P. Weinistein, City Clerk.

★**Duluth, Minn.**—Contract awarded by City Commissioners for paving Twenty-first Avenue to General Contracting Company, Minneapolis, Minn., at $11,527.

★**Northfield, Minn.**—Contract for about 13,000 sq. yd. creosote block pavement along river bank awarded by city (bids opened July 6) to Fielding Shepley of St. Paul at $2.17 per sq. yd. C. E. Hoppin, City Recorder.

★**Grand Island, Neb.**—Contract for 13,-125 sq. yd. brick block, 4274 ft. curb and gutter and 420 ft. curbing on Pine Street, awarded to E. D. Tyner Construction Co. of Kansas City, Mo., at $1.97 per sq. yd., and 47c. and 30c. per lin. ft. respectively. H. E. Clifford, City Clerk.

★**Kansas City, Mo.**—Contract awarded by City Council for paving 6512 sq. yd. with sheet asphalt on Prospect Street from Linwood Boulevard to Thirty-fifth Street, to Cleveland Trinidad Paving Co., Cleveland, Ohio, at $2.17 per sq. yd.

★**Athens, Tex.**—Contract for constructing 40 miles of roads in Henderson County awarded by county to Cobb & Gregory of Houston at about $60,000.

★**Houston, Tex.**—Contract for paving Montrose Boulevard from Main to Richmond Street awarded Southern Paving Company, Houston, at $36,418 with asphaltic concrete pavement.

Roswell, N. M.—State will soon build 53 miles of road in Chaves County from Acme north to Kenna. Convict labor to be used. Address State Engineer, Santa Fe.

★**Everett, Wash.**—Contracts awarded by County Commissioners for highway construction as follows: To T. M. Ryan & Co., Lowman Building, Seattle, at $25,-985 for road from East Stanwood to Cedarhome, and to E. Matson & Son, Tacoma, at $13,905 for road from Forty-first Street in Everett to Mukilteo Road.

★**Kent, Wash.**—Contract awarded by City Council for surfacing 21,729 sq. yd. of streets with 2-in. bitulithic to Washington Paving Co., L. C. Smith Bldg., Seattle, at $15,583.

★**Walla Walla, Wash.**—Reported contract awarded by City Council for paving Newell and Birch Streets and Chase Avenue with bitulithic to Warren Construction Co., Portland, Ore., at $30,000.

Coquille, Ore.—Lowest bid submitted to City Council for improving 24 blocks, including grading, a 9-ft. plank street and concrete walks by Longston & Co., Coquille, at $22,500.

★**Klamath Falls, Ore.**—Lowest bid opened by City Council for improving municipal highway to Shippington submitted by J. H. Garrett of Klamath Falls at $19,950 for 5 in. oil macadam, $20,829 for 6 in. oil macadam, $20,940 for bithulithic pavement.

North Bend, Ore.—Lowest bid submitted to City Council for paving waterfront highway from Washington Street to city limits by Anderson & Klockars, North Bend, at $43,707, for rock asphalt or bituminous macadam.

Tillamook, Ore.—Contract bids opened June 27 for hard surfacing Eighth Street and Fifth Street and Fifth Avenue East awarded to Arenz Construction Company, Salem, Ore., at $35,108. Ira C. Smith, City Recorder.

★**Hemet, Cal.**—Contract awarded by City Council for constructing approximately 158,400 sq. ft. of concrete pavement on Florida Street to Conner Contracting Co., 709 Higgins Bldg., Los Angeles, at $11,722.

★**Los Angeles, Cal.**—Following are four lowest bids opened recently by Board of Supervisors for constructing Section G of Mint Canyon Road, 11.82 miles, involving approximately 91,225 cu. yd. excavation, 59,462 lin. ft., etc.: P. A. & C. H. Howard, 2128 Sacramento Street, at $86,375 (awarded contract); Bent Bros. Construction Co., Central Bldg., $92,458; L. G. Garnsey, 514 Central Bldg., $93,535, and H. E. Cox, Chamber of Commerce Bldg., $95,999.

Following are three lowest bids opened July 3 by Board of Supervisors for constructing macadam pavement, concrete culverts, etc., in 2.62 miles of Vine Street: Rogers Bros. Co., 508 Hibernian Bldg., $15,900 (awarded contract); Fred Hoffman, Long Beach, $18,900, and M. T. Shafer, $18,938.

★**Riverside, Cal.**—Contract awarded by City Council to Johnson-Shea Company, Riverside, for improving Fairmount Boulevard at $15,389. Next three lowest: S. C. Construction Company, Los Angeles, $16,274; Highway Construction Company, Redlands, $17,805, and Shull-Tucker Company, Riverside, $19,004. Work includes macadam roadway, cement sidewalks, curbing and guttering.

San Jose, Cal.—See "Proposed Work."

★**Ventura, Cal.**—Contract for grading and constructing culverts on eight miles of Moonpark to Simi Road in Division No. 9, involving about 42,000 cu. yd. excav., 435 cu. yd. concrete in culverts and 25,000 lb. steel, awarded to Mesmer & Rice, Marsh-Strong Bldg., Los Angeles, at $16,745.

★**Logan, Utah.**—Contract awarded by City Commissioners for paving South Main Street to Olof Nelson, Logan, at $19,001.

★**Salt Lake City, Utah.**—Contract awarded by City Commission for paving Eighth East Street and Fourth South Street to Parrott Bros., Salt Lake City, at $91,712.

★**Windsor, Ont.**—Contract awarded by City Council for paving Howard Avenue with asphalt block to Merlo & Ray, Walkerville, at $45,000.

RAILWAYS
Steam and Electric

PROPOSED WORK.

New York, N. Y.—Reported Lehigh Valley R. R. (E. B. Ashby, Ch. Engr., 143 Liberty Street) will issue $1,100,000 bonds for additions and betterments to their system.

Philadelphia, Pa.—See "Foundations, Piers and Dams."

Quakertown, Pa.—The Quakertown & Delaware River R. R. Co. will electrify 15 miles line between Quakertown and Riegeesville. Address John M. Buckland of Allentown for further information.

Renova, Pa.—Reported Pennsylvania R. R. Co. considering making extensive improvements to yards at Renova. H. M. Carson, at Williamsport, Gen. Supt. Central Div.

Somerset, Pa.—Sterling Smokeless Coal Company, of Conemaugh Township, is planning building a 3-mile extension railroad to Somerset & Cambria branch.

Thomasville, N. C.—Thomasville Terminal Co., incorporated to construct an electric railway in Thomasville and maintain interurban lines to neighboring points. Capital $125,000. Among incorporators: T. J. Flinch and J. W. Lambeth.

Clinton, S. C.—Preliminary surveys will be made by Reid Tull of Spartanburg for construction of Carolina Rapid Transit Ry. to connect Spartanburg, Union, Woodruff, Enoree, Laurens and Clinton, distance of 85 miles. J. F. Jacobs of Clinton interested.

Atlanta, Ga.—Reported Atlanta & Anderson Electric Ry. Co. will begin construction work about Sept. 1 on line from Atlanta to Anderson.

Augusta, Ga.—Secretary of State has granted to Savannah River Terminal Company of Augusta, a 50-year charter to build a main line and three branch lines of railroad in city of Augusta. Incorporators, Charles A. Wickersham of Atlanta, William A. Vincent, Augusta, and others.

Lakeland, Fla.—The Lakeland, Bartow and Winterhaven R. R. Co. considering constructing a line from Lakeland to Bartow and Winterhaven. Capital $700,000. Among incorporators: J. L. Wilson of Altoona, Pres., and E. B. Nelson of Baltimore, Md., Gen. Mgr.

St. Petersburg, Fla.—George S. Grandy, Sr., of St. Petersburg, is reported interested in the trolley line which it is proposed constructing from St. Petersburg to Tampa, about 18 miles long, crossing the bay by bridge from Coffee Port to Port Tampa.

Savannah, Tenn.—Citizens voted $150,-000 bonds for constructing Wayne-Hardin R. R. from Collinswood. Address E. H. Steinman of Collinswood for further information.

Akron, Ohio.—The Akron Belt Line R. R. Co. incorporated to construct an electric railway from Akron to New London. Capital $250,000. Glen Brown of Akron interested.

Cleveland, Ohio.—City Council considering the elimination of grade crossings on Erie R. R. at East Sixty-fifth Street, estimated to cost to city and railroad at $247,500.

Sears, Ill.—Tri-City Railway Co., Rock Island, plans to double track line from Sears to Center Station.

Springfield, Ill.—Plans being considered by Springfield Commercial Asso. for construction of an electric railway from Springfield to Hillsboro, distance of 50 miles.

Albia, Iowa.—Southern Iowa Ry., Light & Power Co will spend about $50,000 for improvements in Albia.

Bonner Springs, Kan.—Reported construction work will begin soon by Kansas City, Kansas & Western Ry. for extension of road to Topeka.

Dixon, Mont.—Reported Northern Pacific Railway (W. L. Darling, Chief Engr., St. Paul, Minn.) will soon construct the Flathead branch of their line from Dixon, on the main line, to Polson, on the south shore of Flathead Lake, in all about 40 miles.

Hardin, Mont.—See "Industrial Plants and Warehouses."

Aransas Pass, Tex.—Eagle Pass & Aransas Pass Ry. of Aransas Pass is reported incorporated to build a line about 250 mile in length between Aransas Pass and Eagle Pass.

Houston, Tex.—George C. Morris, receiver for the Houston & Brazos Valley Railroad Co. contemplates spending $51,-000 for improvements.

Waco, Tex.—The Texas Electric Railway Co. contemplates constructing extension from Waco to San Antonio via Austin, and from Waco to Houston. Among incorporators are: J. T. Strickland of Dallas, W. D. Lacy of Waco, W. W. Sealey of Waco and others.

Exeter, Cal.—Reported the Visalia Electric R. R. Co. considering extending lines from Exeter southerly along foothills to Lindsay and El Mirador.

Garden Grove, Cal.—The Pacific Electric Co., Los Angeles, decided to lower grade of about 28,000 ft. tracks and install culverts for protection from floods; cost about $18,000.

Benson, Ariz.—Reported Col. Epes Randolph, Tucson, is considering building a railroad from Benson to Wilkelman, a distance of 80 miles.

Kelvin, Ariz.—George B. Chittenden, Kelvin, reported preparing to build four miles of narrow-gauge railroad from Brannaman on Phoenix and Eastern to Snider mining property.

Prescott, Ariz.—Reported Commercial Mining Company, Prescott, is planning constructing a leaching mill and building 6 miles of railroad from Skull Valley to mining property in Copper Basin.

Salt Lake City, Utah.—Reported Bingham & Garfield Railway Co. plans electrification of Bingham & Garfield Ry. D. C. Jackling, Salt Lake City, Gen. Mgr.

Pocatello, Idaho.—Work will begin about Oct. 1 for constructing extension of Pocatello Traction & Interurban Ry. from Preston, Idaho, to Petersburg, Utah and Ashton, Idaho.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**New York, N. Y.**—Following bids opened by Public Service Commission, 120 Broadway, on July 6 for supply frogs and switches for Seventh Avenue line: Pennsylvania Steel Co., 71 Broadway, at $65,-316, and Ramapo Iron Works, 30 Church Street, at $66,740.

★**North McGregor, Iowa.**—Contract for reconstructing and enlarging railroad yards Chicago, Milwaukee & St. Paul (C. F. Loweth, Ch. Engr., St. Paul, Minn.), recently destroyed by floods, awarded to Morris, Shepard & Dougherty, 814 Globe Bldg., St. Paul, Minn.

★**Chehalis, Wash.**—Contract awarded by Cowlitz, Chehalis & Cascade R. R. to Nettleton - Bruce - Eschbach Company, Seattle, for constructing the railway from Chehalis, 20 miles up the Newaukum Valley, including constructing of three bridges from 80 to 100 ft. in length.

★**Spokane, Wash.**—Reported contract for constructing 25 miles of the Chicago, Milwaukee & St. Paul Ry. line from Blackfoot Junction to Clearwater, awarded Clifton, Applegate & Toole, Spokane; cost about $200,000.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Gardiner, Mass.—Heywood Brothers & Wakefield Company of Gardiner will erect a 2-story brick storehouse, to cost $75,000.

Pawtucket, R. I.—Plans completed by Charles R. Makepeace & Co., Butler Exchange, Providence, for four-story, 230 x 209-ft. addition to plant of Crown Manufacturing Co.

Lockport, N. Y.—Plans prepared for two-story, 60 x 400-ft. addition to plant of Lockport Glass Co., Michigan Street; cost, $50,000.

New York, N. Y.—Plans filed for two sixteen-story factory buildings for Alt Realty Co., 15 West Forty-fifth Street, one to be erected at 23 West Forty-fifth street, costing $75,000, and the other at 13 West Forty-fifth Street, costing $100,000. William H. Gompert, Archt., 171 Madison Avenue.

Niagara Falls, N. Y.—Contract soon to be let for erecting two-story 50 x 100-ft. machine shop for Titanium Alloy Manufacturing Company, Sugar and LaFayette Streets. Colson & Hudson, Archts., 36 Dun Building, Buffalo.

Rochester, N. Y.—North East Electrical Co., 348 Whitney Street, plans erecting a 44 x 121-ft. addition to plant, costing $80,000.

Syracuse, N. Y.—Plans being prepared by Robert J. Reidpath & Sons, Builders Exchange, Buffalo, for three-story, 220 x 240-ft. factory, to be erected on West Marcellus Street for H. H. Franklin Manufacturing Company (H. G. Franklin, President); estimated cost, $250,000.

Utica, N. Y.—Plans being prepared by Cooper & Begg, Clarendon Building, for three-story and basement factory to be erected for Bossert Company (J. H. Jones, Manager), 55 Hickory Street; estimated cost, $25,000.

Bayonne, N. J.—Plans being prepared for proposed Bush terminal project to be erected here at cost of $20,000,000. B. F. Cresson, Engineer in Charge, City Park Building, Bayonne.

Watsessing (Bloomfield), N. J.—N. J. Sprague, Electrical Works, 527 West Thirty-fourth Street, New York, N. Y., contemplates erecting six-story, 800 x 75-ft. power plant here; estimated cost, about $800,000.

Philadelphia, Pa.—William R. Werner Co., 639 Broad Street, has plans for six-story, 180 x 20-ft. factory, to cost $300,000. William R. Steele & Sons, 1600 Arch Street, engineer and builder.

Pittsburgh, Pa.—Atlantic Refining Company, 906 Glenwood Avenue, will soon let contract for erecting warehouse on Butler Street to cost $125,000.

Baltimore, Md.—Tropical Lumber & Pump Company reported planning erection of a paper pulp mill on waterfront.

Durham, N. C.—Liggett & Myers Tobacco Company, Durham, will erect three-story addition to factory to cost $100,000.

Birmingham, Ala.—Contract soon to be let for rebuilding, at Twenty-eighth Avenue and Twenty-second Street plant of Southern Sewer Pipe Company (Walter S. Dickey, President), destroyed by fire.

Ensley, Ala.—Tennessee Coal, Iron & Railroad Company (George Gordon Crawford, President) intends improving plant here at cost of about $250,000, including erecting two bath and change houses costing about $60,000 and repairing and erecting 17 schoolhouses.

Cincinnati, Ohio.—Plans being prepared by Harry Hake, Telephone Building, for a 2-story, 75 x 90 ft. addition to plant of Barrett Manufacturing Company at 529 Carr Street.

Cleveland, Ohio. — Reported William Plotz Iron Works Company, 401 Champlain Avenue, will erect a plant on West Sixth Street and Champlain Avenue; estimated to cost $25,000.

Indianapolis, Ind. — See "Reinforced Concrete."

South Bend, Ind.—Plans being prepared by W. W. Snyder, Union Trust Building, for fireproof factory which the International Rubber Company (George W. Odell, Secretary), Farmers Trust Building, intends erecting on Vandalia, Railroad and Ewing Avenues, for manufacturing automobile tires.

Chicago, Ill.—Hughes Electric Heating Co., 211 West Schiller Street, is planning to erect a new factory at Waller Avenue and Taylor Street; cost, about $150,000.

Mankato, Minn.—Mayer Brothers Manufacturing Company, Mankato, having plans prepared for a 1-story steel and concrete factory, 100 x 400 ft.

Minneapolis, Minn.—Minneapolis General Electric Company, 15 South Fifth Street, purchased a site 325 x 200 ft. at Chestnut Street and Lyndale Avenue and intends erecting, next fall, a garage and warehouse.

Newport, Minn. — Haugen-Newstrom Company, Iron Exchange, Minneapolis, engaged to prepare plans for packing plant to be erected here for Farmers' Terminal Packing Company, 919 Commerce Building, St. Paul; cost about $300,000.

Hutchinson, Kan. — See "Reinforced Concrete."

Hardin, Mont.—The Big Horn Canyon Irrigation & Power Company's 217,000 hp. hydroelectric project is being considered for a Federal nitrite plant. Estimated cost of project is $16,000,000; limestone used as base is found on site. Included in the nitrite project is the irrigation of 100,000 acres of land and electrification of 500 miles of steam roads.

Beaumont, Tex.—See "Reinforced Concrete."

Dallas, Tex.—Reported Alston Boyd, 488 Beale Street, Memphis, Tenn., and associates contemplate erecting a $150,000 plant here, to be equipped with six presses having daily capacity of 100 tons of cottonseed; also equipment to mix seed and to bleach lint for paper pulp.

Republic Box Company (R. O. Harris, Vice-President and General Manager) of Houston, secured site at Lamesa and Henning Streets and intends erecting a brick factory, 195 x 285 ft., for manufacture of wire-bound boxes.

Waco, Tex.—Plans approved for fireproof brick warehouse which the American Express Company intends erecting here.

Seattle, Wash.—Reported Washington Iron Works, Seattle, will make improvements costing $100,000, including another steel casting furnace.

El Segundo, Cal.—The Potassium Manufacturing Corporation is preparing to erect a potash reduction plant, the first unit to cost about $40,000, and to consist of laboratories, three drying rooms, machine shop, warehouse and storage building.

Guasti, Cal.—Italian Vineyard Co. (Secondo Guasti, President, 3500 West Adams Street, Los Angeles) will rebuild its $300,000 winery, recently destroyed by fire, requiring 190 fermenting tanks.

Los Angeles, Cal.—See "Reinforced Concrete."

Porterville, Cal.—Reported Rex Plaster Company will build a tramway about a half-mile long to carry ore from the mines to the railroad.

Los Angeles, Cal.—See "Reinforced Concrete."

Turlock, Cal.—National Ice Company, 805 South Center Street, will erect a plant to cost $100,000, with a daily capacity of 75 tons.

St. Valician, Que.—International Land & Lumber Co. (S. A. Huntington, Secretary, 285 Bank St., Ottawa, Ont.) is preparing to erect a pulp mill, to cost $200,000.

New Toronto, Ont.—Du Pont Fabrikoid Co., 864 Dufferin Street, contemplates erecting a new factory, to cost $100,000.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Hope, R. I.**—Contract awarded J. W. Bishop & Co., Butler Exchange, Providence, for erecting one-story, 264 x 230-ft. addition to mill of Hope Co.

★**New London, Conn.**—Contract for constructing pier shed at New London awarded by Rivers, Harbors & Terminal Commission of Connecticut to Scheidenhelm Construction Corporation, Grand Central Terminal, New York, N. Y., at $125,000. W. E. Clark, Res. Engr.

★**Cobleskill, N. Y.**—Hall & Howland of Sidney secured contract to erect factory addition, 90 x 200 ft., for Miner, Harder & Co. F. H. Rydee, President.

★**Niagara Falls, N. Y.**—Contract awarded Braas Brothers, 1110 Whitney Street, for erecting one and two-story addition to plant of Niagara Alkali Company, Buffalo Avenue and Union Street; cost $750,000.

Schenectady, N. Y.—See "Reinforced Concrete."

Yonkers, N. Y.—See "Reinforced Concrete."

★**Jersey City, N. J.**—Contract awarded Turner Construction Company, 11 Broadway, New York, for erecting five-story, 61 x 118 ft. factory on Grand and Greene Streets.

★**Bethlehem, Pa.** — Contract awarded Fred A. Haven Co., 845 North Nineteenth Street, Philadelphia, for erecting workingmen's dwellings for Lehigh Coke Co.; cost, $200,000.

★**Harrisburg, Pa.**—Contract awarded Joseph W. Pomeraning of Harrisburg, for erecting $50,000 warehouse for Dives, Pomeroy & Stewart. M. I. Kast, Archt., Arcade Building.

Peterson (P. O. Creighton), Pa.—See "Steel Bridge Work."

Philadelphia, Pa.—See "Reinforced Concrete."

Durham, N. C.—See "Reinforced Concrete."

★**Birmingham, Ala.**—Contract awarded E. F. Hettrick Engineering Company, 1502 Empire Building, Birmingham, for erecting three additional stories to present five-story warehouse of Birmingham Ice & Cold Storage Company at Avenue E and Twenty-second Street; cost about $50,000.

★**Cincinnati, Ohio.**—Contracts awarded as follows by Samuel Hannaford & Sons, Architects, Sixth and Vine Streets, for erecting an addition to plant of Sullivan Printing Co., Gilbert Avenue: Roofing and sheet metal, Witt & Brown, 215 W. Third Street; iron and steel, Columbia Iron Works, 721 Reading Road; hollow metal windows, Thomas Lee, 128 W. Second Street; interlocking steel doors, Edwards Manufacturing Co., Eggleston Avenue and Fifth Street; foundation and cement, Roos Brothers, 2814 Stanton Avenue; carpentry, M. Marcus Building Co., 2023 Reading Road.

★**Campbellford, Ont.**—Contract awarded T. McManus of Campbellford, for rebuilding plant of Northumberland Paper & Electric Company, destroyed by fire.

BUILDINGS
Public and Private

PROPOSED WORK.

Newport, N. H.—High school to be erected in Newport at cost of about $75,000. Address L. D. Towle, 68 Devonshire Street, Boston, Mass., for further information.

New Bedford, Mass.—Louis E. Destremps, N-B Theater Building, is architect for proposed primary and grammar school to be erected at Bellville and Rhodes Streets; cost $150,000. Address Board of Education.

Waltham, Mass.—Y. M. H. Association contemplates erecting synagogue at Main and Bacon Streets, to cost $50,000. Address Chairman Building Committee.

Providence, R. I.—Plans completed by Charles H. Lockwood, 517 Howard Building, for seven-story store and apartment building to be erected for Pierce & Co.

Putnam, Conn.—All bids opened recently by Supervising Architect, Washington, D. C., for constructing U. S. post office rejected.

Cohoes, N. Y.—Board of Education July 5 adopted resolution favoring a $200,000 bond issue for erecting new high school.

Jamestown, N. Y.—Plans prepared by Warren & Whitmore, 16 East Forty-seventh Street, New York, for a passenger station to be erected here for Erie Railroad Company (R. C. Parson, Ch. Engr., 50 Church Street, New York); estimated cost, $500,000.

Johnson City, N. Y.—Reported Binghamton Light, Heat & Power Company, 172 Washington Street, will erect a power plant at a cost of $500,000.

New York, N. Y.—York & Sawyer, 50 East Forty-first Street, are architects for the six-story nurses' home to be erected at 207 East Sixty-third Street, in rear of Manhattan Eye, Ear and Throat Hospital; cost, $300,000.

New York, N. Y.—Plans filed for erecting following buildings: 13-story fireproof apartment and office building at 307 West End Avenue for Paterno Construction Co., cost $125,000, Warren & Wetmore, Archts., 16 East Forty-seventh Street; 12-story fireproof apartment and office building at 925 Fifth Avenue for Fifth Avenue and Seventy-fourth Street Corp., cost $400,000, Warren & Wetmore, Archts., 16 East Forty-seventh Street; 9-story fireproof apartment house at 105 West Fifty-fifth street for the 105 West Fifty-fifth Street Co., Inc., cost $200,000, Denby & Nate, Archts., 333 Fourth Avenue; 12-story fireproof hotel at 143 Thirty-ninth Street for A. Stanley Jones, 564 Washington Avenue Brooklyn, cost $50,000, A. L. Harmon, Archt., 3 West Twenty-ninth Street; 3-story fireproof garage at 311 Sixty-eighth Street for Hudson Motor Car Co. of New York, Inc., cost $240,000, Harry B. Milliken, Archt., 103 Park Avenue; 21-story fireproof office and showroom building at 137 West Thirty-seventh Street for Little Falls Co., cost $987,000, Francis Bannerman, Archt., 793 Broadway.

Bayonne, N. J.—Board of Education plans erecting two schools, one in the Bergen Point section and one in the West Side section.

Jersey City, N. J.—Plans completed by Nathan Welitoff, 222 Washington Street, Newark, for four-story, 75 x 105-ft. brick and limestone apartment building to be erected at Monticello and Storms Avenues for Benjamin Taminsky, 50 Williams Avenue; cost, $70,000.

Newfield, N. J.—E. F. Durang & Son, 1200 Chestnut Street, Philadelphia, Pa., have completed plans for a 2-story brick school for Edgarton School.

Newton, N. J.—Citizens voted $75,000 bonds for erecting high school. Contract will be let about September. Address Clerk Board Education.

School bonds for $75,000 will be sold July 25, by Board Education.

South Orange, N. J.—Paul Starrett, President of George A. Fuller Co., 111 Broadway, New York, N. Y., will erect a 2½-story brick residence in South Orange, to cost about $50,000.

Harrisburg, Pa.—Steps being taken to improve Stevens Memorial Methodist Episcopal Church, Thirteenth and Vernon Streets, at cost of about $25,000.

Johnson City, Pa. — First Baptist Church contemplates erecting new edifice to cost $50,000. Rev. L. E. Ford, Pastor.

Philadelphia, Pa.—See "Foundations, Piers and Dams."

Philadelphia, Pa. — Councils' Finance Committee approved ordinance appropriating $2,300,000 to erect general hospital.

Sum of $50,000 has been given to the Babies' Hospital of Philadelphia and Llanerch for erecting an additional building in Philadelphia.

Ridley Park, Pa.—Plans for 2-story brick and stone high school for Board of Education have been prepared by Paul A. Davis, 3d, 1713 Sansom Street, Philadelphia.

West Chester, Pa.—Erection of a $60,000 Methodist Church at Barnard and High Streets contemplated.

Atlanta, Ga.—See "Reinforced Concrete."

Tampa, Fla.—Reported County Commissioners considering erecting a new court house and jail to cost $500,000.

Birmingham, Ala.—See "Steel Bridge Work."

Birmingham, Ala. — Jefferson County Board of Education plans improving schools at cost of approximately $75,000. Address P. M. McNeil, Superintendent County Board of Education.

New Orleans, La.—Louisiana Railway & Navigation Co. reported planning erection of a passenger terminal on South Rampart Street.

Louisville, Ky.—D. X. Murphy & Brother, Louisville, Terminal Building, selected to prepare plans for proposed $300,000 auditorium.

Shelbyville, Ky.—School Board purchased site on West Main Street for proposed high school for which $50,000 bonds were recently voted.

Cincinnati, Ohio.—Samuel Hannaford & Sons, Sixth and Vine Streets, commissioned by L. B. Reakirt, head of the Bodman estate, to prepare plans for a 10-story power building to be erected at Sixth and St. Clair Streets.

Cincinnati, Ohio.—Plans prepared by Samuel Hannaford & Son, Hulbert Block, for proposed Hoffman School; estimated cost about $200,000. Address Board of Education.

Cincinnati, Ohio.—J. F. Sheblessy, 519 Main Street, engaged to prepare plans for additions to St. Mary's Hospital, Betts Street; cost, about $250,000.

Cleveland, Ohio.—Plans being prepared by H. T. Jeffrey, 408 Union Building, for a market house, 75 x 277 ft., to be erected on East 105th Street and Euclid Avenue; estimated cost, $125,000. Guy D. Brookins, Euclid Avenue and East Eighteenth Street, may be able to give information.

Limrary bonds for $2,000,000 will be sold Aug. 1 by Library Trustees, Carl Lorenz, Kinney & Feran Bldg., Secy.

Dayton, Ohio.—Engineers Club has secured a site at Jefferson Street and Monumenet Avenue on which it is proposed erecting a club house according to plans by Schenck & Williams, 591 Arcade Street.

Plans prepared by Schenck & Williams, 591 Arcade, approved for ten-story, granite, brick and terra cotta office building, to be erected at 25 North Main Street, for Dayton Savings and Trust Company.

Gallipolis, Ohio.—School bonds for $80,000 will be sold July 27 by Wm. H. Pritchard, Clk. Board Education.

Lakewood, Ohio.—Plans about completed for the $300,000 high school to be erected on Madison Avenue. Address Clerk Board Education.

St. Bernard, Ohio.—See "Reinforced Concrete."

Wellington, Ohio.—Citizens July 1 voted $55,000 bonds to erect new high school. Address Clerk School Board.

West Park, Ohio.—Erection of a $60,000 library contemplated. Address Village Clerk.

Youngstown, Ohio.—Ernest Salow of Youngstown contemplates erecting a ten-story hotel on site of present Salow Hotel. Probable cost, $250,000.

Administration Board approved plans for proposed city storehouse to be erected on site adjoining city jail; cost approximately $50,000.

Fort Wayne, Ind.—School improvement bonds amounting to $100,000 sold. Address J. N. Study, Superintendent School Board.

South Bend, Ind.—Plans being prepared for ten-story industrial building to be erected at Jefferson Boulevard and Lafayette Street; cost $400,000. Julius Jonas, 219 Farmers' Security Building, may be able to give information.

Plans being prepared by James B. Dibelka, 29 South La Salle Street, Chicago, Ill., for ten-story hotel to be erected at Main and Center Streets for Nickel Hotel Co.; cost, $300,000. Mr. Cake, New Nickel Hotel Co., 119 North Main Street, may be able to give information.

Flint, Mich.—Citizens voted $500,000 bonds to erect new high school. Address Board of Education.

Chicago, Ill.—See "Reinforced Concrete."

Chicago, Ill.—Louis A. Bensinger, 72 West Madison Street, has leased from E. F. Keebler & Company four floors of the building at 231 South Wabash Avenue and intends spending $60,000 in alterations and improvements.

Frederick M. Bowes of the Bowes Realty Company, 5905 S. Ashland Avenue, intends erecting a building, costing about $100,000 at Lake Shore Drive and Ontario Street.

Eureka, Ill.—Site secured for new $55,000 science building to be erected for Eureka College.

Quincy, Ill.—Contract will be let about Sept. 1 for erecting Dewey School; cost $75,000. George P. Behrensmeyer, Archt., 530 Main Street.

Appleton, Wis. — Lawrence College (Samuel Plants, President) has received $100,000 from Mrs. Russell Sage with which to erect a girls' dormitory as a memorial to her husband.

Ames, Iowa.—W. T. Proudfoot, Hubbell Building, Des Moines, is architect for Dormitory No. 3 for Women, to be erected at Iowa State College. W. H. Gemmill, Secretary Iowa State Board of Education.

Mason City, Iowa.—Citizens July 7 voted $140,000 bonds for erecting high school. J. H. Felt & Co., Archts., Grand Avenue Temple, Kansas City, Mo. R. L. James, Secretary Independent School District.

Vinton, Iowa.—Plans being prepared by Miller, Fullmievieder & Dowling of Chicago, Ill., for the proposed school. W. E. Bickel, Secretary Board Education.

Tower, Minn.—Citizens voted to erect $80,000 school. Address Board of Education.

Lyons, Kan.—A two-story brick, stone and concrete combined city hall, fire hall and modern theater to be erected. Estimated cost, $25,000. Charles D. Cuthbert, Topeka, Archt.

Wichita, Kan.—Election to vote $100,000 school bonds contemplated. Address School Board.

Carthage, Mo.—Plans being prepared by J. H. Felt & Co., Grand Avenue Temple, Kansas City, for two brick and stone ward schools; total cost, $90,000.

Kansas City, Mo.—Plans being considered for $180,000 building to be erected for Sweeney Automobile School, 1112 East Fifteenth Street.

Brownwood, Tex.—An election to vote $50,000 bonds to erect a county hospital contemplated. Address County Clerk.

El Paso, Tex.—Elks Lodge planning to erect new building to cost approximately $100,000.

Ft. Worth, Tex.—Election to be held July 22 to vote $225,000 bonds for erecting school. E. E. Edwards, Assistant Superintendent School Board.

Marlin, Tex.—City approved issue of $60,000 bonds for erecting high school.

San Antonio, Tex.—See "Reinforced Concrete."

San Antonio, Tex.—Contract soon to be let for additions and alterations to San Antonio Daily Express Building. Alfred Giles Co., F Building, and August A. Herff Co., 308 East Houston Street, associated architects.

Tulsa, Okla.—E. P. Harwell, 1324 South Baltimore Street, is considering plans for erecting ten-story office building.

Reported S. B. Gallais, 804 South Detroit Street, contemplates erecting ten-story hotel.

J. S. Cosden, 518 Tulsa Hotel Building, will erect an office building, probably ten stories.

City Hall bonds for $125,000 will be sold July 17 by Frank Newkirk, City Aud.

Webb City, Okla.—Erection of a Y. M. C. A. building contemplated; cost $60,000. Address Secretary Y. M. C. A.

Spokane, Wash.—Reported Salvation Army contemplates erecting $100,000 building here.

Spokane, Wash. — Reported F. P. Rooney, Empire State Building, engaged to prepare plans for five-story, 130 x 103-ft. Elks' Building; cost, $135,000.

Tacoma, Wash. — Reported Nelson Bark, Proprietor of the Tacoma Furniture & Outfitting Company, will erect a 6-story fireproof business building at Broadway and South Eleventh Street, to cost $50,000.

Portland, Ore.—Reported Native Sons and Daughters of Portland plan erecting a $100,000 building to house relics and records.

Los Angeles, Cal.—Preliminary plans being prepared by O. M. Warner, Stimson Building, for a 100-room brick hotel, to be erected at 721 San Julian Street for George N. Hillwig, 3744 Viola Avenue.

Visalia, Cal.—Schwartz & Schwartz, Fresno, are architects for the three brick school buildings. C. T. Pool, Clerk School Board.

Quebec, Que.—Plans being prepared by Tanguay & Legon, 20 D'Aguillon Street, Quebec, fo ra $100,000 hospital to be erected for the Anti-Tuberculosis Hospital.

New Liskeard, Ont.—Plans being prepared by F. R. Heakes, Parliament Building, Toronto, for an agricultural high school to cost $100,000.

Portage la Prairie, Man.—Plans being prepared by Frank Evans, 901 Confederation Life Building, Winnipeg, for a school to cost $50,000.

BIDS DESIRED.

Boston, Mass.—Until July 21, by Schoolhouse Commissioners (Jos. P. Lomasney, Chmn.), for erecting an addition to Hyde Park High School, Harvard Avenue, Everett and Webster Streets.

Foxboro, Mass.—Until July 20 by State Board of Insanity for erecting following building at Foxboro State Hospital, (a) an acute service ward building and corridors connecting same, (b) cotttage building for nurses. Separate bids for heating, plumbing, etc., same. Jas. E. McLaughlin, Archt., 88 Tremont Street, Boston.

Shrewsbury, Mass.—Until July 17, by State Board of Insanity (M. J. O'Meara, Chmn.), for erecting a building for 50 patients at Hillside Farm, Shrewsbury. Fuller & Delano, Archts., 44 Front Street, Worcester.

Bristol, R. I.—Until July 19, by School Committee (G. C. Minard, Chmn.), for erecting a school, including heating, ventilating, plumbing, etc. Clark & Howe, Archts., 1208 Turks Head Bldg., Providence, R. I.

New Britain, Conn.—Until Aug. 1, for erecting school. Address School Board.

New York, N. Y.—Until July 24, by C. B. J. Snyder, Supt. School Buildings, for general construction, plumbing, drainage and other alterations, etc., to a number of schools in Borough of Bronx, Borough Manhattan. Security $29,000. Also same time and place for alterations, etc., in schools in Borough of Brooklyn. Security $16,600.

Connellsville, Pa.—Until July 31 by Board Directors School Dist., for erecting high school. Separate bids for heating, plumbing, etc. W. G. Eckles, Archt., New Castle.

Montclair, N. J.—Until July 25, by Bd. of Education (Lambert L. Jackson, Secy.), for alterations to Watchung School and Nishuane School, advertised in Engineering Record.

Donora, Pa.—Until July 17, by J. P. Caster, Secy. Board School Directors, for furnishing material and erecting a 2-story brick addition to First Street School. C. C. Compton, Archt., 542 McKean Avenue, Donora.

Pittsburgh, Pa.—Until July 19, simultaneously at office of City Controller, Municipal Hall, and the County Controller, for the pneumatic carrier work entering into the construction of the new city and county building. Edw. B. Lee and Palmer, Hornbostle & Jones, 345 Fourth Avenue, Pittsburgh, Archts.

Shreveport, La.—Until July 19 for erecting a 9-room school at Stonewall and an 8-room school at Longstreet. E. D. Neild, Archt., Shreveport.

Athens, Ohio.—Until Aug. 3, by Board Trustees University at Athens, for furnishing material and erecting an annex to women's dormitory for university. Frank L. Packard, Archt., Columbus.

Cincinnati, Ohio.—Until July 20 by Samuel Hannaford & Sons, Archts., Sixth and Vine Streets, for erecting St. Andrews R. C. Church. Probable cost, $100,000.

Coshocton, Ohio.—Until Aug. 1 by Board Education of Tuscarawas Township, School Dist., for furnishing material and erecting a school. Frank L. Packard, Archt., Hayden Building, Columbus.

Lakewood, Ohio.—Until Aug. 8, by P. T. Harrold, Clerk Board Education, for erecting a new high school, including heating, plumbing, etc., advertised in Engineering Record. Bids from General Contractors especially desired. Charles W. Hopkinson, Architect, 900 Rose Building, Cleveland.

Newark, Ohio.—Until Aug. 16, by James A. Wetmore, Acting Supervising Archt. Treas. Dept., Washington, D. C., for erecting U. S. post office at Newark.

Fowler, Ind.—Until July 24, by Trustees Pine Township, for erecting a two-story and basement school.

Ft. Wayne, Ind.—Reported desired until Aug. 10, by Will Johnson, Co. Aud., for erecting a detention home on new County Farm grounds.

Perrysville, Ind.—Until July 29, by Trustees Highland Township, for erecting a high school.

Calumet, Mich.—Until July 31 by Board Education (J. W. Downing, Secy.) for furnishing material and erecting, including heating, ventilating, wiring, etc., new grade school. John D. Chubb, Archt., Suite 1303, 109 North Dearborn Street, Chicago, Ill.

Peoria, Ill.—Until July 19, by Walter Murray, Secy. Pleasure Driveway and Park Dist., for furnishing material and erecting a brick building as a pavilion and shelter at Madison Park. Separate bids for heating, plumbing, etc. Fred J. Klein, Archt., 127 S. Jefferson St., Peoria.

St. Charles, Ill.—Reported desired until Aug. 1, by Frank D. Whipp, State Fiscal Supervisor, Springfield, for erecting new employees' building at St. Charles School for Boys. Jas. B. Dibelka, State Archt., 130 North Fifth Avenue, Chicago.

Grinnell, Iowa.—Reported desired until July 28 for erecting a fireproof grade school. W. G. Ray, Secy. Board Educ. Reimer & Herlin, Archts., Marshalltown.

Le Grand, Iowa.—Until July 31 by Chas. G. Johnson, Secy. Board Education, Independent Consolidated School Dist., for erecting a 2-story and basement school. Reimer & Herlin, Archts., Marshalltown. Separate bids for heating, wiring, etc.

Hibbing, Minn.—Until July 18, by O. Halden, County Auditor, for erecting St. Louis County District Court Building. Separate bids for plumbing, heating, ventilating, etc. J. J. Wangenstein, 704 Providence Bldg., Duluth.

Mercer, Minn.—Until July 17 by Theo. Knutson, Clk. Mercer School Dist. No. 56, for erecting a brick school. Gilbert R. Horton, Archt., Citizens National Bank Building, Jamestown.

Harper, Kan.—Until July 20, for erecting a 2-story brick school, 78 x 110 ft. Probable cost $40,000. S. S. Voigt, Archt., Wichita, Kan.

Grand Island, Neb.—Until July 24 by Lodge of Elks for erecting a building, including heating, plumbing, etc., to cost $50,000. Oscar Kirschke, Architect, Grand Island. A. M. Conners, Secretary, Elks Club.

Kansas City, Mo.—Until July 17, by Wright & Wright, Archts., First National Bank Bldg., for erecting a four-story and basement 193 x 175 ft. fireproof brick hospital and nurses' home for the Independent & Highland Mercy Hospital. Probable cost $175,000.

Emhouse, Tex.—Until July 21, by G. G. Owen, Pres. School Board, for erecting a school. Ernest F. McAnelly & Co., Archts., Southwestern Life Building, Dallas.

Tulsa, Okla.—Until Aug. 7, by Board School Commissioners, for erecting a brick school.

Los Angeles, Cal.—Until July 20, by Board Education (Wm. A. Sheldon, Secy.), for furnishing material and erecting a main building for Demonstration and Practice Center on the Jefferson High School site.

San Francisco, Cal.—Reported desired until July 19, for erecting Central Emergency Hospital on Polk Street, near Grove. Probable cost $90,000. Address Board of Health.

Camp Verde, Ariz.—Until July 28, by Cato Sells, Comr. Indian Affairs, Washington, D. C., for furnishing material and erecting a combination day school and quarters building at Camp Verde.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Boston, Mass. — Following are bids opened July 5 by Schoolhouse Commissioners for erecting an addition to James Otis School: E. R. McKillop, 137 West Brookline Street, Boston, $47,447; John Bowen Company, 1208 Harrison Avenue, Roxbury, $49,900, and Joseph Slotnick, Chelsea, $53,361.

Somerville, Mass.—Following are three lowest bids opened July 6 by Board Education, Somerville, for erecting a high school in West Somerville: J. E. Locatelli Company, 46 Cornhill Street, Boston, $69,967; C. S. Cunningham Construction Company, 101 Tremont Street, Boston, $71,458, and C. S. Cunningham & Sons Company, 7 Water Street, Boston, $72,980.

★**Greenwich, Conn.**—Contract awarded W. H. Nye, 286 Fifth Avenue, New York, for erecting dwelling, garage and summer house for Harry W. Croft, President of Harbison-Walker Refractories, Pittsburgh, Pa.

Rochester, N. Y.—Following are four lowest bids, opened June 27 by State Board of Armory Commissioners, Albany, for erecting armory on the west side of the canal at Culver Road, for Troop H and the Second Ambulance Company: R. T. Ford Company, Rochester, $86,330; W. F. Martens Company, Rochester, $89,967; George C. Rossell, Triangle Building, $93,899; A. Friederich & Sons Company, Rochester, $101,900. Lowest bid for plumbing submitted by F. S. Conkling, Rochester, at $6,925, and W. F. Devendorf & Company, Rochester, for heating, at $4,993.

★**West Hoboken, N. J.**—Contract awarded George Cranwell & Son, Union Street, for alterations and additions to parochial school lyceum and chapel at High Street and Clinton Avenue for St. Michael's Monastery Church; cost, $250,000. Rev. Clement Lee, Pastor. Hensel & Weir, Archts., 809 Savoye Street.

Philadelphia, Pa.—Following are lowest bids opened July 7 by Board Recreation (W. D. Champlin, Secy.) for erecting two-story, 65 x 200-ft. granite, limestone and brick recreation building at Fifty-first Street and Chester Avenue: Frank G. Stewart, 1619 Sansom Street, $104,896; Wilbert Beaumont, Stephen Girard Building, $105,490; Warren, Moore & Co., Commercial Trust Building, $105,577. Philip H. Johnson, Archt., Land Title Building.

★**Pittsburgh, Pa.**—Contract awarded George B. Wills Co., 101 Park Avenue, New York, for erecting experimental station at Forbes Street and Woodlawn Avenue for United States Bureau of Mines, at $287,540.

★Contract awarded by Edward Stotz, Archt., Monongahela Bank Bldg., to Henry Shenk Company, 132 Seventh Street, for erecting six-story, fireproof addition to Mercy Hospital, at Pride and Vickroy Streets; cost about $500,000.

★**Alexandria, Va.**—Contract for erecting brick and stone hospital for Alexandria Hospital, Inc., costing approximately $65,000, awarded Richardson & Burgess, Inc., 606 Colorado Building, Washington, D. C. W. B. Wood, Archt., 816 Connecticut Avenue, Washington, D. C.

★**Warwood, W. Va.**—Contract awarded T. D. Burton of Moundsville for erecting two-story brick high school at Main and Seventeenth Streets; cost $60,000. Franzheim & Pogue, Archts., Wheeling.

★**Alliance, Ohio.**—Contract awarded by Supervising Architect, Washington, D. C., to Robert Mellor, Alliance, for constructing U. S. Post Office of limestone and granite, at $94,500.

★**Chillicothe, Ohio.**—Contracts for erecting tuberculosis Hospital (bids opened July 6) awarded as follows: General construction, Knowlton & Breinig, Athens, $25,525; plumbing and heating, John R. Wisser, Chillicothe, $6,439; electrical work, Avery & Loeb Company, Columbus, Ohio, $684.

Fort Wayne, Ind.—See "Reinforced Concrete."

★**Plymouth, Ind.**—Contract for erecting school (bids opened June 24) awarded Byers Brothers Construction Co., Kalamazoo, Mich., and for heating and ventilating to Bryce Heating & Ventilating Co., Toledo, Ohio. Dr. J. J. Travis, President Board of Education.

★**Washington, Ind.**—Contract awarded by Supervising Architect, Washington, D. C., to H. G. Mitchell, Scottsburg, for constructing, of limestone and granite, U. S. Pot Office, at $49,995.

Grand Rapids, Mich.—Following are four lowest bids opened July 3 by H. N. Morrill, Business Manager Board of Education for erecting addition to Union High School: Charles Hoertz & Son, $112,000; Gentz Brothers, $112,935 (awarded contract); A. W. Morgan, $115,300; John McNabb & Sons, $118,000 (all of Grand Rapids). H. H. Turner, Archt., 234 North Division Avenue.

★**Grinnell, Iowa.**—Contract awarded by Supervising Architect, Washington, D. C., to Charles Weitz Sons, Des Moines, for constructing, of limestone and granite, U. S. Post Office, at $60,500.

★**Sioux City, Iowa.**—Contract for constructing a 10-stall engine house, a power house and store and oil house for Great Northern Railroad awarded E. G. Evansta Co., Minneapolis, Minn.; also for water tank and treating plant and cinder pit and turntable; also to Ogle Construction Co., Chicago, Ill., contract for erecting a coaling station. Cost of both improvements about $100,000.

★**Perham, Minn.**—The Board of Education awarded contract for high school to Read & McDonald Brewster Co., Minneapolis, at $53,590; steam heating and ventilating to J. P. Adamson Co., 1920 University Avenue, St. Paul, at $8,670. G. L. Lockhart, Archt., Endicott Bldg.

★**Emporia, Kan.**—Contract awarded by J. H. Felt & Co., Archts., Grand Avenue Temple, Kansas City, Mo., to Reinhart & Donovan Co., Oklahoma City, Okla., for erecting administration building for College of Emporia, at $77,400.

Fremont, Neb.—Madsky & Company of Omaha, submitted lowest bid for erecting hotel for Fremont Hotel Company, at $131,900.

★**Redfield, S. D.**—Contract awarded by Supervising Architect, Washington, D. C., to Charles Weitz Sons, Des Moines, Iowa, for erecting, of limestone and granite, U. S. Post Office, at $58,780.

★**Missoula, Mont.** — Contract awarded Olson & Johnson, Inc., Missoula, for erecting four-story, 160 x 145-ft. brick and concrete hospital for Northern Pacific Beneficial Hospital.

Dallas, Tex.—See "Reinforced Concrete."

★**Ennis, Tex.**—Contract for erecting $80,000 high school awarded Heck & Lightfoot of Fort Worth.

★**McAllen, Tex.**—Contract awarded C. F. Harwood of Robstown for erecting high school, to cost $70,000.

★**San Antonio, Tex.**—Contract awarded by School Board to Wright & Sanders, San Antonio, for erecting school at $53,948. Adams & Adams, Archts., Gibbs Building.

★**Spokane, Wash.** — Spokane Heat, Light & Power Company reported awarded to Porter Brothers of Spokane at $88,000 contract for constructing steam heating and electric power plant at Northern Pacific tracks between Pest and Lincoln Streets, structure to be of brick and steel construction, with terra cotta ornamental trimmings, 100 x 142 ft., 90 ft. high with 2 smokestacks each 225 ft. high.

★**La Jolla, Cal.**—Contract awarded R. P. Shields & Son, San Diego, for erecting brick addition to Bishop's School; cost about $50,000. Gill & Gill, Archts., San Diego.

★**Los Angeles, Cal.**—Contract awarded A. S. Barnes, 436 Union Oil Building, for erecting four-story and basement, 100 x 106 ft., brick apartment house on West Adams Street, for Mrs. Ella Potts and Rowena P. Carruthers, according to plans being prepared by J. F. Kavanaugh, 436 Union Oil Building; probable cost $88,000.

★**Chicoutimi, Que.**—Contract awarded Ernest Bouchard, Begin Avenue, for erecting stone monastery; cost, $75,000.

★**Kingston, Ont.** — Contract awarded Kingston Construction Co., Ltd., of Kingston, for erecting Riding School, Royal Military College. Power & Sons, Archts., Kingston.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Jersey City, N. J.—The City Commissioners voted to construct several municipal piers. M. I. Fagen, City Clerk.

Philadelphia, Pa.—Surveys Committee Councils passed ordinance authorizing $750,000 to be spent on constructing bridges.

Butler, Ga.—Plans prepared for dam which Butler Light Company intends constructing across Beaver Creek.

Gainesville, Ga.—Contract soon to be let by county for constructing a bridge. Address County Clerk.

Chippewa Falls, Wis.—Standard Reinforced Concrete Company, Hune Mansur Building, Indianapolis, Ind., completed plans for the 90-ft. span bridge to be constructed at Spring Street over Duncan Creek, to have 28-ft. roadway.

Wichita, Kan.—County Commissioners and the farmers whose land is affected are reported considering the draining of Kessler Lake.

Port Arthur, Tex.—Citizens voted $22,000 for constructing drawbridge across Sabine-Neches Canal.

Carlsbad, N. M.—Chief Engineer of the Reclamation Service has approved plans for building a 1750 concrete spillway at the McMillan dam of the Carlsbad, project; cost estimated at about $150,000.

Seattle, Wash.—Seattle Construction & Dry Dock Co. (J. V. Paterson, President), recently merged with the Robins Dry Dock & Repair Co. of Brooklyn and the Tiejen & Lang Dry Dock Co. of Hoboken, N. J., will spend $1,000,000 for additions and improvements to plant here, including a new floating drydock and enlargement of present drydock.

Los Angeles, Cal.—The bridge to be constructed across Margarita River by the Atchison, Topeka & Santa Fe R. R. (G. W. Harris, Chief Engineer, Los Angeles), is to be concrete and steel and have three 105-ft. spans.

Los Angeles, Cal.—Work will soon begin on construction of a diverting dam several miles long to prevent silt from reaching harbor. About $500,000 available for improvement. Address F. T. Woodman, Pres. Harbor Commission, for further information.

San Diego, Cal.—Election will probably be held to vote $87,000 bonds for constructing two loose rock jetties, one to extend 800 ft. from the foot of Naragansett Street and one 1760 ft. from bridge over the entrance to Mission Bay and to have 8 groins of timber planking bolted to concrete posts extending 200 ft. into the ocean from the foot of Newport Street; also $38,000 for a reinforced concrete pleasure pier 800 ft. long at the foot of Narragansett Street, including comfort station, cement steps and cement walk. George Cromwell, City Engr.

Anchorage, Alaska.—Reported the Alaska Engineering Commission (J. A. Moore, Local Manager) will lay approximately 17,000 ft. of water pipe in Anchorage, also construct a gravity water supply system, also a sewerage system in the business section of the town.

Simcoe, Ont.—Plans being prepared by Dr. Burt, Fisheries Inspector, for a concrete dam and fish hatchery; cost $30,000. All work will be done by day labor.

BIDS DESIRED.

Norwich, Conn.—By American Straw Board Co. for constructing 1000 ft. of bulkhead, removal of an old bulkhead with 8000 yd. dredging on Thames River in Norwich, advertised in Engineering Record. Chandler & Palmer, Engrs., Norwich.

Newark, N. J.—Until July 25, by Joint Bridge Committee of Essex and Hudson Counties (Rich. Mattia, Chmn.), at Newark, for new hand rails, sidewalks, etc., on Jackson Avenue Bridge, and repairing draw span and parts of two fixed spans, furnishing 10 new buckle plates and resetting apron on Lincoln Highway Bridge.

Hendersonville, N. C.—See "Excavation, Dredging and Drainage."

Bay St. Louis, Miss.—Until Aug. 5, by Commissioners Sea Wall Dist. No. 2, for constructing reinforced concrete sea wall, approximately 9300 ft. long, and for filling and draining of same. D. W. Harris, Engr., Mobile, Ala.

Stanley, N. D.—Reported desired until July 17 for constructing bridge with four approaches. G. O. Ness, Township Clerk.

Cape Girardeau, Mo.—Until Aug. 11, at office Chief Engineer, 409 Himmelberger-Harrison Bldg., by Board of Supervisors Little River Drainage District, for laying 16,000 sq. yd. riprap, facing in 3000 ft. canal slopes, advertised in Engineering Record.

Manhattan Beach, Cal.—Until July 19, by Board Trustees of city, for constructing complete a pleasure wharf at foot of Marine Avenue. Llewellyn Price, City Clk. Train & Williams, Archts., Exchange Building, Los Angeles.

San Francisco, Cal.—Until July 26, at office Board of Public Works (F. J. Churchill, Secy.), for making core borings along proposed line Hetch Hetchy Aqeduct in Tuolumne County, advertised in Engineering Record. Specification on file at office Engineering Record, 239 West Thirty-ninth Street, New York, N. Y.

PRICES AND LETTINGS

★*Indicates award of contract.*

Walden, N. Y.—The lowest bid opened July 6 by Alex. Thompson, Jr., Engineer, 43 Second Street, Newburg, for constructing dam 300 ft. long, 10 ft. high for Walden Knife Co., submitted by C. J. Carroll, 405 Lexington Avenue, New York City.

★**Erie, Pa.**—Following are lowest bids opened June 27 by Board of Education for erecting the Erie Academy High School: General construction: W. M. Sutherland Co. of St. Louis, Mo. (awarded contract), $474,953; E. C. Gerhard Building Co. of St. Louis, Mo., $479,000; Phelan Engineering Co., $485,000, and Henry Shenk Co. of Pittsburgh, $514,723. Plumbing, sewering and gas fitting. George H. Soffel Co. of Pittsburgh, $23,347; Gannon & Carey of Erie (awarded contract), $26,356; Fitzpatrick & Hoepfner of Columbus, Ohio, $27,991, and P. F. Kenny Co., 330 Old Broadway, New York, N. Y., $29,600. Heating and ventilating: Peters Eichler Co., St. Louis, Mo., $98,648; the Sodemann Co. of St. Louis, Mo., $99,997; Wyoming Engineering Co. of Wilkes-Barre, Pa., $100,459, and Gannon & Carey, Erie (awarded contract), $102,575. The George A. Fuller Co., Morris Building, Philadelphia, submitted a bid on the building as a whole, at $657,000.

★**Harrisburg, Pa.**—Contract awarded by Philadelphia & Reading Ry. to James McCraw Company, Philadelphia, for the concrete foundation, and to Pennsylvania Steel Company, Steelton, for the steel superstructure of a bridge to be built on Lebanon Valley Branch at Harrisburg.

★**Johnstown, Pa.**—Contract for constructing bridge over Stony Creek awarded by City Council (bids opened July 5) to Hackedorn Contracting Co. of Indianapolis, Ind., at $59,600. Next three lowest bidders, G. T. Morgan of Johnstown, $59,810; Dravo Construction Co. of Pittsburgh, $63,900, and Foster Construction Co. of Newark, N. J., $64,515.

★**New Orleans, La.**—Contract for constructing wharf, etc., at Sabine Pass Light Station, La. (bids opened June 8 by Lighthouse Inspector 8th District, New Orleans), awarded Blodgett Construction Company, Galveston, Tex., at $10,400.

★**Milwaukee, Wis.**—Reported Park Bd. has awarded to Greeling Brothers of Green Bay contract to construct south shore breakwater at $178,500.

Seattle, Wash.—Following are lowest bids opened by Port Commissioners recently for extension of Spokane Street Wharf toward Hanford Street a distance of about 350 ft.: Substructure, including piling, capping, decking and laying track, W. T. Butler of Seattle, $11,247; creosoting, 68,570 ft. piling, J. M. Coleman and Pacific Creosoting Co., 910 White Building, each 34 cts. per lin. ft.; Puget Sound Bridge & Dredging Co., Central Building, lowest on rock rip-rap, 6000 cu. ft., at $1.80; excavation, 23,000 cu. yd., 19 cts., and for removing brush bulkhead and old piles, $2,000.

★**Gardiner, Ore.**—Contract for constructing north jetty at mouth of Umpqua River (bids opened July 3 by Board of Commissioners, Port of Umpqua, Gardiner, J. Christie, Secy.), awarded to Giebisch & Joplin, Rothchild Bldg., Portland, at $151,698.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Lake Worth, Fla.—Appraisals now being made for 130,000 acres for the proposed reclamation of the Lake Worth Drainage District. It will be two or three months before bids are asked or bonds sold. Orrin Randolph of Lake Worth, Fla., may be able to give information.

Burtville, La.—Drainage bonds for $20,000 will be sold July 18 by Commissioners Bayou Paul Drainage District (John F. Wilmeth, Secy.).

Belzoni, Miss.—Black Bayou Drainage District, Washington County, organized, with A. S. Winford of Greenville Secretary. District embraces 75,000 acres of cotton land.

Muscatine, Iowa.—Druary Drainage Commission taking steps to have plans prepared for the levee improvement.

Benson, Minn.—Bids opened July 1 by County Commissioners for constructing 48 miles of drainage ditches and 250 miles of 6 to 30-in. tile rejected. Nothing further will be done until about September.

Hardin, Mont.—See "Industrial Plants and Warehouses."

Prosser, Wash.—C. Laurgard, 410 Railway Exchange, Portland, Ore., engaged by Board Directors of the Horse Haven Irrigation Dist., to pass on plans for proposed 300,000-acre irrigation project, to include construction of power development, and 120 miles of canals. Probable cost about $15,000,000.

Brawley, Cal.—Construction of Cerro Priete Canal contemplated; cost about $115,000. Address Secy. Southside Water Co.

Crescent City, Cal.—Del Norte County Harbor bond issue carried.

Santa Monica, Cal.—Plans for constructing a drainage system, including a concrete waterway about 600 ft. long, to carry away storm waters, are being considered by County Bd. of Supervisors and cities of Santa Monica and Sawtelle.

BIDS DESIRED.

Norwich, Conn.—See "Piers, Foundations and Dams."

Ocean City, N. J.—By Sutton & Corson Company, General Contractors, 739 Asbury Avenue, Ocean City, N. J., about 11,000 cu. yd. of grading to sublet, advertised in Engineering Record.

Trenton, N. J.—Until Aug. 1, for dredging a section of Inland Waterway from Cape May to Bay Head, N. J., in Barnegat Bay from Havens Cove below Mantoloking to Herring Island, near Bay Head, advertised in Engineering Record. B. F. Cresson, Jr., Ch. Engr., Office of Commerce and Navigation State House Trenton.

Erie, Pa.—Until July 20, at office Board of School Directors (W. J. Flynn, Bus. Mgr.), for excavating temporary channel for Mill Creek through site Academy High School at Sixth and Hill Road, advertised in Engineering Record.

Washington, D. C.—Until Aug. 18, by U. S. Reclamation Service, for constructing canals on Shoshone Project, Wyoming, involving about 572,000 cu. yd. excavation. Address U. S. Reclamation Service, Washington, D. C., Denver, Col., or Powell, Wyo. Will R. King, Acting Director. Advertised in Engineering Record.

Burtville, La.—Reported desired until July 30, by Bayou Paul Drainage Dist., for constructing a 7 or 8-mile drainage system. L. Z. Huey, Engr., Baton Rouge.

Lancaster, Ohio.—Until Aug. 10 by C. O. Brown, County Surveyor, Lancaster, for the labor for dredging Rush Creek, in Perry and Fairfield Counties; total length 16.95 miles, total excav., 1,252,000 cu. yd.; estimated cost $105,587.

Jacksonville, Ill.—Until July 27, by Board Commissioners Hillview Drainage & Levee District, for ditch excavation, consisting of approximately 220,578 cu. yd., advertised in Engineering Record. Caldwell Engineering Company, Engineers, 710 Ayers Bank Building, Jacksonville.

Northwood, Iowa.—Reported desired until July 20, for drainage work in Dist. 23. C. N. Urdahl, Northwood, Co. Aud.

Anoka, Minn.—Until July 20 by County Auditor for constructing Anoka Ditch No. 56.

Malta, Mont.—Until Aug. 14, by Department Interior U. S. Reclamation Service, Malta, for earth work, Nelson Reservoir, South Canal, Milk River Project, involving about 617,000 cu. yd. excav. located in vicinity of Saco and Beacerton, on the Great Northern Railway, advertised in the Engineering Record. Will R. King, Acting Director.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Boston, Mass.—Following is the only bid opened July 5 by Harbor and Land Commission, Boston, for dredging 60,000 cu. yd. material in Yarmouthport, Yarmouth and Barnstable Harbors: Bay State Dredging Company, 247 Atlantic Avenue, 70 cts. per cu. yd.

★**Greenville, Miss.**—The following contracts have been awarded by the Board of Mississippi Levee Commissioners: 240,000 cu. yd. earth at 17.7 cts. to Ben Lomond; spur dike at Corters Creek, 29 cts. per cu. yd., to S. P. Hughes Construction Co. of Greenville; ten sub-levees, to Burt, Bond & McMurray, Beulah, Miss., at from 19 cts. to 24.08 cts.; eleven sub-levees to John G. Sessions, Memphis, Tenn., at 17.2 cts.

★**Burtville, La.**—Contract awarded Picard, Buckmaster & Weil, Hennen Building, New Orleans, for removal of 70,000 cu. yd. earth between Granada Lake and Spanish Swamp at 15.23 cts. per cu. yd. G. W. Sitman, President Paul Bayou Drainage District.

Malta, Mont.—James O'Connor, Malta, Mont., submitted lowest bid on Schedule 1 of the earthwork and structures Bowdoin Canal (bids opened June 27) by U. S. Reclamation Service, and Security Bridge Company, Minneapolis, Minn., lowest bid on other part of work at $7,848.

★**Balmorhea, Tex.**—Following are four bids opened June 24 by W. W. Stewart, Secy. Reeves County Irrigation District No. 1, for constructing diversion dam and canal, 2 earth storage dams with outlet work and canal, in all about 185,000 cu. yd. excav., 185,000 cu. yd. embankment and 22,000 sq. yd. dry paving, etc.: A. D. Jamison, Grand Falls, $124,270 (awarded contract); G. B. Westerman, Fort Stockton, $28,731; Clayton & Landrun, Pacoo, $143,589, and Tri-State Concrete Company, El Paso, $152,407.

★**Ft. Worth, Tex.**—Contract for completing levee work on Clear Fork and West Fork of Trinity River awarded by Levee Board to Drake-Brannon Constr. Co., of Ft. Worth; cost $85,000.

★**North Yakima, Wash.**—Contract reported awarded P. J. Langan of Spokane by the County Commissioners for constructing drainage district No. 3 at Sunnyside at $9,091. O. E. Brashears, County Engineer.

TUNNELS AND SUBWAYS

PROPOSED WORK.

Philadelphia, Pa.—Council has passed ordinances authorizing following appropriations: $57,100,000 for rapid transit; $10,000,000 for port improvements; $3,000,000 for Philadelphia General Hospital; $2,460,000 for free library; $1,000,000 for municipal art gallery; $250,000 for parks and playgrounds; $3,300,000 for acquirements of property for new piers and docks; $810,770 for extension of Fairmount Park, including land already acquired; $20,000 for completion of Municipal Convention Hall; $16,045,120 for Department Public Works general improvements; $989,000 for Department Public Safety, fire and police improvements, etc. The port improvements include condemnation of property, also the construction of municipal piers and docks at Greenwich pier, foot of Wolf, Ritner and Porter Streets in Thirty-ninth Ward; foot of Kenilworth Street, Fourth Ward; Delaware Avenue between Arch and Race Streets, in Sixth Ward, as well as construction of piers and docks at foot of Cherry Street at Penn Treaty Park, at Allegheny Avenue and at Bridge Street, and the completion of the Municipal Pier at 78 South Delaware Avenue, and the construction of bulkheads on Schuylkill River.

Los Angeles, Cal.—R. W. Stewart, Asst. City Engineer, directed to prepare plans for a single-bore tunnel 60 ft. wide through Bunker Hill at Second Street, approximately three-quarters of a mile long.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Loveland, Colo.**—Contract for constructing tunnel (bids opened July 3) for hydroelectric power plant awarded to F. C. Dreher Const. Co. of Denver, at $9,670. Geo. C. Rust, City Clerk.

MISCELLANEOUS

PROPOSED WORK.

Garbage—Hightstown, N. J.—Reported city will soon let contracts for collection of garbage.

Park Improvements—Philadelphia, Pa.—See "Foundations, Piers and Dams."

Park Improvements—Westfield, N. J.—J. Wallace Higgins, landscape architect, selected to prepare plans and specifications for improvement to town park; cost, $35,000.

Transmission Line—Columbus, Ohio.—Columbus Railway, Power & Light Co. will construct a transmission line about six miles long; estimated cost, about $80,000.

Park Improvements—Cleveland, Ohio.—See "Roads and Paving."

Park Improvements—Cleveland, Ohio.—Park bonds for $121,000 will be sold July 17 by C. J. Neal, Dir. of Finance.

City Council voted $236,000 for parks and playgrounds.

Transmission Line — Upper Sandusky, Ohio.—The Public Utilities Commission has authorized the Hardin-Wyandott Lighting Co., Kenton, to erect a transmission line between Kenton and Upper Sandusky.

Transmission Line—Ortonville, Minn.—The Otto Tail Power Co. of Fergus Falls is contemplating extending its transmission line to Ortonville.

Garbage—Kansas City, Mo.—The Hospital and Health Board of Kansas City engaged Rudolph Hering, 170 Broadway, New York, N. Y., to report on construction of proposed garbage disposal plant.

El Paso, Tex.—El Paso Electric Company is planning to place all overhead wires in the business district in underground conduits; cost reported at $325,000.

BIDS DESIRED.

Garbage—Albany, N. Y.—Until July 17 by Board Contract & Supply (Isidore Wachsman, Secy.), for collection, removal and disposal of garbage from Dists. No. 1, 2 and 3.

Limestone—Fairmont, W. Va.—Until Aug. 3, for furnishing 20,500 tons limestone and about 101,000 sq. yd. brick; f.o.b. Downs and Farmington, W. Va., and Worthington, advertised in Engineering Record. A. G. Martin, County Clerk.

Limestone—New Martinsville, W. Va.—Until Aug. 9, for furnishing about 15,000 tons of limestone and 41,000 sq. yd. brick, f.o.b. Hundred and Burton, W. Va. S. Myers, Clerk of County Court, Wetzel County, advertised in Engineering Record.

Dredge—Vallejo, Cal.—Until Aug. 12 by Bureau Yards and Docks, Navy Dept., Washington, D. C., for a gravity swing, one-ton bucket dredge for the Navy Yard, Mare Island.

Traveling Cranes—Toronto, Ont.—Until July 18 by T. L. Church, Mayor, Chmn. Board of Control, for one overhead hand-operated traveling crane, Tender No. 49.

Engines, Generators, Etc.—Panama.—Until Aug. 23, at office of R. E. Rutherford, Assistant Purchasing Agent, the Panama Canal, 24 State Street, for purchase of engines and generators, steam boilers, air compressors, condenser, feed water heaters, steam pump and air receiver, advertised in Engineering Record.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Cement—Washington, D. C.**—Contracts awarded as follows by Secretary Department of the Interior, Washington, for Portland cement required by U. S. Reclamation Service from July 1 to July 30, 1917, on various projects: To Colorado Portland Cement Company of Denver, Col., for Belle Fourche, Grand Valley, North Platte, Shoshone, Strawberry Valley and Uncompahgre projects, in all about 36,000 bbl., at $1.40 per bbl.; Iola Portland Cement Company, of Iola, Kan., Carlsbad project, 4000 bbl., $1.40 per barrel; Pacific Portland Cement Company, of San Francisco, Okahogan, Orland, Umatilla, Yakima - Storage and Yakima-Sunnyside projects, 22,000 bbl., $1.80 per bbl., at Tolenas, Cal.; Riverside Portland Cement Company of Riverside, Cal., Salt River and Yuma project, 3000 bbl. at $1.85 per bbl., at El Paso, Tex.; Union Portland Cement Company, of Ogden, Utah., Boise project, 7000 bbl. at $1.85 per bbl. at Devils Slide, Utah; Three Forks Portland Cement Company, of Ogden, Utah, Blackfeet, Flathead, Fort Peck, Huntley, Milk River, St. Mary storage and Sun River projects, 18,000 bbl. at $1.90 per bbl., at Trident, Mont.

★**Brick—Dallas, Tex.**—Contract for furnishing brick for city for year awarded to Coffeyville Brick & Tile Co. of Coffeyville, Kan., at $22.50 per M., f. o. b. Dallas.

Locomotive Crane—Seattle, Wash.—Following are two lowest bids opened recently by Port Commission for additional locomotive crane with a 60-ft. boom for the Smith Cove terminals: Hofius Steel & Equipment Company, Hoge Bldg., $11,-007; Link Belt & Dredge Products Company, 512½ First Avenue South, $12,750.

★**Equipment for Power Plant—Orillia, Ont.**—Contract for hydraulic equipment for Swift Rapids Power plant awarded to Boring Hydraulic & Engineering Co. of Lindsay, at about $140,000.

Proposals

For Proposals Advertised See Pages 47, 48, 49 and 50

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.		See Eng. Record.
Jul. 17.	New York, N. Y.	Jul. 15
Jul. 18.	St. Ignatius, Mont.	Jun. 24
Jul. 18.	Newark, N. J. Adv. Jul. 1, 8.	Jul. 1
Jul. 18.	Henderson, N. C.	Jul. 8
Jul. 18.	Winnipeg, Man.	Jul. 8
Jul. 18.	Philadelphia, Pa.	Jul. 15
Jul. 18.	Mapleton, Iowa	Jul. 15
Jul. 18.	Chanute, Kan.	Jul. 15
Jul. 18.	Fergus Falls, Minn.	Jul. 15
Jul. 18.	Mt. Pleasant, Iowa	Jul. 15
Jul. 18.	New York, N. Y.	Jul. 15
Jul. 18.	Wilmington, Ill.	Jul. 15
Jul. 18.	Oxford, N. Y.	Jul. 15
Jul. 18.	Pasadena, Cal.	Jul. 15
Jul. 18.	Boston, Mass.	Jul. 15
Jul. 19.	Halifax, N. S. Adv. Jul. 1, 8.	Jul. 1
Jul. 19.	Wilmington, N. C.	Jul. 8
Jul. 19.	Trenton, N. J.	Jul. 15
Jul. 19.	Ann Arbor, Mich.	Jul. 15
Jul. 20.	Evansville, Ind.	Jun. 17
Jul. 20.	Bridgeport, Conn. Adv. Jun. 24 to Jul. 8.	Jun. 24
Jul. 20.	Thiells, N. Y. Adv. Jul. 8.	Jul. 8
Jul. 20.	Atlantic City, N. J. Adv. Jul. 8.	Jul. 8
Jul. 21.	East Youngstown, Ohio	Jul. 8
Jul. 22.	Kaukauna, Wis.	Jul. 15
Jul. 22.	Salisbury, N. C.	Jul. 15
Jul. 22.	Medina, Ohio Adv. Jul. 15.	Jul. 15
Jul. 24.	West Park, Ohio	Jul. 1
Jul. 24.	Saskatoon, Sask.	Jul. 8
Jul. 24.	Skillman, N. J.	Jul. 8
Jul. 24.	Somerville, N. J.	Jul. 8
Jul. 24.	Garrison, N. D.	Jul. 15
Jul. 24.	Seattle, Wash.	Jul. 15
Jul. 24.	Racine, Wis.	Jul. 15
Jul. 24.	Dover, Ohio Adv. Jul. 15.	Jul. 15
Jul. 24.	Los Angeles, Cal.	Jul. 15
Jul. 25.	Shreveport, La. Adv. Jul. 15.	Jul. 15
Jul. 25.	Rahway, N. J. Adv. Jul. 15.	Jul. 15
Jul. 26.	Eufaula, Okla.	Jul. 15
Jul. 26.	Wahoo, Neb.	Jul. 15
Jul. 26.	Kingsville, Tex. Adv. Jul. 15.	Jul. 15
Jul. 26.	New York, N. Y.	Jul. 15
Jul. 28.	Chaffee, Mo. Adv. Jul. 8, 15.	Jul. 8
Jul. 28.	Holbrook, Mass.	Jul. 15
Jul. 28.	Indianapolis, Ind.	Jul. 15
Jul. 29.	Oregon City, Ore.	Jul. 1
Jul. 31.	Takoma Park, D. C. Adv. Jul. 15.	Jul. 15
Aug. 1.	South Charleston, Ohio Adv. Jul. 15.	Jul. 15
Aug. 1.	Ridgfield Park, N. J. Adv. Jul. 15.	Jul. 15
Aug. 2.	Hoboken, N. J. Adv. Jul. 15.	Jul. 15
Aug. 3.	Miami, Fla.	Jul. 1
Aug. 9.	Sheridan, Mont. Adv. Jul. 15.	Jul. 15
Aug. 10.	Red Creek, N. Y. Adv. Jul. 15.	Jul. 15

STEEL BRIDGE WORK.

Jul. 18.	Maryland Adv. Jul. 1.	Jul. 1
Jul. 18.	Saginaw, Mich. Adv. Jul. 8.	Jul. 8
Jul. 20.	Dayton, Ohio	Jul. 1
Jul. 21.	Holyoke, Mass. Adv. Jul. 8.	Jul. 8
Jul. 28.	Easton, Pa.	Jul. 8
Jul. 29.	Louisville, Ky. Adv. Jul. 8, 15.	Jul. 8
Aug. 1.	Pascagoula, Miss	Jun. 24
Aug. 2.	Gunnison, Col.	Jul. 15
Aug. 4.	Newman, Ga.	Jul. 8
Aug. 7.	Klamath Falls, Ore. Adv. Jul. 15.	Jul. 15
Aug. 7.	Tulsa, Okla.	Jul. 15
Aug. 8.	La Moure, N. D.	Jul. 8
Aug. 15.	Petersburg, Va. Adv. Jul. 8, 15.	Jul. 8

REINFORCED CONCRETE

Jul. 18.	Gadsden, Ala.	Jul. 15
Jul. 18.	Babylon, L. I., N. Y.	Jul. 15
Jul. 19.	Greenwood, Ariz.	Jul. 15
Jul. 20.	Chestertown, Md.	Jul. 8
Jul. 20.	Cranston, R. I.	Jul. 15
Jul. 20.	Peekskill, N. Y. Adv. Jul. 15.	Jul. 15
Jul. 21.	Holyoke, Mass. Adv. Jul. 8.	Jul. 8
Jul. 21.	Ohio	Jul. 15
Jul. 22.	Lewisburg, Pa.	Jul. 8
Jul. 22.	Geneva, Iowa	Jul. 15
Jul. 24.	Los Angeles, Cal.	Jul. 1
Jul. 24.	Sioux City, Iowa	Jul. 15
Jul. 24.	Blue Earth, Minn.	Jul. 15
Jul. 25.	Napa, Cal.	Jul. 15
Jul. 25.	Ida Grove, Iowa	Jul. 15
Jul. 26.	Illinois	Jul. 15
Jul. 27.	Prairie Du Chien, Wis.	Jul. 8
Jul. 27.	Shawano, Wis.	Jul. 15
Jul. 31.	Illinois	Jul. 15
Aug. 2.	New Orleans, La.	Jul. 15
Aug. 3.	Dayton, Ohio	Jul. 15
Aug. 7.	Colfax, Wash.	Jul. 15

ROADS AND PAVING.

Bids Close.		See Eng. Record.
Jul. 17.	Westfield, N. J. Adv. Jul. 1.	Jul. 1
Jul. 17.	Chicago, Ill.	Jul. 15
Jul. 18.	Rockville, Md. Adv. Jul. 1, 8.	Jul. 1
Jul. 18.	Maryland Adv. Jul. 1 to 15.	Jul. 1
Jul. 18.	Bound Brook, N. J. Adv. Jul. 1, 8.	Jul. 1
Jul. 18.	Hopkinsville, Ky.	Jul. 8
Jul. 18.	Independence, Mo.	Jul. 8
Jul. 18.	Paterson, N. J.	Jul. 15
Jul. 18.	Park Ridge, Ill.	Jul. 15
Jul. 18.	Missoula, Mont.	Jul. 15
Jul. 18.	Burnsville, W. Va.	Jul. 15
Jul. 18.	New York, N. Y.	Jul. 15
Jul. 18.	Mattoon, Ill.	Jul. 15
Jul. 18.	Atlantic City, N. J.	Jul. 15
Jul. 18.	Toronto, Ont.	Jul. 15
Jul. 19.	Pennsylvania	Jul. 1
Jul. 19.	Mt. Gilead, Ohio	Jul. 8
Jul. 19.	Illinois	Jul. 15
Jul. 19.	Long Island City, L. I., N. Y.	Jul. 15
Jul. 19.	Brooklyn, N. Y.	Jul. 15
Jul. 20.	Huntington, W. Va.	Jul. 8
Jul. 20.	Bozeman, Mont.	Jul. 8
Jul. 20.	Newark, N. J.	Jul. 8
Jul. 20.	Frankfort, Ky.	Jul. 15
Jul. 20.	Windber, Pa.	Jul. 15
Jul. 20.	Ohio	Jul. 15
Jul. 20.	Indiana	Jul. 15
Jul. 21.	Lincoln, Neb.	Jul. 8
Jul. 21.	Bluefield, W. Va.	Jul. 15
Jul. 21.	Kenosha, Wis.	Jul. 15
Jul. 21.	Mt. Gilead, Ohio	Jul. 15
Jul. 21.	Ohio	Jul. 15
Jul. 22.	Idaho Falls, Idaho	Jul. 15
Jul. 22.	Albany, Ky.	Jul. 15
Jul. 22.	Indiana	Jul. 15
Jul. 22.	Ohio	Jul. 15
Jul. 24.	Wetumpka, Ala.	Jul. 1
Jul. 24.	Fairview, N. J.	Jul. 8
Jul. 24.	Olympia, Wash.	Jul. 15
Jul. 24.	Seattle, Wash.	Jul. 15
Jul. 24.	West Park, Ohio	Jul. 15
Jul. 24.	New Boston, Ohio	Jul. 15
Jul. 25.	Amite, La.	Jul. 8
Jul. 25.	Somerville, N. J.	Jul. 8
Jul. 25.	Toledo, Ohio	Jul. 8
Jul. 25.	Great Falls, Mont.	Jul. 8
Jul. 25.	Hammond, La.	Jul. 15
Jul. 25.	Paragould, Ark. Adv. Jul. 15.	Jul. 15
Jul. 25.	Trenton, N. J.	Jul. 15
Jul. 26.	Sandusky, Ohio	Jul. 15
Jul. 26.	Paterson, N. J.	Jul. 15
Jul. 26.	Lebanon, Pa. Adv. Jul. 15.	Jul. 15
Jul. 27.	Lake Charles, La. Adv. Jul. 8, 15.	Jul. 8
Jul. 27.	Indiana	Jul. 8
Jul. 28.	Lexington, Miss. Adv. Jul. 15.	Jul. 15
Jul. 28.	Rutherford, N. J.	Jul. 15
Jul. 28.	Indianapolis, Ind.	Jul. 15
Jul. 28.	Indiana	Jul. 15
Jul. 31.	Corinth, Miss. Adv. Jul. 15.	Jul. 15
Aug. 1.	Guntersville, Ala.	Jul. 1
Aug. 1.	Gary, Ind.	Jul. 1
Aug. 1.	Shaker Heights, Ohio	Jul. 8
Aug. 1.	Helena, Ark.	Jul. 8
Aug. 1.	Evergreen, Ala.	Jul. 15
Aug. 3.	Fairmont, W. Va. Adv. Jul. 15.	Jul. 15
Aug. 7.	Cleveland Heights (P. O. Warrensville), Ohio	Jul. 8
Aug. 7.	Baltimore, Md.	Jul. 8
Aug. 7.	Lewiston, Idaho	Jul. 15
Aug. 7.	Albuquerque, N. M.	Jul. 15
Aug. 7.	Indiana	Jul. 15
Aug. 8.	Republic, Wash.	Jul. 15
Aug. 9.	Indiana	Jul. 15
Aug. 9.	Martinsville, W. Va. Adv. Jul. 15.	Jul. 15
Aug. 10.	Elkins, W. Va.	Jul. 15
Aug. 14.	Birmingham, Ala. Adv. Jul. 15.	Jul. 8
Aug. 14.	Perrysburg, Ohio	Jul. 8
——.	Ocean City, N. J. Adv. Jul. 15.	Jul. 15

BUILDINGS.
Public and Private

Jul. 18.	Kingman, Kan.	Jul. 1
Jul. 18.	Bemidji, Minn.	Jul. 8
Jul. 18.	Joliet, Ill.	Jul. 8
Jul. 18.	Eminence, Ind.	Jul. 8
Jul. 18.	Hibbing, Minn.	Jul. 15
Jul. 19.	Toledo, Ohio	Jul. 1
Jul. 19.	Harrisburg, Pa.	Jul. 8
Jul. 19.	Struthers, Ohio	Jul. 8
Jul. 19.	Massachusetts	Jul. 8
Jul. 19.	Independence, Mo.	Jul. 8
Jul. 19.	Peoria, Ill.	Jul. 15
Jul. 19.	San Francisco, Cal.	Jul. 15
Jul. 19.	Pittsburgh, Pa.	Jul. 15
Jul. 19.	Shreveport, La.	Jul. 15
Jul. 19.	Bristol, R. I.	Jul. 15
Jul. 20.	Tylertown, Miss.	Jul. 1
Jul. 20.	New Straitsville, Ohio	Jul. 1
Jul. 20.	Union Grove, Wis.	Jul. 1
Jul. 20.	North Baltimore, Ohio	Jul. 1
Jul. 20.	Chillicothe, Ohio	Jun. 10
Jul. 20.	Xenia, Ohio	Jul. 8
Jul. 20.	Grand Harbor, N. D.	Jul. 8
Jul. 20.	Tulsa, Okla.	Jul. 8
Jul. 20.	Streeter, N. D.	Jul. 8
Jul. 20.	Chestertown, Md.	Jul. 8
Jul. 20.	Williamsburg, Iowa	Jul. 8
Jul. 20.	Foxboro, Mass.	Jul. 15
Jul. 20.	Cincinnati, Ohio	Jul. 15
Jul. 20.	Harper, Minn.	Jul. 15
Jul. 20.	Los Angeles, Cal.	Jul. 15
Jul. 21.	Bowling Green, Ohio	Jul. 1
Jul. 21.	Girard, Ohio	Jul. 1
Jul. 21.	Sault Ste. Marie, Ont.	Jul. 8
Jul. 21.	Emhouse, Tex.	Jul. 15
Jul. 22.	Lincoln, Neb.	Jul. 1
Jul. 22.	Bucyrus, Ohio	Jul. 1
Jul. 24.	Sweetwater, Tex.	Jul. 8
Jul. 24.	Red Oak, Iowa	Jul. 8
Jul. 24.	Minot, N. D.	Jul. 8
Jul. 24.	Grand Island, Neb.	Jul. 15
Jul. 24.	Fowler, Ind.	Jul. 15
Jul. 24.	New York, N. Y.	Jul. 15
Jul. 25.	Webster, S. D.	Jul. 1
Jul. 25.	Jersey City, N. J. Adv. Jul. 8, 15.	Jul. 8
Jul. 25.	Cedar, Iowa	Jul. 8
Jul. 25.	Montclair, N. J. Adv. Jul. 15.	Jul. 15
Jul. 26.	Washington, D. C. Adv. Jul. 1 to 15.	Jul. 1
Jul. 28.	Huntington, Ind.	Jul. 8
Jul. 28.	Grinnell, Iowa	Jul. 15
Jul. 28.	Camp Verde, Ariz.	Jul. 15
Jul. 29.	Vallejo, Cal.	Jul. 8
Jul. 29.	Perrysville, Ind.	Jul. 15
Jul. 31.	Le Grand, Iowa	Jul. 15
Jul. 31.	Connellsville, Pa.	Jul. 15
Jul. 31.	Calumet, Mich.	Jul. 15
Aug. 1.	Irwin, Pa.	Jul. 1
Aug. 1.	Newburyport, Mass.	Jun. 24
Aug. 1.	Alton, Ill.	Jul. 8
Aug. 1.	Asheville, N. C.	Jul. 8
Aug. 1.	New Britain, Conn.	Jul. 15
Aug. 1.	Coshocton, Ohio	Jul. 15
Aug. 1.	St. Charles, Ill.	Jul. 15
Aug. 2.	New Orleans, La.	Jun. 24
Aug. 3.	Athens, Ohio	Jul. 15
Aug. 7.	Portland, Ore. Adv. Jun. 10, 17.	Jun. 10
Aug. 7.	Tulsa, Okla.	Jul. 15
Aug. 8.	Lakewood, Ohio Adv. Jul. 15.	Jul. 15
Aug. 10.	Fort Wayne, Ind.	Jul. 15
Aug. 11.	Burlington, N. C. Adv. Jul. 8, 15.	Jul. 8
Aug. 16.	Newark, Ohio Adv. Jul. 15.	Jul. 15
Aug. 28.	Nashville, Tenn.	Jul. 8
——.	Reidsville, N. C. Adv. Jun. 17.	Jun. 17

FOUNDATIONS, PIERS AND DAMS.

Jul. 17.	Galveston, Tex. Adv. Jul. 1, 8.	Jul. 1
Jul. 18.	Albany, N. Y. Adv. Jun. 24 to Jul. 15.	Jun. 24
Jul. 18.	Somerville, N. J.	Jul. 8
Jul. 18.	Gadsden, Ala.	Jul. 15
Jul. 19.	Portland, Ore.	Jul. 8
Jul. 19.	Manhattan Beach, Cal.	Jul. 15
Jul. 22.	Ottawa, Ohio	Jul. 8
Jul. 24.	Girard, Kan.	Jul. 8
Jul. 25.	Newark, N. J.	Jul. 15
Jul. 26.	San Francisco, Cal. Adv. Jul. 15.	Jul. 15
Jul. 31.	Warren, Ohio	Jul. 8
Aug. 5.	Bay St. Louis, Miss.	Jul. 15
Aug. 11.	Cape Girardeau, Mo. Adv. Jul. 15.	Jul. 15
Aug. 11.	Norwich, Conn. Adv. Jul. 15.	Jul. 15

EXCAVATION, DREDGING AND DRAINAGE.

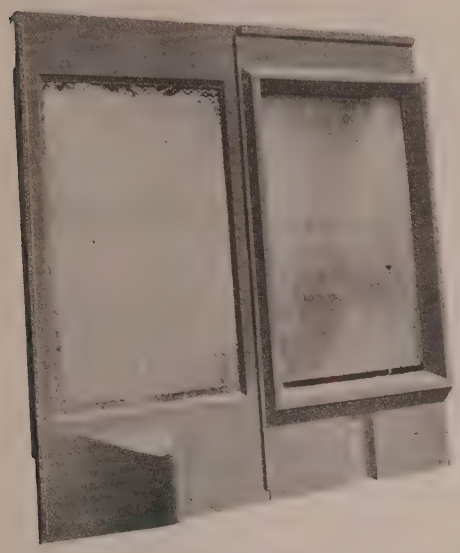
Jul. 20.	Rock Island, Ill.	Jul. 8
Jul. 20.	Northwood, Iowa	Jul. 15
Jul. 20.	Erie, Pa. Adv. Jul. 15.	Jul. 15
Jul. 21.	St. Cloud, Minn.	Jul. 8
Jul. 25.	Morris, Minn.	Jul. 1
Jul. 25.	Wilmar, Minn.	Jul. 1
Jul. 26.	Charleston, S. C. (2 Props) Adv. Jul. 1.	Jul. 1
Jul. 27.	Jacksonville, Ill.	Jul. 8
July 28.	Richfield, Utah Adv. Jul. 1.	Jul. 1
Jul. 30.	Burtville, La.	Jul. 15
Jul. 30.	Anoka, Minn.	Jul. 15
Aug. 1.	Trenton, N. J. Adv. Jul. 15.	Jul. 15
Aug. 10.	Lancaster, Ohio	Jul. 15
Aug. 14.	Malta, Mont. Adv. Jul. 15.	Jul. 15
Aug. 18.	Washington, D. C. Adv. Jul. 15.	Jul. 15
——.	Yemassee, S. C. Adv. Jun. 24.	Jun. 24

MISCELLANEOUS.

Jul. 17.	Lease Power, Joliet, Ill. Adv. Jun. 24, Jul. 1.	Jun. 24
Jul. 17.	Garbage—Albany, N. Y.	Jul. 15
Jul. 18.	Metal Furniture, Albany, N. Y. Adv. Jul. 8, 15.	Jul. 8
Jul. 18.	Traveling Crane—Toronto, Ont.	Jul. 15
Jul. 19.	Incinerator, Belleville, N. J.	Jul. 8
Jul. 19.	Transmission Line, Alcester, S. D.	Jul. 8
Jul. 24.	Elec. Trailers and Trucks, Jacksonville, Fla. Adv. Jul. 8, 15.	Jul. 8
Aug. 2.	Garbage Disposal, Des Moines, Iowa Adv. Jul. 8, 15.	Jul. 8
Aug. 3.	Limestone and Brick, Fairmont, W. Va. Adv. Jul. 15.	Jul. 15
Aug. 9.	Limestone and Brick, New Martinsville, W. Va. Adv. Jul. 15.	Jul. 15
Aug. 12.	Dredge—Vallejo, Cal.	Jul. 15
Aug. 23.	Purchase of Locomotives, Panama Adv. Jul. 1.	Jun. 24
Aug. 23.	Engine—Panama Adv. Jul. 15.	Jul. 15

Large Glass Is Set in Any Part of Cement-Tile Roofing

Glass is now used so that light can be obtained from any portion of a cement-tile roof. The tile interlock and interchange with standard pitched tile construction. The units are 24 in. wide, 52 in. long and contain 5 sq. ft. of ¼-in. rough wire glass. They are set in the



UNIT AT LEFT IS WEATHER SIDE UP; AT RIGHT, UNDER SIDE UP

concrete during the manufacture so that the glass is free to contract and expand and to come and go with vibration.

On the under and lower flanges of the beam construction which carries the glass is a concrete gutter which drains the precipitated moisture from the under side of the glass. The water is carried through a pipe on the body of the lower portion of the tile proper onto the outside surface of the adjacent tile just below the glass area. The amount of precipitation is small, as each tile has its individual drain.

The tile weigh about 100 lb. and will carry a center load of 1000 lb. before any fracture appears in the glass area. A concentrated load of 1800 lb. (equivalent to 450 lb. per square foot) can be carried in the center on the 4-ft. span before failure of the slab itself.

The cost of installation of such a lighting system, according to the manufacturer, the Federal Cement Tile Company, Chicago, is about the same as for any high-grade skylight.

Lists Wants and Surplus Stocks

A handbook of inactive stock and materials wanted has been issued by the civic-industrial committee of the Chicago Association of Commerce. The list of surplus materials contains many items of interest to contractors and engineers. Articles wanted include a second hand smokestack, plates, angles, asbestos yarns, nickel steel and copper tubing, 800-hp. mill motor and wood fiber for use as binder in plaster.

Inquiries should be addressed to the Chicago Association of Commerce, Otis Building.

Coal-Handling Systems Can Be Operated by One Man

A coal and coke-handling system installed by the Chain Belt Company, Milwaukee, at the North Avenue Fuel Company's yards in that city offers suggestions to the contractor who has a side-track and wishes to utilize his storage yard to its fullest capacity. Coal and coke are received in bottom dump cars which are switched over a steel track hopper located between the rails of the railroad track. The hopper is level with the railroad track on top and has a discharge opening at the bottom large enough for mine run coal. A large hinged gate operates from the ground level by means of a lever and regulates the feed to the conveyor. When the operator dumps the car the material flows from the track hopper to the conveyor beneath and is carried to the storage pile. The track hopper and loading end of the conveyor are in a pit to which the arrow points.

The conveyor consists of two strands of steel roller chain belt with a steel flight suspended between them. The chain travels upon a steel-lined track and does not come in contact with the material to any appreciable extent. The entire framework is of wood and the trough along which the coal and coke are pushed by the flights is lined with steel. The horizontal portion of the conveyor is provided with slide valves below each of which is a rotating gate permitting the discharge of coke and coal in separate piles. The material can be directed to any particular bin.

CONVEYOR FOR COAL-HANDLING SYSTEM IS ELECTRICALLY DRIVEN AND WILL MOVE 30 TONS OF MATERIAL IN AN HOUR

When making deliveries out of storage, material is loaded into wagons with a wagon loader. Thus one man ordinarily can take care of the entire work connected with receiving coal by rail in bottom dump cars and loading wagons for delivery to customers.

Business Notes

H. B. McMaster has resigned as manager of branches of the Berger Manufacturing Company to become vice-president and general manager of the Gordon Tire & Rubber Company, Canton, Ohio.

The Phoenix Manufacturing Company, Eau Claire, Wis., recently sold the U. S. government two centiped tractor trucks for handling Russell road graders to improve army roads near Columbus, N. M.

The Shawmut (Pa.) Paving Brick Works and the Pennsylvania Clay Company, Pittsburgh, have become licensees of the Dunn Wire-Cut Lug Brick Company. This brings the total of Dunn licensees to thirty-two companies.

G. H. Weber has left the employ of Irwin & Leighton, building contractors, of Philadelphia, to join the forces of the Brown & Sites Company, New York City. The firm is agent for contractors' equipment.

John Bennett Bissell has been made manager of the export and eastern structural sales departments of the Blaw Steel Construction Company. His headquarters will be in New York City.

The Ransome Concrete Machinery Company has established a St. Louis office at 12 South Twelfth Street. E. G. Robinson will have charge of the new branch.

The Pacific Face Brick Company has removed its Portland, Ore., office to 160 Mill Street.

Alan P. Cline has been made northwestern representative of the General Roofing Company. His headquarters are in the L. C. Smith Building, Seattle, Wash.

The Ricker Machinery Company, Seattle, dealers in new and second-hand contractors', railroad and mill equipment, has moved to larger quarters at 1530 First Avenue South. The company, in addition to buying and selling equipment, will specialize in the rental of machinery of every description.

Trade Publication

The following companies have recently issued trade literature:

The Alexander Milburn Company, Baltimore. Folder, 6 x 9 in., 6 pages. Devoted to Milburn oxy-acetylene welding and cutting apparatus.

The Pittsburgh Des Moines Steel Company, Pittsburgh. Booklet, 5 x 8 in., 24 pages. Aside from a general description of steel tanks for fire protection and industrial service the booklet contains statistics obtained from users of steel tanks showing the saving that can be affected by using a steel gravity tank as a part of an automatic sprinkler system.

Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa. Bulletin 25, 5 x 9 in., 6 pages, devoted to small Westinghouse motors.

National Water Main Cleaning Company, New York City. Booklet, 6 x 9 in., 22 pages, telling causes of dirty mains and the effect dirt has in causing frictional losses. Cleaning the water mains the "National" way is discussed in the last part of the booklet.

Chain Belt Company, Milwaukee. Folder 64, 6 x 9 in., 8 pages. Contains photographs of the installation of Chain Belt traveling intake screens at the Northwestern station of the Commonwealth Edison Company, Chicago, together with a complete section through the screen house at that station.

D'Olier Centrifugal Pump & Machinery Company, Philadelphia. Bulletin 1, 9 x 12 in., 12 pages showing D'Olier pumps for irrigation and drainage service, D'Olier-De Huff concrete case pumps and D'Olier standard centrifugal, volute and multi-space pumps. Also describes self-cleaning screens for water supply intakes and special types of D'Olier products.

McClintic-Marshall Company, Pittsburgh, Pa., portfolio 11 x 13 in., 48 pages, showing photographs of construction work built by the company. Completed or partially completed structures in great variety are illustrated, many views being included to show some buildings and bridges well known for size or extent and unusual details. Foundry buildings, factory buildings of many types, open hearth buildings and tube mills, machine shops, pier sheds, warehouses and office buildings are given as examples for work in the field of building construction. The Panama lock gates are illustrated in three good pictures. Railroad and highway bridges follow, showing all types from the large Beaver cantilever bridge down to simple plate girder viaducts. Many of the photographs are of unusual excellence, and the book as a whole is a most satisfying example of the use of illustrations to convey an idea of the appearance of finished structures.

Exports for Fiscal Year Show Abnormal Conditions

Crop Reports, Indicating Little Danger of Overproduction, Are Favorable When Considered in Connection with Foreign Trade

AS has been pointed out on all hands, the general condition of the country at present is tied up with our export business to an extent which would scarcely have been credited three years ago. As construction work of all sorts is largely dependent at present on conditions which have been made and which might be unmade by our foreign trade, the course of that trade will be watched with peculiar interest by both contractors and engineers.

The analysis of our six and one-half billion dollar foreign trade during the fiscal year just ended, made public recently by the Department of Commerce, shows a significant reversal from the order of importance assigned to the different groups of exports by the similar statement issued a year ago. Instead of breadstuffs, the list of exports for the year just closed is headed by iron and steel, and the value of the second group, explosives, which jumped from seventeenth place in 1915, also exceeds by a good margin the large total of wheat and flour exported in 1915. The four principal groups of foodstuffs, which jumped from $287,000,000 in 1914 to $660,000,000 in 1915, failed to gain appreciably in 1916, and would have declined heavily in value but for the great increase in the exports of refined sugar. On the other hand, manufactures of brass, copper, iron and steel, chemicals and explosives and automobiles all show extraordinary increases, and are almost entirely responsible for the tremendous gain of total exports over those of 1915. The figures of the Department of Commerce indicate that, although our exports to neutral countries have more than doubled, less than one-third of all our exports have gone to countries not involved in the European War.

Of course, Europe cannot after the war continue to take at present prices the great quantities she is now consuming of such manufactures as explosives and automobiles. It is thought that it would be possible, however, by the development of a strong and consistent commercial policy, to hold a foreign trade exceeding for most of the items the values given in the 1914 column of the accompanying table. If this is done, it is believed that the readjustment necessary will not assume serious proportions. The shadow of this readjustment is cast before it in the great decline from inflated values now taking place in the stocks of those industrial concerns heavily engaged in European trade.

LEADING ARTICLES OF EXPORT

Group	Value in Millions of Dollars Exported In 1916	1915	1914
Iron and steel	618	226	251
Explosives	473	41	6
Raw cotton	370	376	610
Wheat and flour	314	428	142
Meats	270	206	143
Copper manufactures	170	109	146
Mineral oils	165	134	152
Brass and manufactures	126	21	7
Autos and parts	123	68	33
Chemicals, etc.	123	46	27
Cotton manufactures	112	72	51
Refined sugar	80	26	2
Leather	80	65	37
Horses	73	64	3
Leather manufactures	66	55	21
Coal	65	56	60
Wood and manufactures	61	50	103

As pointed out before in this journal, the farming population is likely to be in a better position to continue purchasing manufactures and supplies at a good rate if the crop yield this year should be moderate. Most of the crop records for this country were broken last year, and our exports of foodstuffs have either shown decreases or such small increases as would have little effect in reducing the very large surplus carried over into this year.

FINAL YIELD (ESTIMATED FOR 1916)—000 OMITTED

Year	Corn (bu.)	All wheat (bu.)	Oats (bu.)	Cotton (bales)
1916	2,865,932	759,000	1,317,000	14,266
1915	3,054,535	1,012,045	1,540,000	11,192
Average 1910-1914	2,732,457	728,000	1,158,000	14,259

The figures in the accompanying table, from the government estimates of July 1, indicate that the principal crops will be both small enough to insure a continuance of prices that will afford the farmer a reasonable profit and large enough to represent a total value exceeding the average for the five years prior to 1915. Since it is likely to take a season or more to bring the European fields under full cultivation after the conclusion of peace, it is probable that our exports of foodstuffs will decline more slowly than those of any other group. On the whole, then, it seems that the construction of drainage projects, roads, railroads, and all facilities involved in the manufacture and distribution of products consumed by the farming population will continue to manifest activity for some time to come.

Buildings

The larger projects noted this week under the headings of buildings and industrial plants are tabulated below:

Contracts awarded:	Kind of Building	Cost
Buffalo, N. Y.	Bank building	$250,000
Wilkinsburg, Pa.	School	281,000
Cleveland, Ohio	Silk mills	300,000
Kansas City, Mo.	Library	200,000
Vancouver, B. C.	Railroad station	1,000,000
Bids desired:		
Akron, Ohio	Bank building	250,000
Proposed buildings:		
New York, N. Y.	Office building	350,000
Binghamton, N. Y.	Power plant	500,000
Syracuse, N. Y.	Factory	300,000
Buffalo, N. Y.	Office building	400,000
Newark, N. J.	Public building	750,000
Philadelphia, Pa.	Auditorium	1,500,000
Chester, Pa.	Paper plant	250,000
Cumberland, N. D.	Hotel	500,000
Cincinnati, Ohio	Hospital	250,000
Joplin, Mo.	High school	250,000
North Yakima, Wash.	Sugar factory	750,000
California	Oil refinery	500,000

Waterworks and Sewers

Mendota, Ill., has awarded a contract at $48,000 for furnishing sewer pipe. The low bids received at Los Angeles for furnishing a large quantity of steel pipe amounted to $715,000. Bids will be received on Monday for constructing waterworks facilities in Long Island City, N. Y., for which $76,000 security is required. Bids were to be opened Friday at Fairmont, W. Va., for constructing 10 miles of water line and a 400,000-gal. reservoir. Stewart, Iowa, desires bids for a large quantity of sewer pipe. More than 8 miles of sewer and water-main construction will be let the coming week at Arcadia, Fla.

Engineers have been selected by Pitman, N. J., for a sewer system to cost, with disposal plants, $110,000. Additions which will cost $222,000 are to be provided to the water supply at Madison, Wis. Joplin, Mo., is considering the construction of storm sewers at a cost of $150,000. The proposition to construct an outfall sewer demanded by the California State Board of Health was defeated in a recent election at Los Angeles, and an emergency outlet will have to be provided at a cost of $265,000 as soon as funds can be raised.

Roads and Paving

Road and paving work continues active. The larger contracts noted are summarized in the following table:

Contracts awarded:	Kind	Cost or Quantity
Alton, Ill.	Brick	$62,000
Kansas City, Mo.	Wood block	110,000
Arcadia, Fla.	Asphalt	250,000
Boise, Idaho	Paving	100,000
Los Angeles, Cal.	Asphalt	79,000
Bids opened:		
Albany, N. Y.	41 highway contracts	1,984,000
Salt Lake City, Utah.	Paving	130,000
Sawtelle, Cal.	Asphalt	60,000
Bids desired:		
Arcadia, Fla.	Paving, sq. yd.	158,000
Deland, Fla.	Paving, sq. yd.	417,000
New Smyrna, Fla.	Highway	$250,000
Bowling Green, Ky.	Highways	60,000
Clarksville, Tex.	Concrete paving	90,000
Proposed work:		
Glenwood, Ark.	Highway	61,000
Lanark, Ont.	Highway	100,000
Wellsburg, W. Va.	Bonds for sale	800,000
Bartow, Fla.	Bonds for sale	1,500,000
Lakeland, Fla.	Bonds for sale	1,500,000

Miscellaneous Headings

The lowest bid received in New York City by the Public Service Commission for constructing a tunnel at Sixtieth Street under the East River and Blackwells Island, to connect the Queens elevated routes with the new Broadway subway, was $4,194,797. A contract for a reservoir to cost $124,000 has been awarded at Pecos, Tex. A jetty which will cost $152,000 has been contracted for at Gardiner, Ore. The lowest bid received at Venice, Cal., for constructing a concrete bulkhead was $125,000. It is reported that bids will be received in the near future for constructing the $1,000,000 motion-picture plant to be built of reinforced concrete at Corona, New York City. The sum of $200,000 toward the construction of a $300,000 channel in the Fore River at Quincy, Mass., has been appropriated by the federal government. A hundred-million-dollar corporation has applied to the Canadian government for permission to construct a dam in the rapids below Niagara Falls for the purpose of developing 2,000,000 hp. Drainage work to cost $225,000 is under consideration in Indiana. A $200,000 reinforced-concrete hotel is planned at Los Angeles. It is announced at Pasadena, Cal., that an electric railroad company will build a $1,500,000 viaduct to Los Angeles. A drainage district, the construction of which will cost $400,000, is being formed at Madera, Cal.

Three railroads are said to be on the point of beginning construction improvements. One report concerns $3,000,000 to be spent by the Pennsylvania Railroad in the vicinity of Oil City, Pa. According to another report grade-crossing elimination work to cost $800,000 is about to be undertaken at Portland, Ore. The third report states that the Union Pacific Railroad will spend $1,000,000 for improving the Kansas division.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Brookline, Mass.—Ordinance passed which provides $10,000 for construction of water mains in South and See Streets. Address City Clerk.

Worcester, Mass.—City voted $50,000 bonds for construction of a reservoir at Howland Hill. Geo. W. Butcheldes, Water Commissioner.

Bridgeport, Conn.—Plans and specifications for an electrically operated sewage pumping station are being prepared by Hering & Gregory, Consulting Engineers, 170 Broadway, New York, N. Y.

Englewood, N. J.—The Common Council contemplates purchasing sewerage system of Englewood Sewerage Co. or constructing a new system. Election may be held to vote on latter proposition.

Jersey City, N. J.—Henry Byrne, City Comr., July 18 submitted new plans and specifications for the construction of the proposed new pipe line from the Boonton Reservoir to Jersey City. Cost $1,000,000. Charles Van Keuren is Ch. Engr. Water Dept.

Paterson, N. J.—Board of Public Works ordered survey for both storm and sanitary sewer system; cost about $1,000,000.

Paulsboro, N. J.—Vacuum Oil Co. contemplates building pipe line under the Delaware River to connect with Western Pennsylvania and Ohio oil fields. Oil company recently purchased property at Bramell's Point to erect tanks and refineries.

Pitnam, N. J.—Remington & Vosburg of Camden are engineers for sewerage system to be constructed at Pitnam at cost of $110,000. Two disposal plants, Imhoff system, to be installed. J. E. Peterson, Borough Clerk.

Easton, Pa.—Pennsylvania State Department of Health orders improvement of city's water system. Commissioner Samuel G. Dixon considering plans with city.

Philadelphia, Pa.—The Surveys Committee of Council voted favorably on bill appropriating $1,000,000 for constructing sewers.

St. Petersburg, Fla.—City is considering sewage disposal plant. Ernest Kitchen, City Engineer. W. J. Overman, Dir. Pub. Works.

Monroe, La.—Issue of $500,000 bonds for rebuilding electric power plant, water works and other improvements contemplated. Walter G. Kirkpatrick of Birmingham, Ala., Engr.

Chattanooga, Tenn.—In a report to the City Council the appraised value of plant of City Water Co. is $2,000,000. Reported city is considering purchasing the plant.

Knoxville, Tenn.—Water Commissioner recommended installation of new pumps for municipal water works.

Shaker Heights (P. O. Cleveland), Ohio.—Water, sewer and paving bonds for $269,098 will be sold Aug. 1 by C. A. Palmer, Clerk, 3855 Coventry Road.

New Philadelphia, Ohio.—Water works bonds for $80,000 will be sold July 24 by E. F. Wible, City Auditor.

Ravenna, Ohio.—Water bonds for $60,000 will be sold Aug. 14 by W. A. Root, City Aud.

Ravenna, Ohio.—Plans being made for water works extension, to include dam, standpipe, and pumping station. R. Winthrop Pratt, Engr. in Charge.

Sylvania, Ohio.—Village Council sold $8,500 bonds for completion of water works system; total cost $30,500. Address Village Clerk.

Barry, Ill.—Citizens voted to construct water works. Fuller Coult of St. Louis, Mo., Engineer; W. R. Wilson, City Clerk.

Gibson, Ill.—Improvements and extensions to water works contemplated. Address J. C. Mell, Ch. Engr., Bloomington, or C. E. Lowry, City Clerk.

Matteson, Ill.—A sewer system requiring 3 miles of 8- to 15-in. pipe, 9-ft. cut, at cost $25,000, and a sewage disposal plant consisting of sedimentation tank and sand filter to be constructed; cost $5,000. Contract will be let about Jan. 1. Allen L. Fox of Chicago Heights, Engineer.

Madison, Wis.—A water supply and pumping station is to be constructed by city, to include one 1,500,000-gal. concrete reservoir, addition to station, with two new 200-hp. boilers and one 1,800,000-gal. pumping engine; estimated cost $222,085. Mead & Seastone of Madison, Engineers; L. A. Smith, Supt. Water Works.

Ft. Madison, Iowa.—Contract about to be let by Citizens Water Co. for construction of filtration plant, pumping station, intake pipe and distributing system.

Argyle, Minn.—Bonds to the amount of $16,000 have been voted for improvements to the municipal electric-light plant and water works system.

Hutchinson, Kan.—Construction of a storm sewer from Twenty-third and Monroe Streets south and east 3 miles to Cow Creek contemplated. Address City Engineer.

Topeka, Kan.—Plans and specifications prepared by A. R. Young, City Engineer, for a 250,000-gal. reservoir.

Seward, Neb.—City Council appropriated $6,000 for improvements and extensions to water system.

Wayne, Neb.—Election to be held July 31 to vote $12,000 bonds for construction of 2¼ miles 4-in. c. i. water main and hydrants. J. M. Cherry, City Clerk.

Hardin, Mont.—Citizens voted $12,000 bonds to construct sewer system. Gerharz-Jacqueth of Great Falls, Engineers. A. L. Mitchell, Mayor.

Highwood, Mont.—Reported City Council has rejected all bids for construction of waterworks system and new bids will be called for at an early date.

Joplin, Mo.—A bond issue of $150,000 being considered for construction of system of storm sewers. Address City Clerk.

Kansas City, Mo.—New bids will probably be asked by city for furnishing a pump for Turkey Creek Pumping Station.

Arlington, Tex.—M. Griffith O'Neill of Dallas engaged to prepare plans for a sewage treatment plant of 200,000 gals. capacity. Address City Clerk.

Melvin, Tex.—E. M. Ehlers, State Sanitary Engineer at Austin, has recommended the installation of a water purification plant at Melvin. Address City Clerk.

Mineral Wells, Tex.—A sewage treatment plant to be installed. Plans prepared. Address K. McBrayer, Sewage Commissioner.

San Antonio, Tex.—County Commissioners have granted petition to lay 4-in. water main from Fort Sam Houston reservation to the new Aviation Post. Address County Clerk.

Seguin, Tex.—The citizens will vote July 27 on $36,000 bonds for installation of sewer system. Address City Clerk.

Sherman, Tex. — Construction of a 3,000,000-gal. stand pipe being considered by city. Purchase of equipment for installation of water system decided upon; cost about $30,000. O. J. S. Ellingson, City Manager.

Shiner, Tex.—City contemplates improvements to municipal water works.

Sweetwater, Tex.—City has sold $50,000 for sewage disposal plant. Contract will soon be let. Address City Clerk.

McLoud, Okla.—City voted $15,000 water works bonds.

Auburn, Wash.—Bids soon received for laying 8000 ft. of water mains from First Street to Milwaukee Street. Frank Lemar, City Clerk.

Everett, Wash.—Hans Mumm, Jr., City Engr., has completed plans for sewer system to be built in Delta Dist. Louis Lesh, City Clerk.

Langley, Wash.—Local water system is to be improved and extended. H. J. English, Mayor.

Tacoma, Wash.—City Council has directed L. A. Nicholson, City Engineer, to prepare plans for two large sanitary sewer districts. Address W. D. Nickeus, City Clerk.

Canby, Ore.—Reported City Council has purchased local water system from M. J. Lee for $5,000 and will expend remainder of $18,000 bond issue in permanent improvements. Address City Clerk.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Portland, Ore.—Contract will soon be let by Purchasing Agent for large amount of supplies for City Water Bureau, materials to include galvanized couplings, galvanized street ells, close nipples, lead pipe, curb cocks, etc. A. L. Barbour, City Auditor.

Los Angeles, Cal.—The $1,800,000 bond issue for the construction of an outfall sewer demanded by the State Board of Health having been defeated, the City Council has begun proceedings for the construction of an emergency outlet through the sand hills at Hyperion, to cost $215,000, and an outlet pier at the ocean front, to cost about $50,000. Complete works will be constructed when funds are provided. Homer Hamlin, City Engineer.

San Dimas, Cal.—The San Dimas-Charter Oak Domestic Water Co. is having plans prepared for 500,000-gal. reinforced concrete reservoir, to be constructed on a hill north of Eucalyptus Avenue. An 8-in. outlet main will be laid to carry the water to the center of the town and 6-in. laterals will be laid.

Clifton, Ariz.—Town Council planning installation of sewer system, and bond issue for same has been approved.

Kingsville, Ont.—City contemplates constructing a settling basin at cost of $2,500. George Pearse, Town Clerk.

BIDS DESIRED.

East Hartford, Conn.—Reported desired until Aug. 1, by City Commissioners, for constructing sewers in Pine, Fern, Bliss and Tolland Streets.

Brooklyn, N. Y.—Until July 26, by L. H. Pounds, Borough President, for furnishing material and constructing sewers in Ocean Parkway, Benson Avenue, Seventy-ninth and other streets. Security $3,535.

Long Island City, L. I., N. Y.—Until July 24, by Maurice E. Connolly, President Queens Borough, for constructing receiving basins and appurtenances in Fairview Avenue, Kossuth Place, Maure Avenue and numerous other streets. Security, $76,415.

New York, N. Y.—Until July 25, by William Williams, Commissioner Water Supply, Gas and Electricity, for hauling and laying water mains and appurtenances in University Avenue, Borough of Bronx. Security $2,000. Also separate bids same time and place for furnishing, delivering and unloading, stacking and storing c.-i. pipe, special, and valve boxes, valves, etc., and double nozzle fire hydrants. Security $1,400.

Until July 26, by Marcus M. Marks, Pres. Manhattan Borough, for constructing sewers in Lafayette Street and sewer basins in Broadway, Thirty-seventh and other streets. Security $5,000.

Oxford, N. Y.—Until Aug. 8, by Georgiana Griffith, President Board Managers Women's Relief Corps Home, Oxford, for water supply for New York State Women's Relief Corps Home, advertised in Engineering Record.

Hoboken, N. J.—Until Aug. 12, by City Commissioners, for constructing a sewer and appurtenances in North Street, and also in Adams Street. Probable cost $9,000.

Riverton, N. J.—Until Aug. 3, by Town Council, for constructing sewer system consisting of 23,280 ft. of 8, 10 and 15 in. salt glazed vitr. pipe, together with manholes, lampholes, etc. Also separate bids for water works improvements consisting of 10,140 ft. 6 in. c. i. pipe, valves, boxes, etc. F. H. Allyn, Town Clk.

Athens, Pa.—Reported desired until Aug. 7, by C. W. Tidd, Borough Secretary, for constructing sewage disposal plant.

Harmony, Pa.—Until July 26, by Borough Council, for constructing sanitary sewer system, in all about 27,600 lin. ft., pipe sewers, manholes, lampholes, etc., also for 9500 lin. ft. water pipe, 6 and 4-in. hydrant valves, etc. Douglas & McKnight, Engrs., 1315 Union Bank Bldg., Pittsburgh, Pa.

Arcadia, Fla.—Until July 24, by C. C. McDermond, City Clerk, for furnishing material and constructing water works extension, to include 22,000 lin. ft. 6-in. c.-i. pipe, including all necessary casting, hydrants, etc.; also 26,000 lin. ft. vitr. pipe sewers, from 8 to 12 in., including flush tanks, etc. Cravens & Kimmel, Engineers, Arcadia.

Cleveland Heights (P. O.), Warrensville, Ohio.—Reported desired until Aug. 7, for mains in Scarsborough Road and St. James Parkway. H. H. Canfield, Village Clerk.

Coshocton, Ohio.—Until Aug. 10, for constructing a concrete pump pit and brick superstructure for same, lowering existing c.-i. suction line at Pumping Station and appurtenances. Chester & Fleming, Engineers, Union Bank Building, Pittsburgh, Pa.

Ironton, Ohio.—Until July 28, by F. A. Ross, Clk. Dir. Public Service, for improving and enlarging water works.

Dixon, Ill.—Reported desired until Aug. 1, by Board of Administration, Springfield, for two pump houses, steel tank and steel tower and accessories, at State Colony for Epileptics. Frank D. Whipp, Fiscal Supervisor, Springfield.

Peotone, Ill.—Until July 28, for 9686 ft. 4- and 6-in. water pipe and 703 ft. sewer. P. M. Collins, President, the Citizens Bank Building, Peotone.

Rock Island, Ill.—Until Aug. 1, for storm drains in Southwest Dist. Probable cost $40,000.

Winnebago, Wis.—Until Aug. 16, by State Board Control (J. O. Davidson, President), at Madison, for installing sprinkler system at Northern Hospital for Insane, Winnebago. Advertised in Engineering Record.

Clermont, Iowa.—Reported desired until July 28, for constructing water works; probable cost $18,000. W. R. Blake, Mayor.

Stuart, Iowa.—Reported desired until July 24, for 80,720 ft. of 6- to 12-in. sewer pipe. G. T. Taylor, City Clerk; T. S. DeLay, Consulting Engineer, Creston.

Miller, Neb.—Reported desired until July 27, by Ross Brown, Village Clerk, for constructing water works. Probable cost $10,000. Chas. F. Sturtevant, Consulting Engineer, Holdredge, Neb.

Dixon, Neb.—Until Aug. 2 for constructing water works. Cost $6,500. R. Flaherty, City Clerk.

Fargo, N. D.—Until Aug. 16, by A. R. Watkins, City Auditor, for installation of Mechanical Stokers or smoke eliminating and fuel saving devices, to be installed in boiler furnaces of city water works, advertised in Engineering Record.

Fort Benton, Mont.—Reported desired until Aug. 7 by Lester M. Bond, Clerk and Recorder, for constructing water works. Bids desired on gravity or pumping system. Probable cost $10,000. John S. Culbertson, Co. Engr.

Kenedy, Tex.—Until Aug. 15, by Board Commissioners, for furnishing material and constructing a system of water works, to consist of c.-i. pipe, steel tank and tower, triplex pump, hydrants, valves, etc. M. Griffin O'Neil & Sons, Engineers, Praetorian Building, Dallas.

Eufaula, Okla.—Reported desired until July 24, by Mayor, for furnishing material and improving water works.

Toronto, Ont.—Until Aug. 1, by T. L. Church, Chmn. Board Control, for constructing storm overflow sewer, Sparkhill Avenue and Logan Avenue, to River Don.

Lethbridge, Alta.—Until Aug. 5, by city, for installing filtration system, capacity 3,000,000 gal. per day, advertised in Engineering Record. A. M. Grace, Commissioner Public Works.

Assiniboia, Sask.—Until Aug. 8, by J. R. Nolan, Secy.-Treas., for furnishing and constructing about 17,500 ft. 4, 6 and 8-in. steel pipe, of c.-i. pipe and specials, twenty fire hydrants, laying approximately 17,000 ft. c.-i. pipe, a reinforced concrete reservoir, etc. Murphy & Underwood, Consulting Engrs., Saskatoon, Sask.

Panama.—Until Aug. 7, by Maj. Earl I. Brown, Gen. Purchasing Agent Corps Engineers U. S. A., for furnishing as per Cir. No. 1065, valves, c.-i. pipe, sewer pipe, etc.

Until July 31, by Earl I. Brown, Corps Engrs., U. S. A., General Purchasing Officer Panama Canal, Washington, D. C., for steel pipe, pipe fittings, valves, cocks, steel conduits, etc.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Little Falls, N. Y.—Following bids opened July 12 by City Council for constructing sewage disposal plant: Averill-Matthews Co., Newark, N. J., at $29,737; John W. Heller, South Orange, N. J., $27,979; Sanitary Construction Co., Paterson, $25,475. H. J. Harder, Engineer.

★**Newark, N. J.**—Contract for constructing Lawrence St. Branch Intercepting Sewer, Sect. 22 (bids opened July 18 by Passaic Valley Sewerage Commission, Essex Bldg., Clinton St., Newark), awarded to Culp Co., Inc., of Paterson, at $46,537.

★**Miami, Fla.**—Contract awarded to J. J. Quinn Company of Miami at $13,061 for constructing storm sewers in Avenue G and Seventh Street.

★**Mendota, Ill.**—Contract for furnishing 11,500 lin. ft. vitrified sewer pipe awarded to D. A. Thatcher & Co. of River Forest, at $48,456. J. G. Reul, Secy. Bd. Local Improvements.

★**Pipestone, Minn.**—Contract for constructing storm sewers (bids opened by S. W. Funk, City Clerk, July 10), awarded to G. S. Redman of Pipestone, at $15,000.

★**Worthington, Minn.**—Contract for constructing sewerage purification plant, Imhoff settling tank with sludge bed and pumps, 37,590 ft. 6-in. and 12-in. sewer awarded (bids opened July 13) by city to Thornton Bros. of St. Paul. W. H. Buckan, City Clerk.

★**Great Falls, Mont.**—Contract for constructing filtration plant and water softening plant awarded to Olsen & Johnson, of Missoula, at $101,435 for general construction, $76,000 for filter equipment and $10,350 for pumps and motors.

Highwood, Mont. — See "Proposed Work."

★**Childress, Tex.**—Contract for constructing sewerage system and sewage disposal plant awarded to E. L. Dalton of Dallas, at $28,000. R. G. Carraway, City Engineer.

★**Dallas, Tex.**—Contract awarded by the city to Rensselaer Valve Co. of Troy, N. Y., for a quantity of valves and connections for water mains being laid.

★**Gonzales, Tex.**—Contract for extension to sewer system and sewage treatment plant awarded to E. L. Dalton of Dallas. J. C. Bright, Mayor.

★**Blackwell, Okla.**—Following contracts awarded for constructing extensions to waterworks and electric light plant (bids opened July 12 by Clyde V. Butcher, City Clerk): Murray Iron Works, Burlington, Iowa, one 300 hp. boiler and 2 superheaters; Thermal Efficiency Co., one 21,000 lb. Cochran purifier and heater; H. R. Worthington, one 750 G.P.M. 2 stage centrifugal pump; Smith & Whitney, Dallas, spray nozzle system.

Covina, Cal.—Lowest bid opened July 6 by City Trustees for drilling one or more 14 and 20-in. wells submitted by D. A. Beck of Los Angeles. D. S. Stafford, City Clerk.

Lompoc, Cal.—Following are four lowest bids opened by City Trustees for constructing sewer system, involving about 70,430 ft. 6- to 14-in. vitrified clay pipe, 77 manholes, 55 lampholes, 1 Imhoff tank and 40,107 cu. yd. excavation: Chambers & Heafy, Oakland, about $36,000; Mlagenovich & Gillespie, 3920 Wisconsin Place, Los Angeles, $36,961; Eggert & Ukropina, Los Angeles, $40,360.

Los Angeles, Cal.—Following are bids opened July 10 by Board of Supervisors for furnishing riveted steel pipe for irrigation works in Los Angeles County Water Works District, No. 3, bidders being (a) Lewellyn Iron Works, (b) Baker Iron Works, (c) Lacey Mfg. Co., (d) Western Pipe & Steel Co., all of Los Angeles.

Item 1—San Fernando main; 484 ft. 42 in., 4,228 ft. 39 in., 5,346 ft. 36 in., 2,633 ft. 54 in. and 477 ft. 52 in.; (a) $154,643; (b) $156,430, (c) $157,655.

Item 2—Chatsworth main; 2,368 ft. 36 in. 2,656 ft. 39 in., 2,621 ft. 42 in., 2,644 ft. 45 in., 2,638 ft. 48 in. and 2,650 ft. 50 in; (a) $95,325, (b) $90,471, (c) $93,798.

Item 3—Calabasas main; 11,644 ft. 30 in., 14,179 ft. 24 in., 5,311 ft. 22 in., 2,952 ft. 20 in., 2,871 ft. 16 in., 2,918 ft. 14 in. and 14 T's: (b) $144,421, (c) $143,678, (d) $143,428.

Item 4—Ventura main; 24,283 ft. 30 in.; (a) $125,130, (b) $120,256, (c) $123,960.

Item 5—Chatsworth high line; 15,536 ft. 52 in.; (a) $128,160, (b) $129,325 and (c) $126,150.

Item 6—Calabasas subsidiary main; 12 ft. 39 in., 542 ft. 27 in., 2,638 ft. 24 in., 4,673 ft. 18 in. and 2 T's; (b) $17,558, (c) $17,475, (d) $17,250.

Item 7—Maclay main; 4,624 ft. 24 in., 5,608 ft. 24 in., 4,315 ft. 22 in., 2,854 ft. 20 in., 2,848 ft. 18 in., 2,848 ft. 16 in., 4,262 ft. 12 in. and T's; (b) $65,206, (c) $64,360, (d) $63,148.

★**The Pas, Man.**—North Western Construction Co., Regina, has contract for constructing sewage plant; cost, $5,000. Murphy & Underwood, Saskatoon, Engineers.

STEEL BRIDGE WORK

PROPOSED WORK.

New York, N. Y.—Plans filed for five-story, 42 x 90-ft. concrete steel and fireproof dwelling, to be erected at 53 East Seventy-ninth Street, for Mrs. C. C. D. Rogers, of Tuxedo Park; cost, $100,000. Trowbridge & Livingston, Archts., 527 Fifth Avenue.

"—have moved back to Denver looking for more work. Your paper is the best place to find it, and believe me I go through it thoroughly every week."

THE ABOVE quotation is from a letter to the Engineering Record from a contractor in Colorado.

He is only one of many contractors who follow closely the "proposed work" and "bids desired" items in this section of the journal.

And because the Engineering Record publishes the most "bids desired" and news of proposed work items contractors say the **Engineering Record** gives

The Best Contracting News Service

Bayonne, N. J.—The Central Railroad Co. of New Jersey (J. O. Osgood, 143 Liberty Street, New York, Ch. Eng.) applied to War. Dept. for permission to construct a 4-track steel bridge with 2 draw spans and deck-plate girder approaches over Newark Bay between Bayonne and Elizabeth.

Jersey City, N. J.—The Keystone Watch Case Co. will erect a water tank at 144 Woodward Street; cost $65,000.

Jacksonville, Fla.—See "Foundations, Piers and Dams."

Molino, Fla.—A steel draw span bridge 200 ft. wide is to be constructed over Escambia River at Molino by county; cost $12,000. J. A. Jacobs of Jacobs Lumber Co. said to be interested.

Pascagoula, Miss.—Board of Supervisors of Jackson County has authorized issue of $40,000 worth of bonds for Road Districts Nos. 3 and 4, and $50,000 bonds for steel bridge over West Pascagoula River.

Ravenna, Ohio.—See "Water Works and Sewerage Systems."

South Bend, Ind.—Work about to begin on construction of a short single-track bridge crossing South St. Louis Street. Address T. T. Irving, Dist. Engr., Grand Trunk Western Railway, Chicago, Ill.

Manhattan, Kan.—No bids opened by George H. Hangerford, County Clerk, July 12 for constructing two 260-ft. steel bridges with concrete piers. New plans to be prepared. J. E. Williams, County Engineer, Westmoreland.

Kansas City, Mo.—Waddell & Son, 934 Wyandotte Street, have been awarded contract for preparing plans and specifications for Fourth Street viaduct; estimated cost $110,000.

Sherman, Tex.—See "Waterworks and Sewerage Systems."

Astoria, Ore.—Contract will soon be let by County Court for constructing steel lift draw-bridge across Skipanon River at Warrenton. G. F. Parker, County Engineer.

Fresno, Cal.—See "Paving and Roads."

Pasadena, Cal.—See "Railroads."

Clifton, Ariz.—Citizens voted bonds for construction of 2 bridges across the Frisco River; probable cost, $75,000.

BIDS DESIRED.

Hartford, Conn.—Until July 26 by Chas. J. Bennett, State Highway Commissioner, for a two-span through truss bridge 246 ft. long over Farmington River in town of Windsor. Also a three-track plate girder railroad bridge 79 ft. long over Palisade Avenue.

Washington, D. C.—Until July 31, by Dept. Interior, U. S. Reclamation Service, Washington, D. C., for furnishing steel and cast-iron for movable crest of Sherburne Lakes Spillway, Milk River Project, Mont.

Takoma Park, D. C.—Until July 31, by Ben G. Davis, Town Clerk, Takoma Park, D. C., for furnishing and erecting a steel water tank and tower and internal combustion oil engine for pumping station. Advertised in Engineering Record.

Heflin, Ala.—Reported desired until Aug. 14, by County Commissioners (A. H. Glasgow, Judge of Probate), for constructing steel bridge over Tallapoosa River at Riddle Bridge site.

Pascagoula, Miss.—Until Aug. 7, by Board Supervisors (Fred Taylor, Clerk), for constructing a steel bridge across West Pascagoula River, constructing a highway embankment between Pascagoula and Gautier, and constructing creosoted wood pile trestle bridge.

Lisbon, Ohio.—Until Aug. 14 by County Commissioners, for constructing a 60-ft. steel truss bridge, 18-ft. roadway, with reinforced concrete floor. Substructure and superstructure separate contracts. H. C. Armstrong, Co. Highway Supt.

Petersburg, Ind.—See "Piers, Dams and Foundations."

New Hampton, Iowa.—Until July 26 by County Auditor, for constructing seven bridges as follows: A 50-ft. low truss highway bridge, 16-ft. roadway; 25-ft. I-beam highway bridge, 16-ft. roadway, county to furnish structural steel; 32-ft. I-beam bridge, 16-ft roadway; two 150-ft. spans, steel highway bridge, 24-ft. roadway, abutments and piers only to be constructed; 40-ft. low truss highway bridge, 16-ft. roadway, county to furnish structural steel, both abutments to be rebuilt; 20-ft. I-beam highway bridge, 16-ft. roadway, county to furnish structural steel, both abutments to be rebuilt, and a 50-ft. low truss highway bridge, 16-ft. roadway, together with removal of old structures, etc.

Waukon, Iowa.—Until July 25 by County Auditor, for two 140 x 16-ft. high truss bridges, one 100 x 18-ft. pony truss bridge, one 95 x 18-ft. pony truss bridge, and one 80 x 18-ft. pony truss bridge. Harry Orr, County Engr.

Crookston, Minn.—Reported desired until Aug. 3 for constructing 8 steel and concrete bridges. H. J. Welte, Co. Aud.

Sleepy Eye, Minn.—Reported desired until July 27 for constructing bridge over Cottonwood River, 90-ft. span and 18-ft. roadway. Herman Polkow, Chmn. Co. Comrs.

Ellendale, N. D.—Reported desired until Aug. 8 for constructing steel bridge near Ryan, over James River, of three 64-ft. spans, with 16-ft. approach, tubular piers in center, steel piles at each end, with concrete backing and wings.

Miles City, Mont.—Until Aug. 12, by Board County Commissioners (J. H. Bohling, Jr., Clerk), for constructing steel bridge over Sunday Creek in Custer County, advertised in Engineering Record.

Kenedy, Tex.—See "Waterworks and Sewerage Systems."

Seattle, Wash.—Until July 26 by C. E. Dole, Purchasing Agent, Alaskan Engineering Commission, for constructing an electric traveling shop crane, steel water tanks, steel pipe, valves, etc.

Ray, Ariz.—Until Aug. 17 by County Board Supervisors, Florence, for constructing a 200-ft. steel span across Mineral Creek at Ray, Ariz., with 18-ft. roadway and 6-ft. sidewalk. Probable cost $12,000. E. S. Staffors, Co. Engr., Florence.

Pembroke, Ont.—Reported desired until July 25, by Board Education (Lenox Irving, Secy.) for erecting steel and fireproof school in the West Ward. W. C. Keighley, Box 508, Pembroke, Archt.

Fernie, B. C.—Reported desired for constructing two-span steel bridge with cement piers over Elk River. Wm. Ramsay, Fernie, Engr.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Buffalo, N. Y.**—John W. Cowper Company, Fidelity Building, secured contract to erect structural steel, granite and limestone bank building at Main and North Division Street for Bank of Buffalo; cost, including equipment, $250,000.

Hastings-on-Hudson, N. Y.—Lowest bid opened July 11 for painting Warburton Avenue Viaduct submitted by C. P. Johnson of Tarrytown, at $1,425. Robert Dashwood, Town Clerk of Greenburg.

★**Hackensack, N. J.**—Contract for repairs to Anderson Street Bridge awarded by Bd. Chosen Freeholders (Jas. M. Harkness, Clk.) to F. E. Long-W. G. Broadhurst, Co. of Hackensack.

Singac, N. J.—See "Reinforced Concrete."

★**Philadelphia, Pa.**—City awarded contract for repairs to Bridge Street drawbridge over Frankford Creek to Interstate Engineering & Construction Co., Coleman Building, Philadelphia, at $5,100.

★**Philadelphia, Pa.**—Contract awarded E. E. Hollenback, 200 North Fifteenth Street, for erecting one-story brick and steel warehouse on Pennsylvania Avenue and Thirty-third Street for Bergner & Engel Brewing Company; cost $60,000.

★**Greenville, Tenn.**—Contract for constructing 30 x 60-ft. standpipe awarded to Pittsburgh-Des Moines Steel Co., Curry Bldg., Pittsburgh., Pa., at $5,250. C. E. Coile, City Engr.

★**Grand Rapids, Mich.**—Contract awarded by Globe Knitting Works to Hauser, Owen, Ames Co., Grand Rapids, for erecting seven-story cement, steel and fireproof building with a tower, making ten stories; cost, about $125,000.

Rock Island, Ill.—Following bids opened July 1 by Wallace Treichler, City Engineer, for constructing 100,000-gal. steel tank: Memphis Steel Construction Co., Memphis, Tenn., $9,000; Rock Island Bridge & Iron Co., Rock Island, $9,070; Des Moines Bridge & Iron Co., Des Moines, Iowa, $9,300, and Chicago Bridge & Iron Co., 733 Fulton Street, Chicago, $9,070.

★**Morris, Minn.**—Contract for constructing 40 ft. steel truss span awarded by the city (bids opened July 11) to M. A. Adams & Co., 927 Andrus Bldg., Minneapolis. C. W. Andert, Town Clerk.

★**Phillipsburg, Kan.**—Contract for constructing steel truss bridge near Long Island and concrete bridge near Glade awarded by county (bids opened July 10) to Canton Bridge Co. of Kansas City, Mo., at $5,325. W. W. Warner, County Clerk.

★**Seattle, Wash.**—Contract awarded by Fisher Flouring Mills Co., White Building, to Grant, Smith & Co., Henry Building, for erecting 7-story, 90 x 150-ft. concrete and steel addition to plant on West Waterway; cost, $400,000.

★**Spokane, Wash.** — Following bids opened July 6 by Leonard Funk, Comr. Pub. Wks., for constructing 3 steel bridges: Illinois Steel Bridge Co., 611 Hutton Bldg., $33,888 (awarded contract); C. L. Graves, 321 Exchange Bank Bldg., $34,316, and Charles G. Huber, 427 Central Bldg., $35,200.

ing $400,000.

REINFORCED CONCRETE

PROPOSED WORK.

Stamford, Conn.—John Hankin & Bro., 550 West Twenty-fifth Street, New York, N. Y., are preparing plans for group of reinforced concrete factory buildings to be erected on Canal Street for Lincrusta Works, 121 East Twenty-fourth Street, New York, N. Y.; cost, about $100,000.

Brooklyn, N. Y.—Kimball & Roosa, 71 Broadway, New York, reported supervising architects for proposed steel, reinforced concrete and fireproof convention hall, hotel and bathing pavilion to be erected upon present and adjoining site of Whitney Hotel and Baths, Surf Avenue and Twenty-ninth Street.

Corona (P. O. Flushing), L. I., N. Y.—Contract soon to be let for fireproof, brick and reinforced concrete moving picture plant to include studio, administration buildings, powerhouse, storehouse, garage, restaurant and office building, which William Fox, President of Fox Feature Film Corporation, 126 West Forty-sixth Street, New York, intends erecting on Jackson Avenue, extending from Astoria Avenue to Flushing Bay; cost, approximately $1,000,000. Thomas W. Lamb, Archt., 644 Eighth Avenue, New York.

Ithaca, N. Y.—Concrete bridge is to be constructed at Van Natta Dam, to have two 58-ft. or one 116-ft. span to be 30 ft. wide. J. C. Foureley, City Supt.

St. Augustine, Fla.—The main portion of the Bennett Hotel will be reconstructed with brick and concrete. The new portion will be 3-story, 75 x 100 ft. R. M. Bennett, Proprietor.

Gulfport, Miss.—See "Piers, Dams and Foundations."

Knoxville, Tenn.—City Council considering construction of State Street viaduct.

Madison, Wis.—See "Water Works and Sewerage Systems."

Larned, Kan.—A 7-span cement arch bridge is to be constructed over Arkansas River 4 miles northeast of Larned. Address W. C. Ware, County Clerk, for further information.

Manhattan, Kan.—See "Steel Bridge Work."

Corpus Christi, Tex.—See "Paving and Roads."

Portland, Ore.—See "Railroads."

Los Angeles, Cal.—Contract will be let in August by Mayberry & Parker, Archts., 472 Pacific Electric Building, for erecting 5-story and basement reinforced concrete and brick loft building, 55 x 137 ft., at Los Angeles and Eighth Streets for Valentine Katz.

Plans prepared by J. M. Cooper and Douglas Lee, Archts., 635 Marsh-Strong Bldg., for 10-story and basement, 260-room, reinforced concrete hotel building, about 75 x 103 ft., to be erected on Sixth Street west of Flower Street, for John M. Cooper; cost about $200,000.

Los Angeles, Cal.—City Council has begun proceedings toward construction of bridge over tracks of Pacific Electric Ry. at Sixteenth Street and West Boulevard, probably to be of reinforced concrete and to cost about $12,000; expense to be shared by city and the railway company. Address R. W. Stewart, Asst. City Engineer.

City Council and State Railway Commission directed the Pacific Electric Railway Co. to construct concrete bridge across the Arroyo Seco near the Cawston Ostrich farm, probably about 250 ft. wide at that point.

San Bernardino, Cal.—Board of Supervisors directed Lyman Farrell, 615 Fay Bldg., Los Angeles, to revise plans for 3-story and basement reinforced concrete and brick County Hospital. Bids to be received about the latter part of August; cost about $100,000.

San Dimas, Cal.—See "Waterworks and Sewerage System."

Franklin, Man.—City Council plans constructing a concrete arch bridge, 158 ft. long. J. R. Witty, Dominion City, will prepare plans.

BIDS DESIRED.

Linesville, Pa.—Until July 25, by County Supervisors, for constructing a bridge of concrete, 55-ft. span, 36 ft. wide, over Linesville Creek, on Main Street.

Williamstown, Pa. — Reported desired until July 25, for constructing reinforced concrete bridge over Dry Run. W. S. Kolb, Chambersburg, Clk.

Washington, D. C.—Until July 10, by Lincoln Memorial Commission, 1729 New York Assn., Washington, D. C., for erection of terrace retaining wall and masonry approaches to Lincoln Memorial at Washington, D. C., advertised in Engineering Record. Col. Wm. W. Harts, U. S. A. Executive Office.

Savannah, Ga.—Until Aug. 15, by Mayor and Aldermen, for constructing about 1 mile reinforced concrete box, combined sanitary and water sewer, advertised in Engineering Record. Thomas Halligan, Clerk of Council.

Arcadia, Fla.—See "Paving and Roads."

Ann Arbor, Mich.—Until Aug. 4, by Ray E. Bassett, Supt. of Parks, for constructing concrete bridges.

Genesee, Ill.—Until July 25 for constructing concrete bridges. V. N. Taggett, County Supt. of Highways.

Illinois.—By the State Highway Department, Springfield, for constructing the following bridges:

July 27:

Terre Haute, Zeigler retaining wall, Matthews and White Culvert retaining wall, 40-ft. spans for culverts, 20 ft., with 6 and 8-ft. roadway. Engineer's estimate, Zeigler's, $220; Matthews, $1,230, and White, $1,160.

July 29:

Quincy, Paper Mill Bridge, reinforced concrete, span 51 ft., 20-ft. roadway. Engineer's estimate $2,620.

Aug. 2 (Readvertisement):

Golconda, 12 reinforced concrete culverts. Engineer's estimate $1,803.

Jerseyville, for constructing six reinforced concrete bridges in Jersey County. Engineer's estimate $3,875.

Mt. Carroll, Ill.—Until July 26. by S. B. Campbell, County Supt. Highways, Mt. Carroll, for constructing a number of reinforced concrete bridges and culverts throughout Carroll County.

Maxwell, Minn.—Reported desired until July 25, for constructing following bridges: A 60-ft. steel truss span, 18-ft. roadway, reinforced concrete floor; a 60-ft. reinforced concrete through girder span, 18-ft. roadway on reinforced concrete abutments; a 30-ft. steel truss span, 18-ft. roadway on concrete floor, etc. Jas. Donaldson, Town Clk.

Minneapolis, Minn.—Reported desired until Aug. 15, for erecting a reinforced concrete building at southwest corner Seventh Street and Marquette Avenue, to be 10-story, 100 x 150 ft., for W. L. Harris Realty Co. Probable cost $500,000. John V. Koster, Archt., Minneapolis.

Ward Springs, Minn.—Reported desired until July 31, for 30-ft. span, 18-ft. roadway, reinforced concrete floor on reinforced concrete abutments. Frank Vener, Town Clk.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Newton, Conn.**—Contract for constructing reinforced concrete T-beam bridge at Newton awarded by Charles J. Bennett, State Highway Commissioner, Hartford, to John Arborio, 36 Ward Street, New Haven, at $2,924.

★**Spokane, Wash.**—Following is total and detail of four lowest bids opened July 6 by Leonard Funk, Comr. Pub. Wks., for constructing concrete bridges: (a) Washington Paving Co., L. C. Smith Bldg., Seattle, Division Street, $108,443 (awarded contract); (b) same company awarded contract for Trent Avenue bridge at $93,643; (c) Boyajohn Arnold Co., Panama Bldg., Portland, Ore., Trent Avenue bridge, $96,600; (d) Nettleton Bruce-Eachbach, American Bank Bldg., Seattle, Division Street bridge, $114,000; (f) Bates & Rogers of Spokane, Division Street bridge, $115,500; (g) A. C. Biegle & Co. of Spokane, Trent Avenue bridge, $96,341; (h) S. G. Morin of Spokane, Trent Avenue bridge, $96,439.

	Unit for Concrete.	Unit for Steel	Piling	Time
*B.	$12.00	0.05	...	225 days
*A.	14.00	0.06	0.50	260 days
D.	...	...	...	200 days
E.	12.00	0.06	0.35	300 days
F.	12.50	0.048	0.40	8 days
G.	3.00	0.05	...	160 work days
H—Deduct $8.00 per cu. yd. 1st 5′ add $18.00 p. cu. yd. 2d 5′ add $22.50 p. cu. yd.		Added 0.55 per lb. Deducted 0.35 per lb.	... ...	200 work days
C.	7.00	0.05	...	Not given

Singac, N. J.—Following bids opened July 12 by Board of Chosen Freeholders at Paterson for constructing steel and concrete bridge over Passaic River on Newark-Pompton Turnpike: Foster Construction Co., 790 Broad Street, Newark, $65,862; S. Schweirs, $69,432; Carrington Construction Co., River Drive, Passaic, $71,680, and Day & Zimmerman, Philadelphia, Pa., $76,500.

★**Spring Lake, N. J.**—Contract for erecting three-story, 40 x 120-ft. brick and reinforced concrete hospital at First Avenue and Vroon Street, for Ann May Memorial Hospital, awarded H. H. Moore, Third Avenue, and heating to A. T. Van Cleve, 108 South Main Street, Ocean Grove; cost, $50,000. Magaziner & Potter, Archts., 603 Chestnut Street, Philadelphia, Pa.

★**Woodbury, N. J.**—Contract awarded for reinforced concrete bridge over Big Clem's Run at Richwood to Interstate Engineering Construction Co., Coleman Building, Philadelphia, at $2,335.

Philadelphia, Pa.—Lowest bid opened by Bureau of Surveys for constructing steel and concrete bridge on line of Godfrey Avenue for tracks of Philadelphia & Reading Ry. at Fern Rock submitted by Richard Walsh & Sons, Sixty-sixth Avenue, Philadelphia.

★**Clarksburg, W. Va.**—County Commissioners awarded contracts (bids opened July 1) for following concrete bridges: To Bridgeport Building Co., Bridgeport, W. Va., bridge at Sugar Run, $835; Luten Bridge Co., Clarksburg, over Limestone Creek, $1,498; over Tenmile Creek, $3,020; and Concrete Steel Bridge Co., Clarksburg, over Gnatty Creek, $1,400, and three bridges in Sardis District, $3,400.

★**Brewton, Ala.**—Contract for constructing 100-ft. concrete highway bridge awarded to J. H. Scruggs Construction Co. of Birmingham. (Bids opened July 3 by County Commissioners.) W. E. Rushing, Judge of Probate.

Chicago, Ill.—Lowest bid opened July 10 by Bd. Public Service (Henry A. Zender, Supt.) for constructing Wireton Bridge, 45-ft. span, 20-ft. roadway of concrete construction, submitted by Reppert Construction Co. of Melrose Park, at $3,545.

★**Marshalltown, Iowa.**—Contract for constructing concrete culverts and bridges awarded to Pickus Engineering Co., at $28,900. (Bids opened July 6 by Board of Supervisors.) O. H. Hickho, County Engineer.

★**Richmond, Tex.**—Contract awarded by County Commissioners for constructing concrete bridge across Big Creek Bay to Rice & Winder, Richmond, at $25,000.

★**Seattle, Wash.**—Board of Public Works (C. B. Bagley, Secretary) has awarded contract for construction of two concrete approaches to Fremont Avenue bridge across Lake Washington Government Canal, to West Coast Construction Company, Madison Building, Seattle, at $9,103 for south approach and $8,057 for north approach.

California.—See "Paving and Roads."

★**California.**—Following contracts were awarded by Advisory Board of Department of Engineering, State Highway Commission, Sacramento (W. R. Ellis, Secretary):

On July 7: Shasta County, Division 7, Route 2, Section C, two reinforced concrete bridges between Baird and Antlers, to Howard S. Williams, San Francisco, at $18,044.

On July 10: Ventura County, Division 4, Route 2, Section B, bridge between Springville and Santa Clara River, to Modern Construction Company, Los Angeles, at $31,948; San Mateo County, Division 4, Route 2, Section B, bridge between Beresford and Redwood City, to J. A. Marshall, Berkeley, $37,290; Placer County, Division 3, Route 17, Section A, bridge between Roseville and Penryn, to A. C. McLean Construction Company, San Francisco, at $36,224; Humboldt County, Division 1, Route 1, Section A, bridge between Loleta and Beatrice, to Elsemore & Jacobs, Eureka, $23,080; Contra Costa County, Division 4, Route 14, Section A, bridge between Southerly County boundary and Richmond, to Blanchard-Brown Company, San Francisco, at $32,257.

Venice, Cal.—Following are bids opened July 10 by City Council for constructing reinforced concrete bulkhead, concrete walks and concrete ornamental lamp posts on Ocean Front Walk and certain avenues: Braun, Bryant & Austin, 1680 South Fourth Street, Santa Monica, $125,000; J. D. Kneen Contracting Company, Dudley Building, Santa Monica, $126,000, and Henry W. Schleuter, Ocean Park, $126,640.

★**Port Arthur, Ont.**—S. J. McQueen, of Ft. William, secured contract for constructing new reinforced concrete grain elevator to cost $50,000 for the Grain Growers, Hardistry Street, Ft. William.

★**Toronto, Ont.**—Thomson Bros., Rusholme Road, Toronto, have contract for new $60,000 factory of reinforced concrete construction for the T. Eaton Co.

ROADS AND PAVING

PROPOSED WORK.

Bayonne, N. J.—The City Commissioners considering paving with asphalt Thirty-sixth and Fifty-fourth Streets and improving North Street.

Salem, N. J.—Board of Freeholders will construct section of Pennsgrove-Woodstown Road with stone foundation and bituminous top. Board will ask state to allow convicts to assist in work. Address Clerk of Board.

Board of Freeholders adopted resolutions for constructing 9 miles of state road from Pointers at Mannington through Courses Landing to county line bridge at Oldmans Creek.

Canonsburg, Pa.—Citizens voted $30,000 street improvement bonds. Address City Clerk.

Connellsville, Pa.—City Council passed ordinance for grading and paving Murphy Avenue. Address City Clerk.

Meadville, Pa.—City Council will let contract about Jan. 1 for constructing about 4 miles of pavement. B. F. Miller, City Engineer.

West Homestead (P. O. Homestead), Pa.—Borough Council approved $50,000 bond issue for grading, paving and curbing.

Big Stone Gap, Va.—Road bonds for $100,000 will be sold. Address E. J. Prescott, Chairman Board Supervisors, Big Stone Gap.

Huntington, W. Va.—Road improvement bonds for $200,000 will be sold July 20 by County Court of Cabell County. D. I. Smith, President.

Parkersburg, W. Va.—Lubeck Road, River Hill Road, to be paved with concrete, cost $10,000 per mile. Bond issue of $100,000 recently voted. Address County Road Engineer.

Wellsburg, W. Va.—Until July 26, by County-Court Brooke County, for sale of $800,000 road bonds, advertised in Engineering Record. K. C. Brashear, Clerk County Court.

Warrenton, N. C.—Contract about to be let for constructing about 6,000 sq. yd. sheet asphalt or bitulithic pavement in Warrenton. A. G. Elliott of Warrenton, Engr., and J. J. Macon, Deputy Clerk, Superior Court.

Bartow, Fla.—County road bonds for $1,500,000 will be sold Aug. 7 by Board County Commissioners. J. C. Swindel, Chairman.

Lakeland, Fla.—Bonds for $1,500,000 will be sold Aug. 7 for 217 miles sheet asphalt road in Polk County. Address County Clerk.

Tallahassee, Fla.—Paving bonds for $100,000 will be sold Aug. 14 by O. C. Van Brunt, Clerk County Commissioners.

Canton, Miss.—City Council passed ordinance for issuing $40,000 street improvement bonds which were recently voted. Address T. C. Ross, Clerk.

Greenville, Miss.—Contract will be let about Jan. 1 for constructing about 150 miles of permanent roads. J. S. Allen, Engr., Greenville.

Macon, Miss.—County Supervisors plan surfacing rock roads of county with asphalt or a similar road dressing. Address Clerk of Supervisors.

Meridian, Miss.—County Board of Supervisors at DeKalb will construct Jackson Military Highway through Kemper County via Meridian. Address Clerk of Supervisors.

Magnolia, Miss.—Highway Commissioners of Second District have recommended $130,000 bond issue for constructing 50 miles of roads. Address Clerk of Commissioners.

Pascagoula, Miss.—See "Steel Bridge Work."

Alexandria, La.—Rapides Parish Road District No. 8 voted $60,000 for good roads. Address Secy. of Road District.

Covington, La.—Police Jury considering voting a bond issue for restoration of roads and bridges recently destroyed by floods.

Leesville, La.—Police Jury of Vernon Parish sold $150,000 bonds for constructing 2 gravel roads. Address J. F. Smithis, Pres. of Jury.

Canton, Ohio.—Paving bonds for $128,500 will be sold July 26 by Board County Commissioners (W. C. Schick, Clerk).

Defiance, Ohio.—No bids opened July 12 for improving portion of Jackson, First and Third Streets, as an injunction has been filed. August Meyers, Dir. Bd. Pub. Service.

Fremont, Ohio.—City Council sold $32,640 bonds for paving Rawson Place, Hazel and Carbon Streets. Address City Clerk.

Lisbon, Ohio.—Paving bonds for $26,500 will be sold July 24 by Board County Commissioners. John Connors, Chmn.

County Commissioners sold $383,700 road bonds.

New Philadelphia, Ohio.—City Council voted to pave East Front, East Ray Streets and Rolling Mill Road with brick, concrete curb and gutter and cement foundation. George E. Arnold, of New Philadelphia, Engineer, A. I. B. Williams, City Auditor.

Salem, Ohio.—Street improvement bonds for $14,718 will be sold July 29, by Geo. Holmes, City Aud.

Shaker Heights (P. O. Cleveland, Ohio).—See "Waterworks and Sewerage Systems."

Woodsfield, Ohio.—Road improvement bonds for $18,000 will be sold Aug. 7 by County Commissioners. T. A. Dougherty, Co. Aud.

Brownstown, Ind.—Highway improvement bonds for $113,300 will be sold July 28 by John E. Belding, County Treas.

Muncie, Ind.—Highway improvement bonds for $113,600 will be sold July 25 by C. G. Williamson, Co. Treas.

Portland, Ind.—Highway bonds for $22,905 will be sold July 25 by County Treasurer.

Wabash, Ind.—Highway improvement bonds for $40,000 will be sold Aug. 1 by N. P. Lavengood, Treas.

Galesburg, Ill.—City considering spending $35,000 for paving.

Minneapolis, Minn.—Edward E. Terrell, County Surveyor, directed to begin surveys of Hennepin County roads. About $2,500,000 is to be spent on road improvements in this county. Address County Commissioners.

Peabody, Kan.—City Council will soon let contract for paving 1¼ miles on Main Street. G. L. McLain, City Engineer.

Pittsburg, Kan.—Contract will soon be let by City Council for paving 20,000 yd. L. E. Curfman, City Engineer.

Mitchell, S. D.—East Thirty-fourth and East Thirty-second Avenues, 11,898 sq. yd. to be paved with concrete, asphaltic concrete or wood block, and 7380 lin. ft. concrete curb and foundation. S. H. Smith, City Engineer.

Livingston, Mont.—County Commissioners will construct 4½ miles of road in Shields River Valley. Charles T. Sackett, County Engineer.

Kansas City, Mo.—Thirteenth and Nineteenth Streets to be paved with creosoted block. Address City Clerk.

Salem, Mo.—Citizens voted $160,000 road bonds. Address County Clerk.

Springfield, Mo.—City Engineer has been directed to prepare plans for paving with concrete Orchard Street from Broad Street to Frisco Lines tracks.

Glenwood, Ark.—Plans and estimates for improvement of road from Glenwood to Kirby, 15 miles, have been filed with County Court at Murfreesboro; estimated cost of work $61,200. Address Clerk of Court.

Corpus Christi, Tex.—Citizens voted $150,000 bonds for street paving and completing concrete work for beautification of the bluff. Address City Clerk.

Dallas, Tex.—Reported contract awarded for surfacing 26,666 sq. yd. of city streets with tarvia recinded. New bids will be received. Address City Clerk.

San Diego, Tex.—Citizens voted $100,000 bonds for constructing roads.

Sherman, Tex.—King Street is to be paved, foundation either white rock or cement, combined concrete curb and gutter; cost from $35,000 to $50,000. Bonds voted. O. J. S. Ellingson, City Manager.

Sinton, Tex.—Citizens voted $100,000 good road bonds. Address County Clerk.

Stephenville, Tex.—About 8,000 ft. of Tarleton Avenue and Graham Street to be graveled, concrete curb to be used. Address City Clerk.

Wichita Falls, Tex.—About $40,000 is to be spent by city for paving with concrete, concrete foundation and curb, Eighth and Brook Streets and Ohio Avenue. L. C. Hinckley of Wichita Falls, Engineer; V. G. Skeen, City Clerk.

Blaine, Wash.—Bids will soon be asked for paving 6 blocks on Harrison Avenue. J. C. Hills, City Engineer; E. E. Pruner, City Clerk.

Goldendale, Wash. — Reported State Highway Commission approved proposed construction of Permanent Highway No. 6, a hard surface road leading from White Salmon to Snowden. Lyman W. Ward, County Engineer.

Granite Falls, Wash.—Reported City Council will soon receive contracts for constructing concrete sidewalks on certain business streets. H. E. Jewell, City Clerk.

Marysville, Wash.—City Council voted to grade and construct concrete walks on Morgan and Seventh Streets. Address City Clerk.

Mt. Vernon, Wash.—Reported City Council passed resolutions providing for paving Broadway from Cleveland Avenue east to Third Street, and for cement walks on First Street north from Division Street north to Great Northern right of way. John W. Meehan, City Engineer.

Olympia, Wash.—Contract about to be let by Highway Board for constructing 2 miles road on Pacific Highway between Renton and Kent, cost $34,000, also 3 miles National Park Highway, Pacific County, near Bear River, cost about $35,000.

Pomeroy, Wash.—Reported City Council will soon let contract for grading and paving with macadam or some similar material Main Street; estimated cost $14,000.

Pullman, Wash.—M. F. Gannon, City Clerk, reports City Council voted to pave 8 blocks on North State Street. Cost $16,000. Contract soon to be let. L. V. Edwards, City Engineer; M. F. Gannon, City Clerk.

Seattle, Wash.—Board of Public Works approved plans for grading and curbing East Eightieth Street and paving Ranier Avenue. A. H. Dimock, City Engineer.

Contract will soon be let for paving Alkai Avenue with concrete; estimated cost $31,440. A. H. Dimock, City Engineer.

Toppenish, Wash.—Reported City Council passed resolutions for constructing concrete sidewalks on Toppenish Avenue and entire right-of-way of Northern Pacific Ry. Co. Address City Clerk.

Vancouver, Wash.—Reported County Commissioners plan constructing 1½ miles of concrete paving on Pacific Highway at Salmon Creek bridge, 7 miles north of Vancouver. W. A. Schwarz, County Engineer.

Walla Walla, Wash.—Reported City Council plans paving Howard and Pleasant Streets. M. A. Bower, City Clerk.

Astoria, Ore.—Contract will soon be let for paving about 30,000 yd. Plans and specifications are being prepared. Olof Anderson, City Auditor.

McMinnville, Ore.—Reported City Council passed ordinance providing for paving all streets in District 13. Plans will be prepared immediately.

Oregon City, Ore.—Reported County Court (H. S. Anderson, Judge) will pave Milwaukee Road between Milwaukee and city of Portland boundary line at Sellwood. H. H. Johnson, County Engineer.

Portland, Ore.—City Engineer, Philip Dater, has filed plans with city for paving East Thirty-first Street. Address City Clerk.

Bakersfield, Cal.—City Engineer directed to prepare plans and specifications for paving Twentieth Street from G to Cedar Streets with asphalt on concrete base. Address City Clerk.

Fresno, Cal.—Board of Supervisors plan constructing road around Huntington Lake, in Sierra Mountains; estimated cost $11,250, and $2,400 for bridges.

Los Angeles, Cal.—County Board of Supervisors and City Council have agreed to jointly construct a concrete paved boulevard along 3 miles of Manchester. F. H. Joyner, Road Commissioner, will prepare specifications.

Contract will be let in August by Board of Supervisors for constructing Section D of Mint Canyon Road, 10.63 miles. Address Clerk of Supervisors.

Twin Falls, Idaho.—About 13,000 sq. yd. of Shoshone Street is to be paved with concrete curb and with crushed rock foundation, probably bitulithic surface. Reese M. Williams, City Clerk; James A. Bybee, City Engineer.

St. Hyacinthe, Que.—About 30,000 sq. yd. Rosalie Du Palais, Dessaulles Streets to be paved with asphalt macadam with limestone foundation, cost $40,000. Address City Secretary-Treasurer.

Lanark, Ont.—William Watters, Road Commissioner, preparing plans for road improvements costing $100,000.

Porto Rico.—Legislature of Porto Rico authorized issue of $2,000,000 bonds for roads and bridges.

BIDS DESIRED.

Connecticut.—Until July 26, by Chas. J. Bennett, State Highway Comr. at Hartford for following roads:

Middletown, 1910 lin. ft. reinforced concrete, Warrenite or Bicomac on Durham Avenue, and 2688 lin. ft. reinforced concrete, Hassam, Bicomac or Warrenite, on South Main Street.

New Canaan, 4345 lin. ft. on South Avenue, and 5730 lin. ft. on Smith Ridge Road, of reinforced concrete, Warrenite or Topeka construction.

Salisbury, 2700 lin. ft. trap rock.

Windsor Locks, 3300 lin. ft. reinforced concrete or bituminous macadam on Spring Street.

Albany, N. Y.—Until Aug. 7, by State Highway Commission, 55 Lancaster Street (J. J. Morris, Secy.), for constructing state aid highways, advertised in Engineering Record.

New Brighton, S. I., N. Y.—Until July 24, by Calvin D. Van Name, President Richmond Borough, St. George, New Brighton, for paving portions of Arrieta Street, in all about 3600 sq. yd., granite block pavement, together with curbing, etc. Security $7,500.

New York, N. Y.—Until July 26 by Marcus M. Marks, Pres. Manhattan Borough, for paving portions of Thirty-seventh, Mangin, Twenty-eighth and other streets, in all about 8100 sq. yd. granite block pavement, 31,940 sq. yd. asphalt, together with curbing, manholes, etc. Security $30,500.

Audubon, N. J.—Until July 24, by Conway Bennett, Borough Clerk, for improving certain streets in Borough, in all about 44,740 sq. yd. plain concrete road and 25,377 sq. yd. waterbound macadam. J. J. Albertson, City Engineer.

Bound Brook, N. J.—Until Aug. 1 (extension of date) at American Hose Building, for regulating and paving with vitrified brick, 8000 sq. yd. Advertised in Engineering Record. F. A. Dunham, Clarin County, Engr. in Charge.

Jersey City, N. J.—Until Aug. 1, by City Commissioners for paving with bituminous concrete Stevens Avenue, from Hudson Boulevard Road to Fowler Avenue. M. I. Fagen, City Clk.

Until Aug. 2, by Boulevard Commissioners for repaving with bituminous concrete on a concrete foundation, Hudson Boulevard, from Newark Avenue to Duncan Avenue, with granite block.

Montclair, N. J.—Until Aug. 1 by Town Clerk (Henry Ware Jones, Acting Town Clerk), for completing construction of concrete curb on Valley Road. Advertised in Engineering Record.

Mt. Holly, N. J.—Until July 31, by Road Committee of Board Chosen Freeholders, for rebuilding the Mt. Holly-Lumberton Road with concrete and macadam. Also separate bids for rebuilding the Jobstown Pike from Mt. Holly to Chambers Corner with macadam. Jos. A. Delaney, Chmn. Road Committee. James Logan, County Engineer.

Verona, N. J.—Until July 24 by Borough Council for sidewalks on School, Adams, Parker, and other streets, in all about 14,210 sq. yd. Douglas & McKnight, Borough Engrs., 1315 Union Bank Bldg., Pittsburgh, Pa.

West New York, N. J.—Until Aug. 8, by Town Council, for improving portions of Polk Street, Twenty-first, Ninth and Fifteenth Streets. L. Wolfe, Town Clerk.

Emporium, Pa.—Until July 25, by Street Committee Borough Emporium, for grading, draining, paving, curbing section Woodland Avenue, Fourth Street and Alleghany Avenue, 25,451 sq. yd. brick pavement, 11,803 lin. ft. concrete curb, etc., advertised in Engineering Record.

Lock Haven, Pa.—Until Aug. 1, for paving Henderson and East Main Streets with vitr. brick on concrete foundation. C. E. Oherheim, City Clk.

Baltimore, Md.—Until July 26, by Board of Awards, care of City Register, for vitrified paving blocks.

Clarksburg, W. Va.—Until Aug. 2, by Harrison County, for paving 3 miles of highway. Address G. M. Harbert, County Road Engineer.

Arcadia, Fla.—Until July 24, by C. C. McDermond, City Clerk, for furnishing material and paving approximately 158,000 sq. yd. street paving. Vitr. brick, cement concrete, and all types of asphalt pavement, sand asphalt, asphalt concrete asphalt block and sheet asphalt will be considered; two reinforced concrete bridges, 18-ft. spans, and excavation of 40,000 cu. yd. Cravens & Kimmel, Engineers, Arcadia.

Deland, Fla.—Until Aug. 7, by Board County Commissioners, for constructing improved highway in the New Smyrna and De Land Lake Helen Special Road and Bridge Dists. of Volusia County, as follows: In New Smyrna Dist., 64.58 miles roadway, 178,176 cu. yd. excav., 372,698 sq. yd. hard surface pavement, 4914 lin. ft. retailing wall, together with drains, bridge repairing, etc. De Land-Lake Helen Dist., 8.37 miles roadway, 20,190 cu. yd. excav., 44,200 sq. yd. hard surface pavement, etc. J. B. McCrary, County Engineers, Third National Bank Building, Atlanta, Ga.

New Smyrna, Fla.—Until Aug. 7, for constructing about 73 miles county roads with modified asphalt, shell or brick, with concrete curb, and 178,176 cu. yd. sand foundation. Probable cost $250,000. J. B. S. McCrary Co., Atlanta, Ga., Engrs., and S. Jordan, County Clerk.

Asheville, Ala.—Reported desired until Aug. 2, for improving portions of Asheville and Springville Roads. W. S. Keller, State Highway Engineer, Montgomery.

Camden, Ala.—Until Aug. 14 by County Commissioners for constructing 5½ miles of Camden and Ackerville Road. Blair Hughes, Road Supervisor, Camden.

Louisville, Miss.—Until July 28 (extension of date), for road improvements in three districts. Xavier Kramer, Engineer, Magnolia.

Macon, Miss.—Until Aug. 7, for furnishing Noxubee County with asphaltum and tarvia for dressing rock roads. John Tyson, Clerk Board Supervisors.

Magnolia, Miss.—Until Aug. 5, by L. L. Lampton, City Commissioner, for constructing 55 miles of gravel roads, culverts, etc.

New Orleans, La.—Until Aug. 7, by Highway Dept. of Board of State Engrs., Room 104, New Orleans Court Bldg., for constructing the Des Allemands, Raceland Section of the New Orleans Houma Highway, in Lafourche Parish, a distance of about 10 miles.

Barbourville, Ky.—Until Aug. 1, by Fiscal Court at Barbourville, for grading road from Barbourville to Flat Lick, a distance of 8 miles, also road from Baileys Switch to Corbin, a distance of 13 miles. Advertised in Engineering Record. R. P. Black, Clerk.

Princeton, Ky.—Until Aug. 1, for improving the Princeton-Eddyville Road No. 17. E. R. Wiley, Comr. Public Roads.

Alliance, Ohio.—Until July 26, by Director Public Service (J. F. Hogan, Clk.) for paving portions of Eleventh, West Summit, East Grand Streets and South Arch Avenue, in all about 15,300 sq. yd. brick block pavement, together with curbing, sewers, etc.

Dillonvale, Ohio.—Reported desired until Aug. 1, for paving portions of Second Street and North Railroad Avenue. Martin Canfield, City Clerk.

Findlay, Ohio.—Reported desired until July 27, by Jacob L. Metzlorm, Service Director, for paving of Prospect, Larkin, Putman and eight other streets.

Greenfield, Ohio.—Reported desired until Aug. 8, by Ed. M. Connor, Village Clk., for paving ¾ mile with brick, bitulithic or tarvia-bound macadam on Fifth, Midway and Lafayette Streets. Probable cost $12,000.

Norwood, Ohio.—Until July 31, for paving Carthage Avenue and Floral Avenue, in all about 20,000 sq. yd., wood block; 2000 lin. ft. combined curb and gutter. John G. Schmidt, City Engineer.

Ravenna, Ohio.—Until Aug. 7 by W. H. Linton, Dir. Public Service, for improving Main Street, to consist of 6852 sq. yd. paving, 4384 lin. ft. curbing, together with catch basins, etc.

Tiffin, Ohio.—Until Aug. 1, for paving St. Clair and Washington Streets with brick or concrete foundation.

Indiana.—By County Commissioners for constructing county roads as follows:

July 27:

Winchester, constructing stone roads in Wayne, West River and Greensfork Townships, 3718 ft., 2630 ft., 6646 ft., 5103 ft., and 5210 ft., respectively. Chas. E. Tillson, Co. Aud. Also for constructing brick road in Washington Township, stone road in Franklin Township, stone road in Monroe Township, macadam road in Franklin Township, 14,786 ft., 1562 ft., 7929 ft., and 6428 ft., respectively.

Until July 29:

Muncie, constructing macadam roads in Center and Liberty Townships. F. M. Williams, Co. Aud.

Greenfield, constructing five gravel roads in Jackson Township. Harvey J. Rhue, Co. Aud.

Until Aug. 3:

Richmond, constructing roads in Center and Jackson Townships. L. S. Bowman, Co. Aud.

Columbus, constructing gravel road in Flatrock Township and on line between Clay and Columbus Townships. W. H. Acott, Co. Aud.

Aug. 5:

Muncie, constructing gravel road in Mt. Pleasant Township. F. M. Williams, Co. Aud.

Until Aug. 7:

Newport, constructing gravel road in Clinton Township. Ray Later, Co. Aud.

Greensburg, constructing road in Washington Township. John C. Barbe, Co. Aud.

Jeffersonville, constructing roads in Silver Creek Township. Geo. W. Stoner, Co. Aud.

English, constructing road in Sterling Township, with stone and other material. Jos. B. Enlow, Co. Aud.

Jasper, constructing 7 miles of macadam roads in Ferdinand Township. Jacob H. Seng, Co. Aud.

Brownstown, constructing macadam road in Vernon Township. Albert Leudke, Co. Aud.

Cannelton, constructing stone road in Union Township. M. C. Conway, Co. Aud.

Kentland, constructing macadam road in Beaver Township. S. R. Sizelove, Co. Aud.

Nashville, constructing two gravel roads in Van Buren Township. Omer Morrison, Co. Aud.

Aug. 8:

Goshen, constructing brick road in Benton Township. A. R. Bemenderfer, Co. Aud.

Madison, constructing two roads in Madison Township. Chas. S. Dibler, Co. Aud.

Knox, constructing gravel road in Davis, Wayne and Railroad Townships. Chas. Weninger, Co. Aud.

Rochester, constructing roads in Rochester Township. Ernest A. Smith, Co. Aud.

Rensselaer, constructing stone roads in Marion and Jordan Townships. Jos. P. Hammond, Co. Aud.

Bedford, constructing stone road in Shawswick Township, 11,785, 9045, 10,404 and 12,675 ft. in length. Ezra W. Edwards, Co. Aud.

Petersburg, for constructing a rock road in Clay Township. John D. Gray, Co. Aud.

Kokomo, for constructing 5266 ft. gravel road in Ervin Township. William L. Benson, Co. Aud.

Lebanon, constructing road in Eagle Township. Cleve Goodwin, Co. Aud.

Valparaiso, constructing gravel road in Portage and Liberty Townships, 2.51 miles in length. C. A. Blachley, Co. Aud.

Albion, constructing gravel roads in Albion Corporation, Albion Township, and one in Green Township. Geo. A. Young, Co. Aud.

Aug. 9:

Peru, constructing gravel and concrete roads in Pipe Creek Township. Frank K. McElhenny, Co. Aud.

Shelbyville, constructing gravel roads in Jackson and Hanover Townships, 17,400 ft. and 13,622 ft. in length. F. W. Fagel, Co. Aud.

Warsaw, constructing gravel or macadam roads in Scott Township. V. D. Mock, Co. Aud.

Columbia City, for constructing roads in Jefferson Township. Thos. A. McLaughlin, Co. Aud.

Aug. 10:

Laporte, constructing road in Center and Scipio and one in Center Townships. Also constructing road in Springfield Township. Fred Hausheer, Co. Aud.

Coldwater, Mich.—Until July 28, by County Commissioners for constructing 5½ miles Class C road. Bid desired separately on three miles in Quincy Township and 2½ miles in Butler Township. Thos. R. Shaver, Township Engr.

Pontiac, Mich.—Until July 24, by Board County Commissioners, Pontiac, for furnishing material and improving Woodward Road, a distance of two miles.

Illinois.—Until July 26, by State Highway Commission, Springfield, for constructing following state aid roads:

Greenville, Sect. C, Bond County, 3300 ft. brick. Engineer's estimate, $7,386.

Dallas City, Sect. A, Hancock County, 7400 ft. earth. Engineer's estimate, $3,799.

Tennessee, Sect. B, Hancock County, 9700 ft. earth. Engineer's estimate, $3,692.

Augusta, Hancock County, Sect. C, 7100 ft. earth. Engineer's estimate, $2,668.

Carthage, Sect. D, Hancock County, 10,245 ft. earth. Engineer's estimate, $2,776.

Elizabethtown, Hardin County, Sect. B, bridge. Engineer's estimate, $1,495.

Streator, La Salle County, Sect. E, 5280 ft. brick. Engineer's estimate, $17,976.

Seneca, La Salle County, Sect. F, 4900 ft. brick. Engineer's estimate, $21,659.

Earlville, La Salle County, Sect. G, 10,560 ft. waterbound macadam. Engineer's estimate, $17,302. Sect. G, alternative gravel, $14,789.

Lostant, La Salle County, Sect. H, 10,745 ft. concrete. Engineer's estimate, $10,323.

Ottawa, La Salle County, Sect. I, 5280 ft. concrete. Engineer's estimate, $9,275.

Bismark, Vermilion County, Sect. E, 18,158 ft. brick and waterbound macadam. Engineer's estimate, $50,161.

Peoria, Ill.—Until July 24, by Board Local Improvements (Sherman W. Eckley, Pres.) for paving portions of East and West McClure Street, 31,475 sq. yd. tar macadam, 31,475 sq. yd. concrete foundation, etc. Also same time and place for paving portions of Fayette Street with about 3130 sq. yd.

Until July 25, by Committee on Roads and Bridges, for improving Galena Road, about 36,000 sq. yd. gravel, 16,000 sq. yd. shoulders, etc.; cost $17,497. Also separate bids, same time and place, for 5600 sq. yd. monolithic brick, 3738 sq. yd. earth shoulders, etc. Walter E. Emery, Supt. of Highways.

Dubuque, Iowa.—Until July 24, by J. J. Shea, City Recorder, for paving 22,650 sq. yd. brick block pavement on concrete foundation, outside railroad tracks, and 8930 sq. yd. inside railroad tracks, 22,650 sq. yd. creosoted wood block pavement outside railroad tracks and 8930 sq. yd. inside railroad tracks, 19,790 sq. yd. asphaltic concrete paving on concrete foundation, and 8930 sq. yd. brick block inside tracks, together with curbing, etc.

Ft. Scott, Kan.—Until July 28 for constructing 6000 yd. paving, curbing and guttering. R. Minter, Asst. City Engr.

Billings, Mont.—Reported desired until Aug. 1, for paving 25,000 sq. yd. E. M. Sneckerberger, City Engr.

Helena, Mont.—Reported desired until July 31, by City Council, for paving with reinforced concrete Lawrence Street and Park Ave.

Kansas City, Mo.—Until July 25, by Board Public Works (W. H. Benham, Secy.), for furnishing material and paving portions of Myrtle Avenue and Prospect Avenue with sheet asphalt, portions of Bellaire Avenue with concrete, and vertical fibre brick on a number of alleys.

Clarksville, Tex.—About Aug. 25, for paving with concrete Walnut, Main, Broadway and College Avenue, about 20,000 lin. ft. concrete curb and gutter; cost $90,000. J. Russell Johnson of Clarksville, Engr. Address City Clerk.

Burlington, Wash.—Reported desired until Aug. 7 by I. A. Merchant, Town Clerk, for constructing sidewalks on Fairhaven Avenue from Walnut Street to Garl Avenue, covering mostly all of the business section.

Washington.—Until Aug. 7, by James Allen, State Highway Commissioner at Olympia, for clearing, grading and draining following sections of state highways: 3.3 miles National Park Highway, in Pacific County; two miles of Pacific Highway, between Orilla and Rebton, in Kings County. A. P. Denton, County Engr., Seattle.

Tacoma, Wash.—Until July 29, by Thos. N. Norris, Co. Aud., for constructing part of the National Park Highway, known as Rocky Slough Hill, work to consist of clearing, grubbing, ditches, etc. D. H. White, Co. Engr.

Waterville, Wash.—Until Aug. 10, by County Commissioners (T. G. Roberts, Chmn.), for grading, draining and surfacing with crushed rock gravel 4½ miles.

Estacada, Ore.—Until July 25 by Claude W. Denore, City Recorder, for paving Broadway.

PRICES AND LETTINGS.

★Indicates award of contract.

★**Boston, Mass.**—Contract for 21,850 sq. yd. sheet asphalt and 82,480 sq. ft. artificial stone in streets in Jamaica Plains and West Roxbury awarded (bids opened July 3 by Commissioner Public Works) to Central Construction Co., 228 Southampton Street, Roxbury; he bid on sheet asphalt $51,507, and $51,721 on Topeka. William J. McGlincley, Supervisor of Contracts.

★**Massachusetts**—Contracts awarded by Massachusetts Highway Commission at Boston, July 11, for constructing highways as follows:

Dudley—To Lane Construction Corporation, Meriden, Conn., at $15,277.

Washington—To R. F. Hudson of Melrose at $42,224. Other bidders: Lane Construction Corporation, Meriden, Conn., $46,263, and M. L. Cámares, Lee, at $47,962.

Oxford—To Lane Construction Corporation, Meriden, Conn., at $12,297.

Agawam—D. O'Connell's Son, Holyoke, submitted bid at $23,000.

Albany, N. Y.—Following bids opened by State Commission Highways, 55 Lancaster Street, July 12, for constructing following state aid highways:

Road No. 1372, Osborn Center-Schenectady County Line, Albany County, 3.23 miles (three bidders): S. B. Van Wagonen, Inc., Rondout, $48,938; Lane Construction Corporation, Meriden, Conn., $49,831; Albany Construction Company, Albany, $53,449.

Road No. 1404, Dormansville, South Westerlo, Albany County, 5.62 miles (two bidders): Lane Construction Corporation, Meriden, Conn., $65,594; Albany Construction Company, Albany, $69,512.

Road No. 5608, Machias-Delevan, Part 1, Cattaraugus County, 2.17 miles (only bidder), Frank L. Cohen, Buffalo, $32,522.

Road No. 5609, Port Bryon, Weedsport, Cayuga County, 3.89 miles: Charles O. McComb, Syracuse, $49,378; John R. Burchill, Syracuse, $52,297.

Road No. 1379, Jamestown City, Foote Avenue, Chautauqua County, .74 mile (only bidder), George L. Mallity, Jamestown, $37,721.

Road No. 1395, East Guilford-Rockdale, Chenango County, 2.91 miles (three bidders): Alfred H. Flynn, Albany, $30,248; Newport Construction Company, Herkimer, $30,270; S. Arbogast, Stroudsburg, Pa., $30,065.

Road No. 1411, Wadhams Mills-Whallonsburg, Essex County, 4.95 miles, no bids received.

Road No. 621, St. Johnsville-Oppenheim, Part 2, Fulton County, 2.9 miles (only bidder), L. L. Snell, Canajoharie, $32,267.

Road No. 1375, Johnson City, East Avenue, Fulton County, 1.12 miles (four bidders): Brady-Oltarsh Construction Company, 49 West 140th Street, New York, $13,977; Lane Construction Corporation, Meriden, Conn., $14,012; John P. Dugan Company, Inc., Amsterdam, $14,054; Albert M. Banher, Gloversville, $14,431.

Road No. 1402, Alabama-Batavia, Part 2, Genesee County, 7.6 miles (four bidders): Cold Spring Construction Company, Buffalo, $75,837; Lewis E. Brotsch, Rochester, $76,000; Frank J. Foote, Nunda, $79,151; Parker & Varney, Batavia, $79,692.

Road No. 1361, Oneida Lake-South Bay and Oneida-South Bay, Part 2, Madison County, 5.65 miles (only bidder), John R. Burchill, Syracuse, $54,922.

Road No. 1391, Sweden-Walker, Monroe County, 7.93 miles (four bidders): William H. Madden, Rochester, $66,373; Newport Construction Company, Herkimer, $70,056; F. H. Rhodey, Albion, $71,088; Frank J. Foote, Nunda, $71,897.

Road No. 1343, Westbury-Hicksville, Nassau County, 3.09 miles: Rush Construction Company, New York, $34,192; Heling Brothers, Lindenhurst, L. I., $34,900; E. T. Eggleston, Yonkers, $36,449; Gifford Construction Company, Jamaica, $35,852.

Road No. 1356, North Western-Boonville, Part 2, Oneida County, 5.74 miles (only bidder), Albany Construction Company, Albany, $69,732.

Road No. 5408, Fulton City, East First Street, Oswego County, .36 miles (two bidders): Pathfinder Construction Company, Fulton, $17,663; Samuel Bonn, Syracuse, $18,869.

Road No. 1387, Canton Village, West Main Street, St. Lawrence County, .44 miles: Arthur F. McConville, Ogdensburg, $5,547; Rock & Griffin Company, Watertown, $5,908.

Road No. 1389, Gouverneur-Edwards, Part 2, St. Lawrence County, 4.6 miles, no bids received.

Road No. 5611, Cohocton-Maples, Part 1, Steuben County, 5.76 miles (four bidders): Steuben Construction Company, Hornell, $53,242; Atlanta Construction Company, Atlanta, $54,272; Dale Engineering Company, Utica, $59,092; Frank J. Foote, Nunda, $57,711.

Road No. 1407, Newark-Sodus, Part 1, Wayne County, 3.97 miles (four bidders): Dana W. Robbins, Inc., New York, $31,350; William J. Swartz, Newark, $31,510; Chambers & Barnes, Rochester, $33,440; Semper Brothers, Watertown, $34,174.

Road No. 1058, Wolcott-Savannah, Part 3, Wayne County, 2.25 miles (three bidders): Steuben Construction Company, Hornell, $14,960; Hendrickson-McCabe Construction Company, Syracuse, $16,188; Dana W. Robbins, Inc., New York, $19,799.

Repair Contract 986, Dutchess County, 1.19 miles, no bids received.

Repair Contract 969, Erie County, 2.48 miles (two bidders): Frank L. Cohen, Buffalo, $26,595; Carlisle O. Landel, Tonawanda, $29,654.

Repair Contract 987, Monroe County, .79 mile (three bidders): Whitmore-Rauber-Vicinius, Inc., Rochester, $25,897; Roco Company, Inc., Rochester, $26,432; Peter F. Connolly Company, Horseheads, $26,768.

Repair Contract 990, Niagara County, 2.22 miles, no bids received.

Repair Contract 988, Westchester County (three bidders): Samuel Beskin, Beacon, $55,059; Harper & Higginson, Inc., Newburgh, $56,671; H. B. Sproul Construction Company, Inc., Peekskill, $62,144.

Also on July 14, same place as above, for following roads:

Road No. 1405, Thompsons Lake, Van Auken Corner, Albany County, 2.93 miles (four bidders): C. S. Mathusa, Albany, $35,875; Albany Construction Company, Albany, $36,182; D. I. Snell & Company, Canajoharie, $38,283; Lane Construction Corporation, Meriden, Conn., $40,222.

Road No. 1380, Jamestown-Ashville, Chautauqua County, 5.65 miles (three bidders): Fulton Engineering Company, Inc., Walton, $123,126; George L. Maltby, Jamestown, $133,608; J. A. Hughes & Company, Jamestown, $134,096.

Road No. 1381, Fredonia-South Dayton, Part 3, Chautauqua County, 3.9 miles, no bids received.

Road No. 1156, Oxford Village, Chenango County, .82 miles: A. B. Haight, Oxford, $15,414; Frank A. Bushley, Norwich, $16,587; Nash & Griffin, Norwich, $16,945; Newport Construction Company, Herkimer, $18,536.

Road No. 1376, Bull Run-Bleecker, Fulton County, 2.8 miles (only bidder), Eastover Construction Company, Inc., Utica, $45,834.

Road No. 1377, Gloversville-West Perth, Fulton County, 3.74 miles (only bidder), Eastover Construction Company, Utica, $40,609.

Road No. 1403, Alabama-Batavia, Part 1, Genesee County, 7.94 miles (four lowest bidders): Michael F. Ripton, Rochester, $90,091; Cold Spring Construction Company, Buffalo, $91,801; L. H. Brotsch, Rochester, $92,861; Frank J. Foote, Nunda, $94,765.

Road 1363, Paines Hollow-Stone House, Herkimer County, 5.67 miles (two bidders): Albany Construction Company, Albany, $56,909; Newport Construction Company, Herkimer, $68,363.

Road No. 1374, Oneida City-William Street, Madison County, .91 miles (three bidders): Joseph Walker Construction Company, Albany, $11,651; Fort Schuyler Construction Company, Inc., Utica, $12,258; H. A. Schaupp, Gilderland, $12,358.

Road No. 1392, Rush-Mendon, Part 1, Monroe County, 3.69 miles (only bidder), Chambers and Barnes, Rochester, $38,844.

Road No. 1393, Scottsville-Rush, Monroe County, 5.27 miles (two bidders): L. H. Brotsch, Rochester, $62,500; Frank J. Foote, Nunda, $63,984.

Road No. 1344, Green Corner-Francis Pond, Nassau County, 3.38 miles, no bids received.

Road No. 773, Weldelville-Lockport, Part 2, Niagara Coutny, 2.38 miles, no bids received.

Road No. 1354, Syracuse-Otisco, Part 1, Oswego County, 5.55 miles (four bidders): Warner-Quinlan Asphalt Company, Syracuse, $65,602; Frank Malone, Syracuse, $66,748; Mondo Construction Company, Inc., Syracuse, $67,680; Guy B. Dickison, Syracuse, $68,745.

Road No. 1413, Hastings-Parish, Onondaga County, 2.04 miles (four bidders): Edwin Styring, Theresa, $23,155; Spellman Oliver Company, Chautauqua, $24,269; Samuel Bonn, Syracuse, $24,286; Lane Construction Company, Meriden, Conn., $28,277.

Road No. 1409, Richfield Springs, Winfield, Parts 1 and 2, Otsego County, 7.87 miles (three bidders): J. L. Richmond, Hinckley, $124,673; Albany Construction Company, Albany, $131,903; Lane Construction Corporation, Meriden, Conn., $132,445.

Road No. 1388, DePeyster-Ogdensburg, St. Lawrence County, 11.16 miles (four bidders): Spellman-Oliver Construction Company, Chautauqua, $99,239; Arthur F. McConville, Ogdensburg, $106,940; J. L. Richmond, Hinckley, $109,123; Patrick J. Kennedy, Utica, $109,197.

Road No. 5612, Waddington-Massena, Part 1, St. Lawrence County, 9.12 miles (only bidder), Mecca Construction Company, Inc., Morristown, $144,783.

Road No. 1373, Hurley-Kingston, Ulster County, 2.73 miles (three bidders): Philip Kramer, Paterson, N. J., $39,651; Fallkill Construction Company, Poughkeepsie, $39,796; Harper & Higginson, Inc., Newburgh, $41,415.

Road No. 1059, Clyde-Resort, Part 3, Wayne County, 1.88 miles (two bidders): Chamers & Barnes, Rochester, $15,128; Hendrickson-McCabe Construction Company, Syracuse, $15,707.

Road No. 1060, Lyons-Sodus Point, Parts 2 and 3, Wayne County, 6.41 miles (four lowest bidders): Thomas Grady, Rochester, $56,987; Frank J. Foote, Nunda, $60,477; Frank Malone, Syracuse, $60,825; Lane Construction Corporation, Meriden, Conn., $62,096.

★**New Orleans, La.**—Following are unit figures of four lowest bids opened by the Highway Department of the Board of State Engineers of Louisiana, on June 10, for 10½ miles of the Hammond-Amite and Amite-Covington Highways: (a) Paxton Miller, Broussard, La., $31,300; (b) H. J. Bonnabel, Lucedale, Miss., $32,000; (c) W. J. Comerford, New Orleans, La., $38,385; (d) C. M. Hale, New Orleans, La., $39,661.50.

	(a)	(b)	(c)	(d)
30,000 cu. yd. earth (borrow)	$.17	$.18	$.25	$.30
2,000 cu. yd. earth (Lateral ditches)	.17	.18	.20	.30
25,000 cu. yd. earth (excavation)	.17	.20	.25	.30
410 cu. yd. concrete (bridges)	16.00	18.00	13.50	20.85
200 cu. yd. concrete (culverts)	16.00	16.00	13.00	17.80
17,000 cu. yd. gravel (hauling and spreading)	.65	.58	.90	.58
3,200 cu. yd. binder (hauling and spreading)	.25	.25	.25	.18

Road No. 5606, Tuckahoe-White Plains, Part 2, Westchester County, 2.74 miles, no bids received.

Repair Contract No. 991, Cattaraugus County, 3.83 miles (three bidders): P. H. Murray, Rochester, $29,657; McGreevey, McGuigan & Baum, Elmira, $30,025; Flood & Van Wirt, Hudson Falls, $31,379.

Repair Contract No. 989, Erie County, 3.55 miles: Thomas J. Murray, Leroy, $23,559; Flood & Van Wirt, Hudson Falls, $25,315.

Repair Contract No. 937, Nassau County, 1.27 miles, no bids received.

New York, N. Y.—Following bids opened July 18 at office Douglas Matthewson, Pres. Borough of Bronx (a) 45,670 sq. yd. sheet asphalt pavement (heavy traffic mixture), outside of railroad area, and keeping the pavements in repair for five years from date of acceptance, (b) 4180 sq. yd. sheet asphalt pavement (heavy traffic mixture) in railroad area, (c) 13,950 sq. yd. of granite block pavement on concrete foundation laid with asphaltic cement joints in railroad area, (d) 11,600 cu. yd. of Class B concrete, (e) 2500 lin. ft. of new curb, (f) 16,200 lin. ft. of old curb: Barber Asphalt Co., Woolworth Building (a) $1.63 per sq. yd., (b) $1.63 sq. yd., (c) $3.10 sq. yd., (d) $4.20 per cu. yd., (e) 80 cts. per lin. ft., (f) 30 cts. lin. ft., total $180,081; Uvalde Contracting Co., 1 Broadway, (a) $1 per sq. yd., (b) $1 sq. yd., (c) $3.25 sq. yd., (d) $6 per cu. yd., (e) 90 cts. per lin. ft., (f) 40 cts. lin. ft., total $173,517; Asphalt Construction Co., Madison Avenue and 137th Street, (a) $1.16 per sq. yd., (b) $1.16 sq. yd., (c) $3.25 sq. yd., (d) $4.85 per cu. yd., (e) 90 cts. per lin. ft., (f) 40 cts. lin. ft., total $168,153; William F. Presley, (a) $1.40 per sq. yd., (b) $1.50 sq. yd., (c) $3.60 sq. yd., (d) $5.25 per cu. yd., (e) $1 per lin. ft., (f) 30 cts., total $188,688.

★**Oneida, N. Y.**—Following bids opened July 14 by S. Bateman, City Clerk, for 5070 sq. yd. pavement on Cedar Street with (a) brick, (b) bitulithic: Warren Bros., Boston, Mass., (b) $16,345; awarded contract); R. F. Reilly, Oswego, (a) $17,674, (b) $19,075, and Ft. Schuyler Construction Co., Utica, (a) $17,857, (b) $17,857.

Guttenburg, N. J.—Bids for the improvement of Palisade Avenue by Council are as follows: E. C. Humphries, 173 Main Street, Hackensack, total $10,000; Clinton Contracting Co., West Hoboken, $2.80 per sq. yd. for asphaltic block and $1.41 for bituminous concrete; R. J. Ammer, $2.79 for asphalt block. August Thiel, Guttenberg, $2.45 per sq. yd.

★**Lakewood, N. J.**—Lakewood Township Committee awarded contract to J. C. Bentley of Elizabeth, for paving and curbing of Clifton Avenue and Second Street with concrete (bids opened July 8).

★**Union, N. J.**—The City Council, July 13, awarded contract to the Clinton Construction Co., 306 Charles Street, West Hoboken, for paving eight streets, at about $50,000.

★**Woodbury, N. J.**—Contract for paving with reinforced concrete on Franklin and Center Streets awarded to Sutton & Corson of Ocean City, at $1.94 per sq. yd. (Bids opened June 29 by Arthur Storr, City Clerk.)

★**Greensburg, Pa.**—Contract for paving awarded by Borough Council (bids opened July 3) as follows: To Jas. H. Offutt of Greensburg for Perry Avenue, Vine and Steck Streets, with brick, at $9,072, and to T. Edwards of Greensburg for Jefferson and Stanton Streets, with brick, at $7,731. J. J. Neil, City Engineer.

★**West Reading, Pa.**—Contract awarded by Borough Council for paving Penn Avenue with bituminous macadam to Hassam Paving Co., Worcester, Mass., at $23,610.

Frederick, Md.—M. J. Grove Lime Co. of Lime Kiln submitted to County Commissioners, July 8, bids as follows for constructing roads: Monrovia-Hyattstown State Aid Road, 1.52 miles long, at $16,367, and Burketville-Knoxville Road, 1.04 miles, at $12,261. H. L. Gaver, Clerk County Commissioners.

★**Harrisonburg, Va.**—Contract awarded by City Council for paving with asphalt block 18,000 yd. to Betts & Boise, Harrisonburg, at $2.64 per yd. (bids opened July 5 by City Clerk).

★**Arcadia, Fla.**—Contracts awarded by County Commissioners for constructing 60 miles of road with 2-in. asphalt surface on 6-in. clay base as follows: To W. P. Kennedy Construction Co., Tampa, for 25 miles at $100,000, and to Edwards Construction Co., Tampa, for 35 miles, at $150,000. (Bids opened July 3.)

Miami, Fla.—Lowest bid opened by city for permanent pavement submitted by J. F. Morgan of Attalla, Ala., at $121,013 for asphalt.

★**Erwin, Tenn.**—Contract for paving, cost about $12,000, awarded by city to Murray Constr. Co. of Knoxville. N. T. Tucker, Mayor.

★**Owensboro, Ky.**—Contract awarded by Fiscal Court for constructing 4½ miles and grading and draining 9 miles of Calhoun Road to Martin, Martin & Ellis, Owensboro, at $38,705.

★**Canton, Ohio.**—Contract awarded by Board of Control for paving Fifth Street, N. W., with asphalt to Cleveland Trinidad Paving Co., Cleveland, at $26,066.

Defiance, Ohio.—See "Proposed Work."

★**Jefferson, Ohio.**—Contract awarded by F. C. Brown, Village Clerk, for paving Walnut Street, Fellows Avenue, with asphaltic concrete to Andrews Asphalt Paving Co., of Hamilton.

★**Mt. Vernon, Ohio.**—Contract for 26,193 sq. yd. paving with repressed brick on concrete base soft filler on East and West Burgess Division, Mt. McKenzie, Park, Ridgley, Sugar and Lemartine Streets, also 1,350 sq. yd. repressed Hillside brick paving on concrete base on Burgess Street awarded to A. A. Graham of Mt. Vernon. (Bids opened July 12 by C. G. Snow, Dir. Pub. Service.)

★**Smithville, Ohio.**—Contract for paving bids opened on July 15 North Summit and Milton Streets with macadam awarded to Seible & Wolf, Youngstown, at $10,090. D. D. Hartzler, City Clerk.

Plainfield, Ind.—Lowest bid opened July 11 by Town Bd. Trustees for constructing 4798 ft. of roadway submitted by George T. Miller of Lebanon, at $38,950 for brick, and $36,928 for reinforced concrete.

★**Sullivan, Ind.**—Contract awarded by County Commissioners for paving John Lund Road with gravel to J. S. Adams Construction Co., Sullivan, at $24,600.

★**Terre Haute, Ind.**—Contract awarded by County Commissioners for paving with gravel Thompson Road, Honey Creek Township, to James McGuire & Son, Brazil, at $10,487.

★**Alton, Ill.**—Contract for 29,140 ft. concrete curb and 48,500 sq. yd. brick pavement in Alton awarded to C. M. Hanes of Jerseyville, at $62,786. Other bidders: Robert Curdie of Alton, $68,274; John Strubel, Alton, $67,467; R. Wolf, Alton, $68,171, and C. H. Degenhardt, Alton, $66,540.

Chicago, Ill.—Following four lowest bids opened July 17 by Board of County Commissioners for 6 miles of concrete pavement, 120,000 sq. yd. on Higgins Road in Cook County west from Milwaukee Avenue: Commonwealth Improvement Co., $120,637; John A. McGarry Co., 189 West Madison Street, $124,367; F. P. Coughlin Co., $120,974, and James A. Sackley Co., 1004 Skeeler Avenue, $126,863.

Following are bids opened by Board of Commissioners of Cook County, June 26, for constructing about 19,109 ft. concrete roadway in Township of Bloom, Sect. 1, Route 29, Jas. A. Sackley & Co., 133 West Washington St., $69,591; Pronger & Fletcher, Chicago, $74,070, and Cullen Friedstedt Co., Montrose Avenue and North Branch Street, $74,713. Also same time and place as above for constructing about 17,000 ft. asphaltic concrete roadway in Township of Palos and Lamont Sect. 1, Route 20, as follows: Commonwealth Improvement Co., $51,665; John A. McGarry & Co., 189 West Madison Street, $49,817; Johnson Constr. Co., 115 South Dearborn Street, $52,410; Stanley K. Wollek & Co., 4842 South Winchester Street, $59,980, and Standard Paving Co., 1101 South Cicero Avenue, $51,993.

★**Paris, Ill.**—Contract for 7150 sq. yd. concrete pavement awarded by A. Alen Brubaker, City Clerk, to Mink Bros., Paris, at $10,697. O. F. Wolf, City Engineer (bids opened July 5).

★**Rock Island, Ill.**—State Highway Commission at Springfield awarded contract for constructing 3 miles road East Watertown to Abraham-Porter Construction Co. of East Moline.

★**Rock Island, Ill.**—Contract awarded by City Council for paving East Seventeenth Street with brick to Tri-City Construction Co. at $2.07 per yd.

Waterloo, Iowa.—Lowest bid opened July 10 by city for paving 26 blocks submitted by Bryant Asphalt Paving Co. of Waterloo at about $80,000. A. W. Eby, Asst. Engr.

Beatrice, Neb.—Following bids opened July 14 by H. M. Garrett, City Clerk, for paving (price given per sq. yd.): Abel Construction Co., Lincoln, (awarded contract), vertical fiber brick, $1.89 per sq. yd.; sheet asphalt (American) Texico, $1.79; Trinidad sheet asphalt, $1.84; Texico asphaltic concrete, $1.57; Trinidad asphaltic concrete, $1.62, curb and gutter, 72 cts. per lin. ft., and concrete paving, $1.45; Monarch Engineering Co., Falls City, Mo., vertical fiber brick, $2; curb and gutter, 74 cts. per lin. ft., and concrete paving, $1.45.

★**Grand Forks, N. D.**—Contract for 18,500 sq. yd. concrete pavements on Belmont and Vernon Avenues, 8600 cu. yd. excavation, 7600 ft. straight curb, and 1600 ft. circular curb awarded to Grand Forks Concrete Co. of Grand Forks at about $40,000. W. H. Alexander, City Auditor.

★**Kansas City, Mo.**—Contract awarded by Board of Public Works for creosoted wood block and concrete paving Eighteenth Street from Grand to Woodland (price given per sq. yd.), 17,870 sq. yd. at $3.14, total $56,111; with concrete, 5992 sq. yd. at $1, total $5,992, to Williston Construction Co. of Chicago, Ill.

★Contracts awarded by Board of Public Works for creosoted block paving of Southwest Boulevard to Williston Construction Co. of Chicago, Ill.: 11,025 sq. yd. at $3.15 sq. yd., total $34,618; 6585 sq. yd., $3.14 sq. yd., total $20,676; 1190 sq. yd., $3.02, total $3,593.

★Contract awarded by Board of Public Works for combined paving and curbing part of Sixty-first Street, 7397 sq. yd. paving at $1.31½, and 4987 lin. ft. curbing at 20 cts., to E. F. Wilcox of Kansas City, Mo.

★**Dallas, Tex.**—Contract awarded by City Council for paving Center Street, Oak Cliff, with Trinidad rock asphalt to Western Paving Co., Oklanoma, Okla., at $25,000.

★**Galveston, Tex.**—Contract for paving with asphalt block on concrete base portion Thirty-fifth, Thirty-seventh and H Streets awarded by City Council to Cleveland Trinidad Paving Co., Cleveland, Ohio, at $1.77 per sq. yd. H. O. Sappington, Commissioner Streets and Public Property.

★**Blaine, Wash.**—Contract awarded by City Council for paving additional streets, which includes D and Twelfth Streets, to Ledingham & Cooper, Vancouver, B. C., at $15,459.

★**Ephrata, Wash.**—Contract for surfacing 6½ miles permanent highway near Quincy awarded to Mohr Construction Co., Waterville, at $11,975 (bids opened July 6). E. H. Stradling, County Engineer.

Seattle, Wash.—Lowest bid submitted to Board of Public Works for paving Thirteenth Street by P. J. McHugh, Third Avenue, North and Mercer Street, Seattle, at $15,527.

★Reported contract awarded by County Commissioners for paving with brick Permanent Highway No. 2-B, between Hollywood and Woodinville, to Cascade Construction Co., Pacific Block, Seattle, at $21,169. A. P. Denton, County Engineer.

★Reported contract awarded by County Commissioners for paving with concrete 2½ miles of highway connecting Richmond Beach with North Trunk Boule., to N. W. Ball, Seattle, at $10,688.

★**Spokane, Wash.**—Reported contract awarded by County Commissioners for grading, graveling, etc., 1 mile of road on Moran Prairie, south of Spokane, to H. C. Root, Spokane, at $12,760. J. W. Strack, County Engineer.

★**North Bend, Ore.**—Contract for paving streets with bituminous rock awarded to Andrews, Klockaro & Co., North Bend, at $1.98 per sq. yd. C. E. Maybee, City Recorder.

Arcadia, Cal. — Following bids opened by City Trustees for macadam paving, including 8000 cu. yd. excavation and 2500 lin. ft. shaping: Johnson-Shea Co., Riverside, $24,445; Highway Construction Co., Redlands, $25,425; Rogers Bros. Co., Hibernian Bldg., Los Angeles, $25,750; Andrew Hooloway, 471 South Broadway, Pasadena, $31,575.

California.—Following are lowest bids opened by California State Highway Commission, at Sacramento, July 10, for constructing state aid highways:

Marin County, Division 4, Route 1, Section B (4 lowest bids): Marin Rock Co., San Anselmo, $25,610; C. H. & A. W. Gorrill, San Francisco, $28,881; O'Brien Bros., Martenez, $27,900, and John W. McDonald, Jr., San Francisco, $29,832.

Glenn County, Division 3, Route 7, Section B (lowest bid): Manuel Jacinto, Sacramento, $8,645.

Ventura County, Division, Route 2, Section B (reinforced concrete bridge) (lowest bid): Hunter Bros., Los Angeles, $1,648.

★**Los Angeles, Cal.**—Contract awarded by City Council for improving Brooklyn Avenue, with asphalt, to George H. Oswald, O. T. Johnson Bldg., at $79,236. Other bids: Coast Construction Co., 1419 East Twenty-ninth Street, $90,068; Fairchild-Gilmore Wilton Co., Pacific Electric Bldg., $90,128, and George R. Curtis, 552 South St. Louis Street, $95,378.

★**Manhattan Beach, Cal.**—Contract for constructing approximately 1½ miles macadam pavement and ½ mile oil and screening surface pavement on concrete base on Marine Avenue awarded to California-Arizona Construction Co., 1700 East Washington Street, Los Angeles, at $30,950.

Sawtelle, Cal.—Following are four lowest bids opened July 10 by City Trustees for approximately 444,017 sq. ft. pavement of 2-in. asphaltic top, 1-in. binder course and 5-in. concrete base, 12,426 cu. yd. excavation, and corrugated iron, steel and concrete culverts on Santa Monica Boulevard: Los Angeles Paving Co., 2900 Santa Fe Avenue, $60,810; George H. Oswald, O. T. Johnson Bldg., Los Angeles, $70,818; Fairchild-Gilmore Wilton Co., Pacific Electric Bldg., Los Angeles, $73,322, and Braun, Bryant & Austin, 1680 South Fourth Street, Santa Monica, $76,928.

★**Boise, Idaho.**—Contract awarded by City Council for paving to Warren Construction Co., Portland, Ore., at $100,313.

Moscow, Idaho.—Low bid submitted to City Council for paving with concrete 8,100 yd. by Standard Asphalt Co., Moscow, at $11,826.

Salt Lake City, Utah.—Following bids opened July 5 by Board of Public Works for paving (a) Third West Street, (b) Thirteenth East Street, (c) Virginia Street, resurfacing, (d) First South Street between West Temple and Main Streets, (e) First South Street between Main and State Streets and State Street between First and Fourth South Streets: J. W. Mellen, Auditorium B, (a) $26,468, (d) $6,762, (e) $36,244; P. J. Moran, 152 West Second Street, (a) $30,224, (b) $33,030, (c) $16,194, (d) $8,834, (e) $45,865; Parrot Bros., 824 South Fourth Street West, (a) $30,937, (b) $37,024, (c) $15,964; Strange & Maguire, Thirteenth East and Ninth South Streets, (a) $34,521, (b) $37,927, (c) $15,745, (d) $11,308, (e) $53,389.

Kansas City, Mo.—According to reports, Union Pacific System contemplates expenditure of $1,000,000 for improving Kansas City-Denver line. E. E. Adams, 165 Broadway, New York, N. Y., Consulting Engineer.

Portland, Ore.—Reported plans and specifications for the $800,000 grade crossing elimination project on the East Side from East Thirty-seventh Street and Sandy Boulevard to the city limits have been filed with A. L. Barbur, City Auditor, and that bids will be called at an early date. Project entails construction of 7 concrete viaducts in addition to rebuilding the East Thirty-third Street crossing. Philip H. Dater, City Engineer.

Glendale, Cal.—Great Western Improvement Company, San Francisco, has acquired the Glendale & Montrose Ry. (W. J. Bohon, General Manager) and contemplates making improvements and extensions to Sunland, La Ganda and Littlelands, about 15 miles.

Pasadena, Cal.—It is announced that the Pacific Electric Railway Co. (J. E. Pillsbury of Los Angeles, Chief Engineer) will probably construct a viaduct between Pasadena and Los Angeles at a cost of about $1,500,000.

San Francisco, Cal.—Western Pacific passed out of receiver's hands July 14. Improvements and new construction will be begun immediately. C. M. Levey, Pres., San Francisco.

BIDS DESIRED.

Roseburg, Ore.—Reported desired until July 25, by City Council, for constructing the Roseburg & Eastern Railroad, 30 miles long. Probable cost $400,000.

PRICES AND LETTINGS.

★*Indicates award of contract.*

New York, N. Y.—The Public Service Commission for First District, 120 Broadway, has awarded (bids opened July 2) to Pennsylvania Steel Co., 71 Broadway, at $65,316, the contract for the supply of special work, including frogs, crossovers, switches, etc., for use on the new Seventh Avenue subway; also to Ramapo Iron Works, 30 Church Street, the contract for furnishing two adidtional crossovers on Queens Borough elevated line, at $3,589.

★**Medford, Ore.**—Contract for constructing 30 miles municipal electric railway awarded to S. S. Bullis of Southern Oregon Traction Co. of Medford. Bond issue of $300,000 recently voted.

RAILWAYS
Steam and Electric

PROPOSED WORK.

Jersey City, N. J.—Fred Dunham, Engr., completed plans for belt railroad for Jersey City, to serve manufacturing district. M. I. Fagan, City Clerk.

Oil City, Pa.—Reported the Pennsylvania R. R. (Alex. C. Shand, Ch. Engr., Philadelphia, Pa.) contemplates improvements on Buffalo-Allegheny Division in vicinity of Oil City, at cost of $3,000,000. Work will begin as soon as plans prepared are approved.

Arcadia City, Fla.—Reported the East and West Coast Railroad, from Bradentown to Arcadia, Fla., will be extended to Miami in the near future.

Tampa, Fla.—St. Petersburg-Tampa Ry. Co. incorporated to build an electric railway from Tampa to St. Petersburg, across old Tampa Bay, distance over bay about 9 miles. Capital stock $50,000. George S. Gandy, Sr., Pres.; Alfred Gandy, Secy. and Treas., and H. Walter Fuller, Mgr. of St. Petersburg Investment Co., Vice-Pres. Plans have been prepared and work is expected to begin this summer.

Mobile, Ala.—The New Orleans, Mobile & Chicago R. R. Co. is planning to extend its line from Mobile to Jackson, a distance of about 40 miles.

Webb, Miss.—Clarksdale Municipal R. R. authorized by State Legislature to build railroad from some point on Mississippi River in southeasterly direction to Webb, distance of about 40 or 50 miles. Bonds voted. M. J. Bouildin, Clarksdale, interested. L. W. Mashburn, Southern Engineering Co., Clarksdale, Engr.

South Bend, Ind.—Elevation of railroad tracks of city being considered by Lake Shore, Grand Trunk and Vandalia R. R. Cos., the Mayor and Board of Public Works. Frederick J. Anderson, City Engineer.

Kansas City, Kan.—Reported city has granted Kansas City Terminal Railway Company (J. V. Hanna, Ch. Engr., Kansas City, Mo.) a 200-year franchise. Plans being completed for improvements to cost about $5,000,000, including viaducts and stations.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Millbury, Mass.—Windle Wool Scouring Company, Millbury, contemplates erecting two-story factory and one-story power house, to cost about $70,000.

Worcester, Mass.—Worcester Cold Storage & Warehouse Co. will erect a four-story, 60 x 77-ft. brick and concrete addition on Hygeia Street.

Philipsdale, R. I.—Reported nitrating plant of Nonobo Chemical Company, destroyed by fire at a loss of $60,000, is to be rebuilt.

Saylesville, R. I.—Sayles Finishing Co., Saylesville, will erect two one-story, 180 x 80-ft. and 200 x 20-ft. brick additions.

Stamford, Conn.—See "Reinforced Concrete."

Amsterdam, N. Y.—Chalmers Knitting Co., 21 Bridge Street, will erect a seven-story, 221 x 65 x 169-ft. mill to connect with both ends of present plant, leaving a court in center.

Bath, N. Y.—Reported plant of Bath Harness Company, recently destroyed by fire, will be rebuilt. E. K. Derrick, Manager.

Corona (Po. O. Flushing), L. I., N. Y.—See "Reinforced Concrete."

New York, N. Y.—Plans filed for erecting four-story 75 x 125-ft. brick factory on 144th Street and Rider Avenue for Columbia Metal Box Co. (Albert E. Blackman, President), 226 East 144th Street; cost, $50,000. John Hauser, Archt., 360 West 125th Street.

Syracuse, N. Y.—Contract soon to be let by Guy L. Noble, Architect and Engineer, Union Building, for erecting three-story, 70 x 178 ft. factory addition for Will & Baumer (Anthony Will, President), 714 McBridge Street; estimated cost, including equipment, $300,000.

Bayonne, N. J.—Plans being prepared for 287 x 180-ft. factory to be erected at Second Street and Avenue C for Duryea Manufacturing Company, Chapel Avenue.

Newark, N. J.—Abraham Lichtman, 11 Astor Street, will erect a six-story, 47 x 100-ft. loft building on Mechanic Street.

Paulsboro, N. J.—See "Water Works and Sewerage Systems."

Chester, Pa.—Scott Paper Co., Seventh Avenue and Glenwood Street, Philadelphia, reported contemplating improvements costing $250,000 to their plant along the Delaware River front, in Chester.

Shawmut, Pa.—Shawmut Paving Brick Works, contemplates enlarging plant to daily capacity of 50,000 paving brick.

Clarksburg, W. Va.—Owens Bottle Machine Company of Clarksburg reported planning erecting new plant to cost $1,000,000.

Ensley, Ala.—Reported Warrant Warehouse Co., Thirty-fifth Street and Avenue A, Birmingham, contemplates installing a $75,000 cotton compress here.

New Orleans, La.—Reported contract soon to be let by Dock Board for erecting concrete addition to public grain elevator on river front to increase binnage capacity by 1,000,000 bushels.

Louisville, Ky.—National Foundry & Machine Company, 1408 West Main Street, intends spending $200,000 for plant extensions.

Akron, Ohio.—Miller Rubber Co. (Jacob Pfeiffer, President), 1269 South High Street, plans erecting eight-story factory addition.

Cleveland, Ohio.—Reported Dann Products Company of Chicago, Ill., intends erecting plant here. Victor Sincere, Bailey Building, Cleveland, may be able to give information.

Contract will be let about Aug. 15 by Traction & Light Company; cost $90,000. Franz Warner, Archt., 767 Hippodrome Annex Building, Cleveland, for erecting one-story, 60 x 150 ft., and six-story, 55 x 180 ft., warehouse for Northern Ohio

Julius Tuteur, 8415 Carnegie Avenue, S. E., will erect a brick building at Chester Avenue, N. E., and East Twenty-fourth Street, which the Exide Battery Company of Philadelphia, Pa., will lease as a distributing and service station; cost approximately $90,000.

Steubenville, Ohio.—Armour & Company, 208 South La Salle Street, Chicago, Ill., plans erecting three-story concrete and fireproof storage plant here to cost approximately $100,000.

Chicago, Ill.—Acme Packing Company, 2228 South La Salle Street, has secured site on Western Avenue, Boulevard and Forty-fifth Street and will erect a brick and tile packing house to cost $250,000.

Fayville, Ill.—Reported Aetna Powder Works (C. P. Messersmith, Superintendent) will erect a nitric acid plant to cost $75,000.

Beloit, Wis.—Plans being prepared by Peterson & Johnson, Lundberg Building, Rockford, Ill., for three-story, 60 x 124-ft. fireproof warehouse and office building to be erected for Chesbrough & Moss.

St. Paul, Minn.—Reported Bethlehem Steel Co. contemplates erecting $500,000 unit here.

Fireproof Shingle Co. reported incorporated with Henry Struchen, 405 Dakota Building, and others and will erect a plant to manufacture a cement composition fireproof shingle.

Oklahoma City, Okla.—Frisco Railroad, Frisco Building, St. Louis, Mo., will construct new machine shops east of this city at a cost of $250,000; also new freight yards and eight miles of trackage.

North Yakima, Wash.—Reported Utah-Idaho Sugar Company (C. W. Nibley, Secretary-Treasurer) plans erecting a $750,000 beet sugar factory in North Yakima.

California.—F. L. Slocum, President of Rittman Process Co., Pittsburgh, Pa., reported in favor of constructing a Rittman process oil refinery, costing about $500,000, in Southern California, probably at Bakersfield or Los Angeles.

Los Angeles, Cal.—See "Reinforced Concrete."

San Francisco, Cal.—Zellerbach & Company, 534 Battery Street, applied for permit to erect six-story concrete warehouse and factory building at Francisco and Montgomery Streets; estimated cost $150,000. Engineers, Macdonald & Kahn, Rialto Building.

Phoenix, Ariz.—Phoenix Customs Smelter Company, considering erecting customs smelter in Cave Creek mining district north of Phoenix to handle ores of Solcum Copper Company, J. G. Harden, President.

West Jordan (P. O. Midvale), Utah.—Erection of a chicory factory costing about $300,000 contemplated here. Mayor J. W. McHenry of Murray reported interested.

Dartmouth, N. S.—Imperial Oil Co., 918 St. Patrick Street, Montreal, Que., has purchased 460 acres and contemplates equipping a plant to cost $5,000,000.

Burford, Ont.—Canadian Milk Products Company, Mail Building, Toronto, planning to erect new milk powder factory, 160 x 100 ft., vitrified salt glazed rock and tile construction; cost $100,000.

Deseronto, Ont.—Factory of Dominion Hardwood Company, recently destroyed by fire to the extent of $100,000 will be rebuilt and new machinery installed.

Oshawa, Ont.—Erection of a $50,000 factory contemplated. George D. Redmond, care Chevrolet Motor Co., may be able to give further information.

Point Edward, Ont.—See "Prices and Lettings."

Renfrew, Ont.—Three units of O'Brien Mining plant destroyed by fire will be rebuilt of fireproof construction, and most modern machinery installed.

St. Thomas, Ont.—Monarch Knitting Company (F. R. Lalor, Manager) will erect a $50,000 hosiery factory.

Toronto, Ont.—Plans have been prepared by Max N. Dunning, 35 South Dearborn Street, Chicago, Ill., for an abattoir, to be erected for William Davies Co., 521 Front Street, East Toronto; cost, $1,250,000.

Toronto Hydro-Electric Commission (Mayor T. L. Church, Chairman) will erect four-story addition to substation, costing $90,000.

Quatsino, B. C.—Colonial Lumber & Paper Mills, Standard Bank Building, Vancouver, considering erecting plant here to cost $100,000.

BIDS DESIRED.

Grand Rapids, Mich.—Reported desired until July 29 for erecting a 7-story and basement, 130 x 130-ft. factory for Globe Knitting Works. Robingson & Campau, Archts., 449 Houseman Building.

Davenport, Iowa.—Reported desired until July 26, by Clausen & Krause, Archts., 314 Central Office Building, for erecting 4-story and basement, 80 x 80-ft. cold storage building for Henry Kehro Packing Co., West Second Street.

Fargo, N. D.—Reported desired until July 27, for erecting factory 100 x 84 ft., fireproof concrete foundation, for the Western Newspaper Union. Probable cost $35,000. Asheleman & Gage, Archts.

PRICES AND LETTINGS

★Indicates award of contract.

★Elmira, N. Y.—Contract for erecting addition to plant of Morrow Manufacturing Company awarded Realty & Construction Company, 201 Lake Street; cost $150,000. Engineers, Thines, Bollman & Nordoff, Toledo, Ohio.

★Philadelphia, Pa.—Contract for erecting warehouse at Delaware Avenue and Oregon Street for Pennsylvania Salt Manufacturing Company awarded Bollinger-Andrews Construction Company, Empire Building, Pittsburgh; cost $160,000.

Philadelphia, Pa.—See "Steel Bridge Work."

★Pittsburgh, Pa.—Contract awarded by Schenley Farms Company to George Hogg & Company, Keystone Building, for erecting $400,000 warehouse.

★Baltimore, Md.—Contract for erecting Koester Bakery on West Lexington Street awarded Charles L. Stockhausen Company, Marine Bank Building. John Freund, Archt., 11 East Lexington Street.

★St. Helena, Md.—Contract reported awarded E. J. Baton of Philadelphia, Pa., for erecting plant for Ore Pigments Co. to consist of a one-story, 300 x 100-ft. brick and concrete building; estimated cost, $300,000.

★Canton, Ohio.—Contract awarded Turner Construction Company, 11 Broadway, New York, N. Y., for erecting three-story, 40 x 360 ft., concrete and brick freight house for Wheeling & Lake Erie Railroad; cost $150,000.

★Cleveland, Ohio.—Contract awarded James L. Stuart Company, 950 Illuminating Building, for erecting new mills in Upper Cuyahoga River Valley, for National Artificial Silk Company; cost $300,000. Forest City Engineering Company, 512 Hippodrome Building, Engineers and Architects.

★Dayton, Ohio. — Contract awarded Danis-Hunt Construction Co. of Dayton for erecting 270 x 1000-ft. factory at Moraine for Domestic Engineering Co.; cost $500,000. Schenck & Williams, Archts., 591 Arcade Street.

Grand Rapids, Mich.—See "Steel Bridge Work."

Seattle, Wash. — See "Steel Bridge Work."

★Montmorency Falls, Que.—Contract awarded A. P. Byers & Co., 340 University Street, Montreal, for erecting cotton mills for Dominion Textile Co.; cost, $90,000.

★Ottawa, Ont.—Contract awarded by Grey Nuns of the Cross to Alfred Pion, 1300 Papineau Avenue, Montreal, Que., for erecting laundry and dormitory; cost $50,000.

★Port Arthur, Ont.—Contract awarded by Grain Growers Association of Winnipeg, Man., for erecting $700,000 storage buildings to S. J. McQueen, 17 Francis Block, Fort William.

★Point Edward, Ont.—Gutteridge & Grace of Sarnia secured contract to erect stone-cutting plant for a company recently organized with George Oakley of Toronto and others; cost, $40,000. Machinery to be purchased.

Toronto, Ont.—See "Reinforced Concrete."

BUILDINGS
Public and Private

PROPOSED WORK.

Laconia, N. H.—Laconia School District voted to erect new high school to cost $85,000. Dr. A. H. Harriman, Chairman Board of Education.

White River Junction, Vt.—Plans being prepared for one-story brick and stone station to be erected here for Central Vermont Railway and Boston & Maine Railroad (A. B. Corthell, Ch. Engr., Boston, Mass.).

Brooklyn, N. Y.—See "Reinforced Concrete."

Buffalo, N. Y.—Sketches being prepared by Mann & Cook, 91 Dun Building, for six-story 60 x 250 ft. brick and terra cotta professional building which George Sickels, 604 Erie County Bank Building, intends erecting; cost about $400,000.

New York, N. Y.—See "Steel Bridge Work."

New York, N. Y.—Plans filed for erecting following buildings: Five-story brick fireproof tenement at St. Nicholas Avenue and 186th Street for Riverview Construction Company, cost $50,000, Sass & Springstein, Archts., 32 Union Square; 22-story brick fireproof office building at 17 East Fortieth Street for Anderson Galleries, cost $350,000, Starrett & Van Vleck, Archts., 8 West Fortieth Street; 5-story fireproof tenement at St. Nicholas and Fairview Avenues costing $75,000 and 5-story fireproof tenement on 190th Street and Wadsworth Terrace costing $76,000 for Epros Realty Corporation, Irving Morgan, Archt., 370 East 149th Street; 6-story brick store and tenement at Wilkins Avenue and Boston Road for Kieben Leader, Inc., cost $75,000, Goldner & Goldberg, Archts., 391 East 149th Street; two 5-story brick tenements on Marmion Avenue and 175th Street for Middleboro Realty Company, total cost $120,000, M. W. Del Gaudio, Archt., 401 Tremont Avenue; two 5-story brick tenements on St. Paul's Place and Webster Avenue for D. A. T. Realty Company, total cost $100,000, M. W. Del Gaudio, Archt., 401 Tremont Avenue; 4-story brick office building at 149th Street and Courtlandt Avenue for People's Big Market, cost $100,000, Emilio Levy, Archt., 56 West Forty-fifth Street; alterations and additions to building at Whitehall and State Streets for South Ferry Realty Company, cost $100,000, Starrett & Van Vleck, Archts., 8 West Fortieth Street.

Denby & Nute, 333 Fourth Avenue, are architects for hotel which the Helanita Construction Company (John J. Hearn, President) proposes erecting at 65 West Forty-sixth Street; estimated cost $400,000.

Purchase, N. Y.—Plans being prepared by Donn Barber, 101 Park Avenue, New York, for three-story 100 x 150 ft. brick and limestone building which the town proposes erecting at Purchase Street and Harrison Avenue; cost $100,000.

Roscoe, N. Y.—Plans being prepared by Robert P. Berner of Roscoe for two-story 60 x 95 ft. brick school, containing 12 classrooms and gymnasium; cost about $60,000. Address Board of Education.

Whitesboro, N. Y.—Erection of a high school containing sixteen classrooms and auditorium contemplated; cost about $85,000. Arthur Jones, Secretary, Board of Education.

Bayonne, N. J.—Board of Directors of Bayonne Hospital planning to erect brick addition, to cost $75,000.

Rahway, N. J.—Erection of city hall contemplated; cost not to exceed $150,000. Address City Clerk.

Jersey City, N. J.—Morris Broadman, Jersey City, will erect two four-story brick apartment houses, 30 x 163 ft. and 32 x 143 ft., on Clifton Place.

City Commissioners planning to erect new firehouse on Palisade Avenue, Hudson City Section. M. I. Fagen, City Clerk.

Swift & Co., 154 Ninth Street, will erect an eight-story building at 75 Provost Street; cost, $225,000.

Newark, N. J.—Marshall N. Shoemaker, 810 Broad Street, retained to prepare plans for Hall of Records to be erected at junction of Springfield and Thirteenth Avenues and High Street; cost about $750,000. Ernest E. Ryman, Chairman, Essex County Building Commission.

Newton, N. J.—Wayland & Rassmussen, 1133 Broadway, N. Y., are architects for proposed brick and stone, 60 x 160-ft. high school, to cost $75,000. R. Tuttle, Clerk School Board.

West Hoboken, N. J.—Fagan & Briscoe, 95 River Street, Hoboken, engaged by Board of Council to prepare plans for proposed two-story and basement brick, terra cotta, limestone and fireproof town hall; estimated cost $100,000.

Philadelphia, Pa.—Erection of a $110,000 clubhouse for horsemen contemplated on site of Briggs Riding Academy at 2521 Fairmount Avenue. Charles S. Wesley, 1420 Chestnut Street, may be able to give information.

Plans being prepared by John T. Windrim, Commonwealth Building, for proposed $1,500,000 municipal auditorium, to be erected on Parkway between Twenty-first, Twenty-second, Hamilton and Callowhill Streets.

Pittsburgh, Pa.—Carlisle & Sharrer, Jenkins Arcade, are architect for proposed clubhouse to be erected by Shelby Steel Tube Company; cost between $40,000 and $50,000.

J. B. Clark, Empire Building, will erect a brick theater and office building on Liberty Avenue, to cost $50,000.

Reading, Pa.—Robert Grey Bushong, President of Wyomissing Club, 140 North Fifth Street, authorized to appoint a committee of three to secure plans for proposed $80,000 clubhouse to be erected at Fifth and Walnut Streets.

Wilkinsburg, Pa.—Wilkinsburg Public Market Company incorporated at Delaware with a capital of $90,000, and intends erecting a market at Franklin Avenue and Mulberry Street. John M. Lindsay, 716 Lamar Street, reported interested.

Baltimore, Md.—Reported Consolidated Gas & Electric Co., Lexington and Park Avenue, will spend $200,000 in remodeling the Yakel Building. Parker, Thomas & Rice, Archts., 1101 Union Trust Building.

Cumberland, Md.—Erection of a seven-story and basement brick fireproof hotel costing $500,000 contemplated at Baltimore and Liberty Streets. Thomas B. Finan, President of J. C. Orrick & Son Company, 39 Union Street, reported interested.

Reported Baltimore & Ohio Railroad Company (F. L. Stuart, Ch. Engr., Baltimore) will spend $60,000 on improvements to Queen City Hotel.

St. Augustine, Fla. — See "Reinforced Concrete."

Birmingham, Ala.—Reported $2,500,000 school and auditorium bonds recently voted will not be sold at the present time owing to lack of funds for payment of interest on bonds.

Leesville, La.—Vernon Parish School Board sold $220,000 bonds to erect Rosepine High School, and $220,000 bonds for erecting Hornbeck High School.

Akron, Ohio.—Erection of new city hall, to cost approximately $125,000, under consideration. Address the Mayor.

Cincinnati, Ohio.—Preliminary plans for proposed $250,000 hospital approved by Longview Hospital Commissioners.

Cleveland, Ohio.—Ford-McCaslin Company, 400 Williamson Building, intends erecting ten-story hotel and theater building at Prospect Avenue and East Twenty-second Street.

Cleveland Heights, Ohio.—Election to be held Aug. 8 to vote $137,000 school bonds. Address Village Clerk.

Columbus, Ohio.—Frank L. Packard, Hayden Building, is architect for Exposition building for Columbus.

Dayton, Ohio.—Tuberculosis hospital bonds for $50,000 will be sold Aug. 1 by Walter H. Azling, Clerk.

Youngstown, Ohio.—Plans completed by Kling & Zenk, 115 West Federal Street, for four-story and basement, fireproof, brick and terra cotta bachelor apartment, to be erected at Lincoln Avenue and Bryson Street; cost, approximately $130,000.

Anderson, Ind.—Elks Lodge contemplates erecting new building, to cost between $40,000 and $75,000.

Indianapolis, Ind. — Issue of $150,000 bonds to erect addition to Charles E. Emmerich Manual Training High School being considered. Address School Board.

La Porte, Ind.—St. Peters' Roman Catholic Church will erect new edifice, to cost about $60,000.

Mooresville, Ind.—A $100,000 sanatorium is to be erected in Bethany Park in connection with Mooresville Sanatorium. Dr. Thomas B. Daggy and Dr. J. E. Comer of Mooresville in charge.

Ann Arbor, Mich.—Citizens voted $60,000 bonds for improving Bach and Mack Schools. G. T. Ray, Secretary Board of Education.

Detroit, Mich. — Plans prepared by Smith, Hinchman & Grylls, Washington Arcade, for nine-story building, to be erected at Second and Elizabeth Streets for Detroit Edison Co.; cost, about $250,000.

Lansing, Mich.—Election to be held July 28 to vote $80,000 bonds to enlarge high school. Address Board of Education.

Chicago, Ill.—Charles A. Chapin, 30 North Michigan Street, intends erecting eight-story store and loft building at 1132 Michigan Avenue; cost, about $150,000.

Curt Teich, 4712 Malden Street, has purchased site at Wilson Avenue and Beacon Street and proposes erecting an apartment house, costing about $150,000.

Andrew J. Walbert, 5742 Maryland Street, Hyde Park, intends erecting apartment building at Fifty-eighth Street and Blackstone Avenue, to cost about $75,000.

A. W. Hannah of the Breevort Hotel, 120 West Madison Street, is having plans prepared for a business block to contain about ten stores, offices, theater, bowling alley and billiard hall; cost, about $200,000.

Adolph H. Weigle, 1401 Winona St., is to erect an apartment house at 5446 Kenmore Avenue, costing about $150,000.

Plans being prepared by H. R. Wilson & Co., 104 South Michigan Street, for an eleven-story apartment hotel to be erected on East Fifty-fifth Street for Harvey W. Sisson, 7 South Dearborn Street; cost, about $300,000.

Mrs. Hulda Isaacson, 633 Waveland Avenue, is to erect a thirty-apartment building on Cornelia Avenue, to cost about $100,000.

Thomas Ross, 2706 Wentworth Avenue, and Henry A. Stange purchased site on Cornelia Avenue and contemplate erecting a high-grade court building containing thirty-six apartments; probable cost, $115,000.

Robert Hillinger of R. P. Hillinger & Co., 912 Belmont Avenue, plans erecting on Cornelia and Halsted Avenues a seventy-two apartment, double court building, costing about $200,000; also high-grade apartment buildings, to cost approximately $1,000,000.

A store and apartment building is to be erected at Irving Park Boulevard and Broadway for Nicholas P. Weber, 1968 Lincoln Avenue; cost, about $125,000.

Beloit, Wis.—Plans completed by Peterson & Johnson, Lundberg Building, Rockford, Ill., for proposed $70,000 school.

Kenosha, Wis.—Erection of a police station, costing approximately $60,000, under consideration.

Carroll, Iowa.—High school bonds for $100,000 will be sold Aug. 1 by School Board. Will R. Smith, Secy.

Des Moines, Iowa.—Proudfoot, Bird & Rawson, Hubbell Building, Des Moines, are architects for proposed dairy farm to be erected for Iowa State College.

Fort Dodge, Iowa.—Citizens voted $70,000 bonds for erecting school. Bonds sold. J. L. Porter, Secretary, Board of Education.

Hiawatha, Kan.—Election to be held Aug. 1 to vote $110,000 bonds for new courthouse and $25,000 bonds for new jail. Address County Clerk.

Joplin, Mo.—Contract soon to be let for erecting high school, to cost about $250,000. Smith, Rea & Lovitt, Archts., Finance Building, Kansas City.

St. Louis, Mo.—University Club, Grand Avenue and Washington Boulevard, contemplates erecting eleven-story club and office building.

Cleburne, Tex.—Contract soon to be let for erecting five-story Masonic Temple, to cost about $250,000.

Tulsa, Okla.—Plans completed for Masonic Temple, to cost $150,000.

Seattle, Wash.—Contract about to be let by Board of Education for erecting West Side High School; cost $150,000. Reuben W. Jones, Secretary School Board.

Wenatchee, Wash.—Later reports state contract recently let for erecting U. S. Post Office rescinded. New bids to be received.

Long Beach, Cal.—Reported Andrew Letson, Des Moines, Iowa, will erect a five-story brick apartment house at Ocean Avenue and Atlantic Street.

San Bernardino, Cal.—See "Reinforced Concrete."

Bisbee, Ariz.—Citizens, July 11, voted $75,000 bonds for erecting school. C. F. Philbrook, City Superintendent.

Kingman, Ariz.—Norman F. Marsh and H. C. Howard, 214 Broadway Central Building, Los Angeles, Cal., engaged to prepare plans for two-story and basement stone or concrete high school to be erected for Mohave County High School District; $65,000 available.

Windsor, Ont.—Huron & Erie Loan Company (Hume Cronyn, Manager) Richmond Street, London, has plans for $50,000 bank building.

BIDS DESIRED.

Buffalo, N. Y.—Until Aug. 21, by U. S. Engineer, Buffalo, for constructing office storehouse building and 6 operating houses at Black Rock Lock and storehouse at Ferry Street Bridge, advertised in Engineering Record.

Paterson, N. J.—Until July 27, by Park Commissioners (C. N. Merritt, Secy.), for erecting three public comfort stations in parks designated by Park Commission.

Ridgewood, N. J.—Until Aug. 17, by Board Education (Hadley Ford, Clk.), for furnishing material and erecting high school. Separate bids for plumbing, heating, etc. Tracy & Swartwout, Archts., 244 Fifth Avenue, New York City.

Secaucus, N. J.—Until July 27, by Board Education, for alterations and addition to School No. 1. John Bremmer, Clerk.

Johnstown, Pa.—Reported desired until Aug. 1, for erecting 5 story building, 49 by 126 ft., for Knights of Pythias, No. 451. M. Rogers, Archt., Johnstown Trust Bldg., Johnstown.

New Castle, Pa.—Until July 29, by County Commissioners (James R. Lamoree, Clerk), for furnishing material and erecting addition to court house, including heating, plumbing, etc. C. C. & A. L. Thayer, Architects, 318-22 Mercantile Building, New Castle.

Philadelphia, Pa.—Reported desired until Aug. 1, by Col. Geo. Montgomery, for erecting garage and shop building and storehouse for U. S. Government. Probable cost $163,000.

Front Royal, Va.—Until Aug. 12, by Town Council, for constructing additions to present municipal power plant, advertised in Engineering Record. W. W. Sonner, Chrmn. Electric Light Committee.

Waynesboro, Va.—Until July 25, by Fishburne Military School for erecting a new barracks building at Waynesboro. T. J. Collins & Son, Architects, Staunton, Va.

Charleston, W. Va.—Reported desired until Aug. 15, for erecting 3-story, 98 x 132 ft. high school. Probable cost $65,000.

Charleston, W. Va.—Until Aug. 16, by Elmer Nelson, Clk. County Court, for erecting courthouse. H. Rus Warne, Archt., Charleston.

Sumter, S. C.—Until Aug. 10, by County Supervisors, for erecting a brick, concrete and wooden jail and jailer's residence. Walker & Burden, Archts., 42 Broad Street, Charleston.
Until Aug. 7, by Walker & Burden, Archts., 42 Broad Street, for constructing tool-proof window guards, steel cell work, etc., in above jail.

Jacksonville, Fla.—Until July 31 by J. K. C. Pierson, Archt., 606 Ayers Bank Building, for erecting a two-story gymnasium building for the Illinois Women's College.

Athens, Ala.—Until about Aug. 14 for erecting courthouse. J. H. Graham, Probate Clerk, Limestone County.

Calgary, Ala.—Reported desired until Aug. 8, by R. C. Desrochers, Secy., Dept. Public Works, for erecting a drill hall. Leo. Dowler, Archt., Calgary.

Shreveport, La.—Until Aug. 2 for erecting jail at Mansfield for Parish. J. F. Annan, Archt., Shreveport.

Akron, Ohio.—Reported desired until Aug. 1, for erecting an 8-story, 21 x 108 ft. bank and office building for Henry Green. Probable cost $250,000. Fred. W. Hagloch, 535 Akron Savings & Loan Bldg.

Alliance, O.—Reported desired until July 27, by Board Education (J. H. Anderson, Clk.), for erecting grade school. Probable cost $60,000. Frank L. Packard, Archt., 1212 Hayden Bldg., Columbus.

Ashland, Ohio.—Until Aug. 25, by Treas. Dept. Washington, D. C. (Jas. A. Wetmore, Acting Supervising Archt.), for construction complete U. S. Post Office at Ashland, advertised in Engineering Record.

Bryan, Ohio.—Until Aug. 3, by Forest A. Culbertson, Clk. Board Education, for furnishing material and erecting a fireproof school at E. Butler and S. Cherry St. Separate bids for electric wiring, plumbing, etc. W. H. Nicklas, Archt., 1900 Euclid Bldg., Cleveland.

Circleville, Ohio.—Reported desired until July 28, by Board Education (J. R. Noecker, Pres.) for erecting a 2-story and basement, 300 x 700 ft. school. Probable cost $130,000. Frank L. Packard, Hayden Bldg., Columbus.

Fredericktown, Ohio.—Until Aug. 11, by Board Education (Ernest V. Ackerman, Clerk), for furnishing material and erecting a fireproof high school. Separate bids for heating, plumbing, etc. Howard & Merriam, Architects, East Broad Street, Columbus.

Wellington, Ohio.—Reported desired until Aug. 2, by Board Education (Eugene C. Cushing, Clk.), for erecting a 2-story and basement, 50 x 138 ft. high school. Probable cost $55,000. Althouse & Jones, Archts., Citizens Bank Bldg., Mansfield.

Yorkville, Ohio.—Reported desired until Aug. 1, by Board Education (A. C. Jones, Secy.), for erecting high and grade school. Probable cost $25,000. Chas. W. Bates, Archt., Natl. Bank Bldg., Wheeling.

Indianapolis, Ind.—Reported desired until July 25, by John E. Cleland, Business Director School Commissioners, for erecting school building at Technical High School, East Michigan Street.

Perryville, Ind.—Reported desired until July 29, for erecting a two-story and basement, 74 x 103 ft., high and grade school. Probable cost $40,000. N. E. Garrett, Archt., Garrett Bldg., Danville.

Jackson, Mich.—Until July 27, by Board Education (Geo. W. Scotford, Secy.), for erecting the West Intermediate and East Intermediate school buildings on East Main Street. Separate bids for heating, plumbing, etc. Leonard H. Field, Archt., for West Intermediate, and Clare Allen, Dwight Bldg., East Intermediate Building.
Until Aug. 14, by M. J. Sturm, Archt., 116 South Michigan Boulevard, Chicago, Ill., for erecting hospital. Cost $125,000.

Streator, Ill.—Until Aug. 2, by Philip Saunders, Clk. Board Education, for erecting the Sherman School, in School Dist. No. 45. Separate bids for heating, plumbing, etc. Edmund B. Funston, Racine, Wis., and Wm. G. Foster, Streator, Assoc. Archts.

Murphysboro, Ill.—Reported desired until July 25, for erecting three-story, 42 x 110 ft. building for Elks Home. Probable cost $35,000. Address B. P. O. E. No. 572.

Eau Claire, Wis.—Until Aug. 8, by H. M. Knudtson, Secy. Luther Hospital, for erecting a fireproof hospital. Separate bids for heating, plumbing, ventilating, etc. W. L. Alban, 347 Endicott Building, St. Paul.

Cedar Rapids, Iowa.—Reported desired until July 31, for erecting a 2-story, 60 x 140-ft. garage. Chas. B. Zalesky, Archt., 601 Security Building.

Cumberland, Iowa.—Until Aug. 14, by P. C. Shearer, Secy. Board Education, for erecting school. Separate bids for heating, plumbing, etc. Reimer & Herlin, Archts., Marshalltown.

Floyd, Iowa.—Until July 25 for erecting a two-story, 119 x 65-ft. brick school. Probable cost $32,000. Address Howard B. Burr, Waterloo.

Lacona, Iowa.—Until July 25, by G. F. Tilden, Secy. Board Education, for erecting grade and high school. Separate bids for heating, plumbing, etc. Reimer & Herlin, Archts., Marshalltown.

Oxford Junction, Iowa.—Reported desired until July 28, by Chas. B. Zalesky, Archt., Cedar Rapids, for erecting 2-story, 51 x 96 ft. theater and lodge building.

Seattle, Wash.—Until Aug. 11 by Board of Regents Univ. of Washington (Wm. Markham, Secy.) for erecting a Commerce building on University Campus. Bids desired as a whole or separately on sheet metal and roofing, masonry, terra cotta work, etc. Probable cost $150,000. Chas. H. Bebb and Carl F. Gould, Archts., Denny Building.

Los Angeles, Cal.—Until July 27, by Bd. Education (Wm. Sheldon, Secy.), for furnishing material and erecting addition to Cornwell School on Cornwell Street.

Salt Lake City, Utah.—Until July 26, by Board Education (L. P. Judd, Clk.), for erecting Forest Dale school. Separate bids for heating, plumbing, etc.

Galt, Ont.—Until July 27, by School Board (John Perry Secy., 84 Neverly St., Galt.) for erecting a new 8 room school, for Galt Public School Board.

Pembroke, Ont.—See "Steel Bridge Work."

Winnipeg, Man.—Until Aug. 21, by S. C. Oxton, Deputy Minister Public Works, as a whole or separately, for various work required in the completion of partly erected new Parliament Buildings, Kennedy Street, Winnipeg.

PRICES AND LETTINGS.

★Indicates award of contract.

★Manchester, N. H.—Contract awarded Bunton & Bernard of Manchester for erecting school in South Manchester at $71,866.

★New Haven, Conn.—Contract awarded Peter Leone, Main and Gold Streets, Hartford, for remodeling and reconstructing new Poli Vaudeville Theater on Church Street; cost, $250,000. Thomas W. Lamb, Archt., 644 Eighth Avenue, New York, N. Y.

Buffalo, N. Y.—See "Steel Bridge Work."

★Troy, N. Y.—William E. Martin Company, Front Street, secured contract to erect four-story 68 x 80 ft. brick and limestone parochial school on Third Street for St. Mary's Roman Catholic Church; cost $100,000. Rev. Francis Greafan, Pastor. M. L. & G. H. Emery and R. D. MacPherson, 121 North Pearl Street, Albany, associate architects.

★Elizabeth, N. J.—Contract for erecting two schools on North Avenue and Spencer Street awarded by Board of Education to M. Byrnes Building Company, Elizabeth, at $50,506 and $50,676 respectively.

Spring Lake, N. J.—See "Reinforced Concrete."

★Philadelphia, Pa.—Contract awarded Warren Moore Co., Commercial Trust Building, for erecting 12-story bank, office and store building for Colonial Trust Co. at Thirteenth and Market Streets.

★Pottstown, Pa.—Contract for constructing U. S. Post Office awarded Richardson & Burgess, 1413 H Street, N. W., Washington, D. C., at $69,888.

★Wilkinsburg, Pa.—Contracts for erecting Horner school awarded as follows: General construction, Dawson Construction Company, Navy Building, Pittsburgh, $256,765; plumbing, George H. Soffel Company, 425 Second Avenue, Pittsburgh, $19,480; electrical work, W. H. Ochiltree Company, 416 Wood Street, Pittsburg, $4,935. Ingham & Boyd, Archts., Vandergrift Building, Pittsburgh.

Washington, D. C.—Following are four lowest bids opened July 6 by Constructing Quartermaster, U. S. Soldiers' Home, for erecting (a) nurses' home and (b) addition to hospital: Melton Construction Company, Eleventh and H Streets, N. W., (a) $56,829, (b) $56,784; Boyle-Robertson Construction Company, Washington, (a) $60,105, (b) $52,025; W. H. McCray, Bond Building, (a) $62,810, (b) $52,358; J. L. Nolan Construction Company, Washington, (a) $63,115, (b) $51,105.

Tampa, Fla.—Following are four lowest bids opened for erecting two-story and basement, 230 x 180-ft. store and apartment building for W. C. Black and W. T. Harrison at Lafayette and Parker Streets: McGuckin & Hyer, $89,000; Friend & Gattman, $91,000; McGuckin & Davidson, $94,000; E. W. Parker, $98,000 (bidders all of Tampa).

★Danville, Ill.—Contract for erecting brick and terra cotta passenger station here for Chicago & Eastern Illinois Railroad awarded Clarke Construction Company, Danville, and plumbing and heating to Carson-Payson Company, Danville; cost about $100,000.

★Hubbard, Iowa.—Contracts awarded by Board of Education (R. R. Swallum, Secretary), for erecting school to Black Hawk Construction Company of Waterloo, at $34,070, and to Carton Brothers of Ackley for plumbing and heating, at $8,483.

★Joplin, Mo.—Contract for erecting tuberculosis hospital awarded Smith & Woodling of Kansas City, at $65,545.

★Kansas City, Mo.—Contracts reported awarded by Board of Education for erecting addition to public library, as follows: General contract, Shinnick & Woodling, 1900 East Fifteenth Street, $167,114; heating and ventilating, Minor D. Woodling, 512 Reliance Building, $17,792; plumbing, MacMahon Co., 408 East Fourteenth Street, $5,961; electric wiring, Kansas City Electrical Co., $4,470; generator set, Wright Electric Machinery Co., $6,468.

★Port Angeles, Wash.—Contract for erecting school (bids opened June 29 by Madge H. Nailor, Clerk School District) awarded C. J. Gerring of Columbia Construction & Contracting Co., 2045 West Sixty-first Street, Seattle.

★Seattle, Wash.—Contract for erecting steel, concrete and glass dome on St. James Cathedral, Ninth and Marion Streets, awarded P. A. Baillargeon, New York Block; cost, about $125,000. John Graham, Archt., Graham Building.

★Cordova, Alaska.—Reported contract awarded by John A. and Simon Hellenthal to Charles Quackenbush of Cordova, for erecting three-story concrete business block on Front Street; cost, $60,000.

★Vancouver, B. C.—Reported Canadian Northern Railway Co. awarded contract to Northern Construction Co. of Vancouver, B. C., and Carter Halls, Aldinger Co. of Winnipeg, Man., for constructing False Creek depot in Vancouver; cost, $1,000,000.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

St. Johnsbury, Vt.—The Essex Storage Battery Co. recently incorporated, proposes to develop water power and storage reservoirs on the Moose River and tributaries in Essex and Caledonia Counties. Theodore W. Chase of Passumpsic, Fred D. Gilman and Charles G. Bailey of St. Johnsbury are among the incorporators.

Bennington, N. Y.—Citizens voted $15,000 bonds for construction of bridges on Buffalo-Moscow Road. Bonds to be sold about Aug. 1. Joseph Drilling, Town Clk.

Troy, N. Y.—Construction of concrete bulkhead, 7200 ft. long terminal, warehouse and amusement piers contemplated. A. E. Cluett, Chrmn. Harbor and Dock Commission.

Bayonne, N. J.—The Bulkhead Meadow and Improvement Co. will construct a large bulkhead at First Street and the Kill-von-Kull. Address Board City Commissioners of Bayonne, City Hall, for further information.

Hackettstown, N. J.—George Z. Williams contemplates building dam in Pequest Creek.

Jersey City, N. J.—Plans will be prepared at once for the proposed municipal piers along the shore of Hackensack River. Fred Dunham is Engr. Henry Byrne is Comr. in Charge of the improvement.

Jacksonville, Fla.—City has decided to build bridge across St. John's River from Jacksonville to South Jacksonville, a distance of about ½ mile. Board of County Commissioners will confer with bridge engineers to prepare estimate of cost of bridge. A bond election will probably be held Nov. 7. Address City Engineer.

Tampa, Fla.—The Port Commission will construct, on strip of land 350 x 700 ft. lying on the estuary and fronting Ybor channel part of Tampa Harbor, docks and piers, which will be the city's part in carrying out the original agreement with the government, when they agreed to make the estuary. The work may begin within the next month.

Gulfport, Miss.—Surveys being made by City Engineer for a concrete sea wall to be constructed along beach, probable cost, $187,038.

Lancaster, Ky.—Construction of hydro-electric plant on the Dix River contemplated; estimated cost $2,000,000. Louis Herrington of Richmond in charge of work.

Canton, Ohio.—City Council authorized sale of $150,000 bonds, $34,000 for pumping station and remainder for street improvements.

Lorain, Ohio.—Baltimore & Ohio R. R. Co. (E. L. Stuart, Ch. Engr., Baltimore) completed survey for $500,000 improvements, to include coal-loading machines, ore docks and additional trackage.

Ravenna, Ohio.—See "Water Works and Sewerage Systems."

Ft. Dodge, Iowa.—Later reports state all bids recently opened by city for constructing hydro-electric plant and concrete dams over Des Moines River to be 350 ft. long and 20 ft. high, rejected. Burns & McDonnell, Interstate Bldg., Kansas City, Mo., Engrs.

Pawhuska, Okla.—The citizens voted $35,000 bond issue for park improvements. A bridge and approaches 510 ft. long is to be constructed over creek to connect both sections of the park. J. M. Buckley of Pawhuska, Engr. H. M. Loome, Comr. Finances and Accounts.

South Bend, Wash.—Construction of a power dam and 700-ft. pipe line on South Fork River is contemplated by Willapa Power Co.

Los Angeles, Cal.—William Mulholland, Chief Engineer of Board of Public Service Commission, Knickerbocker Building, has recommended that a reservoir having a capacity of about 25,000,000 gal. be constructed north of San Fernando, about 15 miles from Los Angeles.

★**Gardiner, Ore.**—Following is detail of four lowest bidders—(a) Giebisch & Joplin, Portland (awarded contract), (b) Oregon Independent Paving Co., (c) Copenhagen Bros., (d) Moone-Gidley—for constructing proposed jetty at mouth of Umpqua River (bids opened July 3 by Port of Umpqua River Commissioners):

	*(a)	(b)	(c)	(d)
92,000 ft. piling	$0.12	$0.20	$0.20	$0.185
650,000 ft. lumber	15.00	20.00	21.00	14.78
3300 lb. drift bolts	0.06	0.06	0.05	0.05
880 pair first plates	0.60	0.75	0.50	0.57
130 tons rails	57.00	55.00	50.00	61.50
8000 lb. railroad spikes	0.06	0.07	0.05	0.045
12,000 lb. ship spikes	0.07	0.07	0.07	0.055
140,000 tons rock	0.85	0.88	0.87	0.93
2000 lb. iron strap	0.06	0.07	0.07	0.07
500 lb. bolts	0.06	0.07	0.10	0.10
6 frogs	70.00	75.00	75.00	33.00
Special crossings	100.00	200.00	100.00	35.00
Totals	$151,698.00	$166,615.00	$164,420.00	$168,416.00

Pyramid, Cal.—Construction of a dam on Truckee River in Pyramid Lake Indian Reservation (J. D. Oliver, Supt.) contemplated for irrigation of 25,000 to 30,000 acres of land. Appropriation available for improvements, $85,000.

Courtright, Ont.—City Council contemplates installation of new hydroelectric system for electric lighting and power distribution.

Niagara Falls, Ont.—The Thomson-Porter Cataract Co., with capital of $100,000,000, of which T. Kennard Thomson and Peter A. Porter are incorporators, applied to Dominion Government at Ottawa for permission to construct a dam in rapids below the falls for development of 2,000,000 hp. of electric energy below Niagara Falls.

Porto Rico.—See "Paving and Roads."

BIDS DESIRED.

New Orleans, La.—Until Aug. 8, by Lighthouse Inspector, New Orleans, for constructing an interlocking creosote sheet pile bulkhead, etc., at New Canal Light Station.

Cuyahoga Falls, Ohio.—Reported desired until July 28, by County Commissioners, for rebuilding the Portage Street bridge; probable cost $15,000.

Dayton, Ohio.—Until Aug. 14, by County Commissioners (Walter H. Aszling, Clk.), for furnishing material and constructing a concrete substructure to replace the stone substructure of Bridge No. 248, Miami Township, over the Great Miami River.

Steubenville, Ohio.—Until July 25, by County Commissioners, for constructing a concrete retaining wall on the Amsterdam and Bergholz Pike; also for resurfacing one mile of macadam. John L. Means, Co. Aud.

Petersburg, Ind.—Until Aug. 8, for constructing six steel bridges, concrete abutments; one culvert. J. D. Gray, Co. Aud.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**New York, N. Y.**—Following contracts awarded to the Raymond Concrete Pile Co., 140 Cedar Street, New York and Chicago, Ill.: Concrete piles for foundation of a retaining wall for Barrett Mfg. Co., Cleveland, Ohio, J. F. Miller, engineer for Barrett Mfg. Co.; concrete piling foundation in building for American Hard Rubber Co., East Akron, Ohio, Walter Kidde, Engr.; concrete piles for St. Thomas' School, Brooklyn, N. Y., Frank J. Helmle, 190 Montague Street, Brooklyn, N. Y., Archt.; concrete piles in foundation for the Mohegan Tube Co., Maspeth, L. I., N. Y., J. L. Sussman, Engr.; concrete piles in foundation of a fabricating shop for Bethlehem Steel Co., Sparrows Point, Md.; concrete piling for stack foundation for P. C. C. & St. Louis Ry., Columbus, Ohio; 2000 Raymond piles for open hearth furnace foundations for the Corrigan-McKinney Co., Cleveland, Ohio. H. T. Harrison, Ch. Engr.

Cleveland, Ohio.—Following bids opened July 11 by U. S. Engineer's Office, Cleveland, for constructing stone superstructure on breakwater, Cleveland Harbor: Dillen Dock Dredge & Construction Co. of Racine, Wis., $50,375 (recommended for award); Great Lakes Dredge & Dock Co. of Cleveland, $52,497, and Coast Lakes Contracting Corporation, 25 Broad Street, New York, N. Y., $64,670.

★**St. Paul, Minn.**—Contract for reconstructing two north spans of Mississippi Street bridge over tracks of Great Northern Ry. awarded by city to St. Paul Foundry Co., Como Avenue and Mackubin Street, at $18,625.

California.—See "Reinforced Concrete."

TUNNELS AND SUBWAYS

PROPOSED WORK.

Trenton, N. J.—Pennsylvania R. R. will co-operate with city in building a tunnel under the Delaware and Raritan Canal at Sullivan Way; cost, about $119,000.

PRICES AND LETTINGS.

★*Indicates award of contract.*

New York, N. Y.—Following bids opened July 13 by Public Service Commission for First District, 120 Broadway, for constructing tunnel from East Sixtieth Street, Manhattan Borough, to North Jane Street, Long Island City, L. I., for Route 61, Broadway-Fourth Avenue Rapid Transit R. R.: Patrick McGovern & Co., 1 Madison Avenue, $4,194,797; Degnon Contracting Co., 30 East Forty-second Street, $4,247,000; Booth & Flinn, Ltd., 17 Battery Place, $4,449,000; Holbrook, Cabot & Rollins Corporation, 52 Vanderbilt Avenue, $5,340,000, and Smith, Hauser & MacIsaac, Inc., 18 East Forty-first Street, $6,400,000.

Lowest bid opened by Public Service Commission, First District, 120 Broadway, on July 14 for station finish for Grand Central Station of Queensboro Subway Rapid Transit, including lengthening of Island platform of present station of subway at Forty-second Street and Lexington Avenue: Thomas J. Waters Co., 271 West 125th Street, New York City, $22,649.

Following totals 4 lowest bids (opened by Board of Public Service, First District, 120 Broadway, on July 17) for duct line for Seventh Avenue Subway: T. H. Reynolds Contracting Co., 1550 Hoe Avenue, $11,122; Beaver Engineering Contracting Co., 22 William Street, $11,598, and L. J. Moran, 63 East Tremont Street, $11,813.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Quincy, Mass.—Reported the U. S. House and Senate have both passed appropriation of $200,000 for dredging of Fore River to a depth of 24 ft. low tide. The city is also to appropriate $10,000. The state $75,000 and Fore River Company $15,000.

Buffalo, N. Y.—Agreement has been reached between the city and several private corporations for dredging a channel in the river basin. Total cost about $150,000.

Macon, Miss.—Formation of a drainage district along Noxubee River, about 20,000 acres in all, contemplated. J. F. Ames and J. L. Carpenter said to be interested.

Marks, Miss.—Southern Engineering Co., Clarksdale (L. W. Mashburn, Ch. Engr.), completed surveys for Newsum Lake Drainage District of Quitman County, Miss., 2,500,000 yds. of material to be removed about 45,000 acres of lands will be reclaimed.

Indiana.—Plans being considered for constructing Mizer Ditch which includes straightening, widening and deepening channel of Eel River from point near Neals Mill Bridge west to Clay City to junction of Eel and Write Rivers a short distance north of Worthington Clay (county seat Frankfort), Owen (county seat Spencer) and Green Counties, to be affected by proposed improvement. Estimated cost $225,000.

Quincy, Ill.—Commissioners of Lima Lake Drainage District adopted plans of Edmund T. Perkins Engineering Co. for expenditure of $300,000 in reclamation work, which will include three pumping stations and levees. The levees will be 4½ miles long, 20 ft. high with a 60-ft. base. Thirty thousand acres of land to be reclaimed. John Ingham, Attorney.

Rockford, Ill.—Construction of ditch system for Rockford Winnebago Drainage District contemplated, estimated cost $18,013. Arthur L. Webster Engineer.

Preliminary survey made of Grove Creek District for drainage system installation; estimated cost, $75,000. A. M. Ten Eyck and William Nelly, Commissioners.

Ft. Madison, Iowa.—Construction of levee and ditches about 2,000,000 cu. yd. in all contemplated at Ft. Madison. George B. Massey Co., People's Gas Bldg., Chicago, Ill., Engr.

Kansas City, Mo.—Harrington, Howard & Ash of Kansas City engaged by Board Pub. Wks. to make surveys and plans for improving the Blue River; cost about $100,000.

Austin, Tex.—Arthur A. Stile, State Reclamation Engineer, has announced formation of the following new levee districts: Ellis County Improvement District, No. 4, at Waxahachie; Henderson County Levee Improvement District, No. 1, at Athens; River County Levee Improvement District, No. 1, at Clarksville; Dallas County Levee Improvement District, No. 2, at Dallas; Delta County Levee Improvement District, No. 1, at Cooper; Collin County Levee Improvement District, No. 1, at McKinney.

The following improvements have been planned and announced by the State engineer: Private levee on Chambers and Waxahachie Creeks, Navarro County; Kaufman County Improvement District, No. 1, for raising the grade of the main levee on the Trinity River; Private Levee on Bois d'Arc Creek, Fannin County; Ellis Improvement District, No. 4, on Waxahachie and Union Creeks; Anderson County Improvement District, No. 1, on Trinity River.

The Gulf, Colorado and Santa Fe R. R. Co. (F. Merritt, Ch. Engr., Galveston) applied to the State Bd. Water Engineers at Austin for permission to construct an impounding reservoir (300,000,000 gal.) on Brown Creek, a tributary of the Colorado River; to construct an impounding reservoir (290,450 gal.) on Killdugan Creek, a tributary of the Brazos River, in Nolan County. Chas. A. Dailey, of San Angelo, also applied for permission to construct an impounding reservoir with a capacity of 11,548,960 cu. ft. for the diversion of 400 acre feet per annum for irrigation purposes in Bunnells County.

Dallas, Tex.—The Court of County Commission considering establishing a levee in neighborhood of Five Mile Creek. It is proposed to erect levees in Hudgins Levee District, on west bank of Trinity River and on Five Mile Creek, near Trinity Rod and Gun Club.

Lindsay, Cal.—All bids opened July 7 by C. W. Wright, Secy., Linsay-Strathmore Irrigation District, for irrigation work, to consist of 37 wells and well pumping plant, 12 miles concrete lined ditch, 85 miles riveted steel pressure pipe, two high-head pumping plants, rejected. New bids will be received in about 30 days. Stephen E. Kieffer, 57 Post Street, San Francisco, Ch. Engr.

Madera, Cal.—Formation of drainage district to reclaim about 88,633 acres of land and construction of ditches and levees along sloughs and San Joaquin River contemplated; cost about $400,000. J. W. S. Butler of Sacramento and H. S. Wanzer, Res. Manager, Chowchilla Ranch, interested.

Santa Ana, Cal.—Election to be held Aug. 7 to build dike about 7 miles along east bank of Santa Ana River for Olive-West Orange Protection Dist. Address Bd. Supervisors.

BIDS DESIRED.

Boston, Mass.—Until July 24, by Massachusetts Metropolitan Water and Sewerage Board (Henry P. Walcott, Chairman), for improving Beaver Dam Brook in Natick, Sherborn and Framingham, to consist in deepening, straightening and reconstructing Brook Channel for a length of 12,745 ft., and includes 25,500 cu. yd. earthwork, 12,600 sq. yd. stone paving, etc.

Buffalo, N. Y.—Until Aug. 15, at U. S. Engineer's Office at Buffalo, for dredging and rock excavation in Dunkirk Harbor. Advertised in Engineering Record.

Newark, N. J.—Until July 27, by Board Street and Water Commissioners, for grading Avenue R from Lincoln Highway to Peddie Street, in all about 370,000 yd. embankment, 650 lin. ft. 42 and 36 in. reinforced concrete drain pipe.

Monroe, Ga.—Until Aug. 1, for constructing drainage ditch for Cornish Creek Drainage Dist. W. D. Alexander, Designing Engineer, Charlotte, N. C.

Brazil, Ind.—Until July 31, by Eel River Improvement Co., for four levees, two concrete and steel flood gates, pumping plant and buildings, to reclaim land of Old Erie Canal reservoir in Perry and Lewis Township, Clay County, and Pierson Township, Vigo County; estimated cost $55,775. Frank A. Kattman, Engineer, Terre Haute.

Sac City, Iowa.—Until July 27, by County Board Supervisors, for improvement in Drainage Dist. No. 56, in Sac County, to consist of Main Drain 17,904 ft. long, from 8 to 32 in., with concrete bulkhead, etc.; Branch 1, Drain, 14,662 ft. long, 6 to 18 in., one catch basin; Branch Drain No. 5, 17,486 ft. long, 6 to 22 in., with catch basins, etc. E. W. Moyer, County Auditor.

Elk River, Minn.—Until July 28, by County Auditor, Arthur Robinson, Elk River, for constructing Judicial Ditch No. 1, of Sherburne and Anoka Counties, to consist of Main Ditch, Main Ditch (New Outlet), and a number of branch ditches.

Morris, Minn.—Until Aug. 2, by C. R. Wollthan, County Aud., for constructing Ditch No. 18 in Stevens County, to consist of main ditch and seven branches, to consist of approximately 944,787 ft. from 8 to 36-in. tile, together with bridges, culverts, etc. Estimated cost $65,677.

Curtis, Neb.—Until Aug. 1, by Board Supervisors, Drainage Dist. No. 1, of Frontier County, for constructing Drainage Ditches, from 40,000 to 80,000 cu. yd. Towl Engr. Co., 1123 City National Bank Bldg., Omaha, Drainage Comrs.

Donna, Tex.—Until Aug. 14 for constructing reservoirs, dams, laterals, canals, pumping plants, sluice gates, etc., in Donna Irrigation Dist. Address G. B. Merriwether, President Board Directors, Donna Irrigation Dist.

Carlsbad, N. M.—Until Aug. 1, by U. S. Reclamation Service, Carlsbad, for work involving the excavation of about 151,000 cu. yd. of material. A. P. Davis, Chief Engineer.

Riverside, Cal.—Until Aug. 26, by Board County Supervisors (A. B. Pilch, Secy.) for drainage work in Drainage Improvement Dist. No. 2, in vicinity of Perris, involving approximately 450,000 cu. yd. excav. for channels, levees, drainage pipe lines, etc.

Santa Ana, Cal.—Drainage bonds for $20,000 will be sold July 29, by Board Directors of Talbert Drainage Dist., Helen V. Cartmell, Secy.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Boston, Mass.**—Contract for dredging about 2,000,000 sq. ft. in Boston Harbor awarded Maryland Dredging Co., 1515 Fidelity Building, Baltimore, Md.

★**Philadelphia, Pa.** — Following bids opened at the U. S. Engr. Office, Philadelphia, July 14, by Major J. C. Oakes, Corps of Engineers, for dredging in channel of the Delaware River, on Mifflin and Connecticut Ranges; material to be removed, about 290,000 cu. yd. (price given per cubic yard): Coastwise Dredging Co., Norfolk, Va., 19 cts. yd.; Maryland Dredging & Contracting Co., Baltimore, Md., 16.2 cts. (awarded contract); Bowers Southern Dredging Co., Galveston, Tex., 18 cts.; Eugene Breymann, Boston, Mass., 16⅞ cts.; American Dredging Co., Philadelphia, 17.5 cts.

★**Shreveport, La.**—Contract for construction of Battling Slough Levee awarded to M. Tansey, of Memphis, Tenn., at $80,000, or 22.65 cts. per yard, by the Caddo Levee Board. About 350,000 yards of material to be removed.

★**Emmetsburg, Iowa.**—Contract for constructing Drainage Ditch, No. 81, Des Moines River Open Ditch, awarded to Sternburg Bros., of St. Louis, Mo., at $5.44 per cubic yard. T. R. Martin, County Engineer.

★**Blue Earth, Minn.**—Following bids opened July 7, constructing Ditch No. 34: G. E. Gilbertson & Son, of St. James, $25,710 (awarded contract); Ole Olson, of Blue Earth, $28,957. J. L. Herring, County Auditor.

★**Pecos, Tex.**—Directors of Irrigation Dist. No. 1 awarded contract to A. D. Jamison, of Grand Falls, for constructing reservoir near city at $124,700. Work to begin at once.

Lindsay, Cal.—See "Proposed Work."

MISCELLANEOUS

PROPOSED WORK.

Power—Binghamton, N. Y.—The Binghamton Light, Heat & Power Co. has obtained control of the Hobart farm, west of Johnson City, on which it will erect a new power plant, to cost about $500,000.

Transmission Line—Ashland, Ala.—The Alabama Power Co. of Birmingham is planning to erect a transmission line from Ashland to Lineville and from Huntsville to Gurley.

Park Improvements—Alexandria, La.—Citizens voted $30,000 bonds for park improvements. Sol Weil, City Secretary-Treasurer.

Power — Monroe, La. — See "Water Works and Sewerage."

Park Improvements—Knoxville, Tenn.—Plans being prepared for improvements to parks, $50,000 bond issued recently voted.

Transmission Line—Dayton, Ind.—The Mulberry Light & Power Co., recently organized, has applied to the County Commissioners for a franchise to erect a transmission line along the Jackson highway from Mulberry to Dayton.

Garbage—St. Paul, Minn.—Commissioner Goss, in a report to the City Council, recommended the construction of a garbage disposal plant.

Incinerator—Tyler, Tex.—Installation of an abbatoir and incinerator contemplated. Address Albert Woldert, City Health Officer.

Conduits—Norwich, Ont.—A conduit is to be laid in city to place all overhead wires underground. F. J. Ure of Woodstock, Engr.

BIDS DESIRED.

Removal Snow—New York, N. Y.—Until July 27, by J. T. Fetherston, Comr. of Street Cleaning, for furnishing labor, material, etc., for removal of snow and ice for winter 1916 and 1917 in Boroughs of Manhattan, Brooklyn and Bronx. Security $26,000.

Asphalt—Pittsburgh, Pa.—Until July 25, by City Controller, for refined asphalt for the use of the Bureau of Highways and Sewers for year.

Motor Sweeper—Jacksonville, Fla.—Until Aug. 4, by Board Bond Trustees (W. M. Bostwick, Jr., Chairman), for furnishing combination motor driven street sweeper, sprinklers and collectors, advertised in Engineering Record.

Crushed Stone—Greenfield, Ind.—Until July 29, for furnishing different kinds and grades of crushed stone in large quantities. Address County Auditor.

Electric Equipment—Albany, Ill.—Until Aug. 1, at Town Hall, for local electric distribution system at Town Hall. Address Town Clerk. Advertised in Engineering Record.

Incinerator, Outremont, Que.—Until Aug. 2, by City Council, for constructing an incinerating plant. E. T. Sampson, Secy. Treas.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Cement—Fresno, Cal.—Following bids opened for furnishing 2205 bbl. cement to county: Standard Portland Cement Co., San Francisco; Santa Cruz Portland Cement Co., San Francisco, and Henry Cowell Lime & Cement Co., San Francisco, all bid $2.83 per bbl.

Proposals

For Proposals Advertised See Pages 41, 42, 43 and 44

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.		See Eng. Record.
Jul. 24.	West Park, Ohio	Jul. 1
Jul. 24.	Saskatoon, Sask.	Jul. 8
Jul. 24.	Skillman, N. J.	Jul. 8
Jul. 24.	Somerville, N. J.	Jul. 8
Jul. 24.	Garrison, N. D.	Jul. 15
Jul. 24.	Seattle, Wash.	Jul. 15
Jul. 24.	Racine, Wis.	Jul. 15
Jul. 24.	Dover, Ohio. Adv. Jul. 15.	Jul. 15
Jul. 24.	Los Angeles, Cal.	Jul. 15
Jul. 24.	Long Island City, L. I., N. Y.	Jul. 22
Jul. 25.	Shreveport, La. Adv. Jul. 15.	Jul. 15
Jul. 25.	Rahway, N. J. Adv. Jul. 15.	Jul. 15
Jul. 25.	New York, N. Y.	Jul. 22
Jul. 26.	Eufaula, Okla.	Jul. 15
Jul. 26.	Wahoo, Neb.	Jul. 15
Jul. 26.	Kingsville, Tex. Adv. Jul. 15.	Jul. 15
Jul. 26.	New York, N. Y.	Jul. 15
Jul. 26.	Brooklyn, N. Y.	Jul. 22
Jul. 26.	Harmony, Pa.	Jul. 22
Jul. 26.	New York, N. Y.	Jul. 22
Jul. 27.	Miller, Neb.	Jul. 22
Jul. 28.	Chaffee, Mo. Adv. Jul. 8, 15.	Jul. 8
Jul. 28.	Holbrook, Mass.	Jul. 15
Jul. 28.	Indianapolis, Ind.	Jul. 15
Jul. 28.	Clermont, Iowa	Jul. 22
Jul. 28.	Peotone, Ill.	Jul. 22
Jul. 28.	Ironton, Ohio	Jul. 22
Jul. 29.	Oregon City, Ore.	Jul. 1
Jul. 31.	Panama	Jul. 22
Aug. 1.	South Charleston, Ohio. Adv. Jul. 15.	Jul. 15
Aug. 1.	Ridgfield Park, N. J. Adv. Jul. 15.	Jul. 15
Aug. 1.	Dixon, Ill.	Jul. 22
Aug. 1.	Toronto, Ont.	Jul. 22
Aug. 1.	East Hartford, Conn.	Jul. 22
Aug. 2.	Hoboken, N. J. Adv. Jul. 15, 22.	Jul. 15
Aug. 2.	Dixon, Neb.	Jul. 22
Aug. 3.	Miami, Fla.	Jul. 1
Aug. 3.	Riverton, N. J.	Jul. 22
Aug. 3.	Thiells, N. Y.	Jul. 22
Aug. 5.	Lethbridge, Alta. Adv. Jul. 22.	Jul. 22
Aug. 7.	Cleveland Heights, P. O. Warrensville, Ohio	Jul. 22
Aug. 7.	Panama	Jul. 22
Aug. 7.	Fort Benton, Mont.	Jul. 22
Aug. 7.	Athens, Pa.	Jul. 22
Aug. 8.	Assiniboia, Sask.	Jul. 22
Aug. 8.	Oxford, N. Y. Adv. Jul. 22.	Jul. 22
Aug. 9.	Sheridan, Mont. Adv. Jul. 15, 22.	Jul. 15
Aug. 10.	Red Creek, N. Y. Adv. Jul. 15.	Jul. 15
Aug. 10.	Coshocton, Ohio	Jul. 22
Aug. 12.	Hoboken, N. J.	Jul. 22
Aug. 14.	Ravenna, Ohio	Jul. 22
Aug. 15.	Kennedy, Tex.	Jul. 22
Aug. 15.	Savannah, Ga. Adv. Jul. 22.	Jul. 22
Aug. 16.	Winnebago, Wis.	Jul. 22
Aug. 16.	Fargo, N. D. Adv. Jul. 22.	Jul. 22

STEEL BRIDGE WORK.

Jul. 25.	Genessee, Ill.	Jul. 22
Jul. 25.	Waukon, Iowa	Jul. 22
Jul. 25.	Pembroke, Ont.	Jul. 22
Jul. 25.	Lineville, Pa.	Jul. 22
Jul. 26.	Mt. Carroll, Ill.	Jul. 22
Jul. 26.	New Hampton, Iowa	Jul. 22
Jul. 26.	Hartford, Conn.	Jul. 22
Jul. 27.	Sleepy Eye, Minn.	Jul. 22
Jul. 28.	Cuyahoga Falls, Ohio	Jul. 22
Jul. 28.	Easton, Pa.	Jul. 8
Jul. 29.	Louisville, Ky. Adv. Jul. 8, 15 to 22.	Jul. 8
Jul. 31.	Takoma Park, D. C. Adv. Jul. 15.	Jul. 22
Jul. 31.	Washington, D. C.	Jul. 22
Aug. 1.	Pascagoula, Miss	Jun. 24
Aug. 2.	Gunnison, Col.	Jul. 15
Aug. 3.	Crookston, Minn.	Jul. 22
Aug. 4.	Newman, Ga.	Jul. 8
Aug. 7.	Klamath Agency, Ore. Adv. Jul. 15, 22.	Jul. 15
Aug. 7.	Tulsa, Okla.	Jul. 15
Aug. 7.	Pascagoula, Miss.	Jul. 22
Aug. 8.	La Moure, N. D.	Jul. 8
Aug. 8.	Petersburg, Ind.	Jul. 22
Aug. 8.	Ellendale, N. D.	Jul. 22
Aug. 12.	Miles City, Mont. Adv. Jul. 22.	Jul. 22
Aug. 14.	Dayton, Ohio	Jul. 22
Aug. 14.	Heflin, Ala.	Jul. 22
Aug. 14.	Lisbon, Ohio	Jul. 22
Aug. 15.	Petersburg, Va. Adv. Jul. 8, 15.	Jul. 8
Aug. 17.	Ray, Ariz.	Jul. 22

REINFORCED CONCRETE.

Jul. 10.	Washington, D. C. Adv. Jul. 22.	Jul. 22
Jul. 24.	Los Angeles, Cal.	Jul. 1
Jul. 24.	Sioux City, Iowa	Jul. 15
Jul. 24.	Blue Earth, Minn.	Jul. 15
Jul. 25.	Napa, Cal.	Jul. 15
Jul. 25.	Ida Grove, Iowa	Jul. 15
Jul. 25.	Williamstown, Pa.	Jul. 22
Jul. 25.	Maxwell, Minn.	Jul. 22
Jul. 26.	Illinois	Jul. 15
Jul. 27.	Prairie Du Chien, Wis.	Jul. 8
Jul. 27.	Shawano, Wis.	Jul. 15
Jul. 27.	Illinois	Jul. 22
Jul. 29.	Illinois	Jul. 22
Jul. 31.	Illinois	Jul. 15
Jul. 31.	Ward Springs, Minn.	Jul. 22
Aug. 2.	New Orleans, La.	Jul. 15
Aug. 2.	Illinois	Jul. 22
Aug. 3.	Dayton, Ohio	Jul. 15
Aug. 4.	Ann Arbor, Mich.	Jul. 22
Aug. 7.	Colfax, Wash.	Jul. 15
Aug. 15.	Minneapolis, Minn.	Jul. 22

ROADS AND PAVING.

Jul. 24.	Wetumpka, Ala.	Jul. 1
Jul. 24.	Fairview, N. J.	Jul. 8
Jul. 24.	Olympia, Wash.	Jul. 1
Jul. 24.	Seattle, Wash.	Jul. 15
Jul. 24.	West Park, Ohio	Jul. 15
Jul. 24.	New Boston, Ohio	Jul. 15
Jul. 25.	Amite, La.	Jul. 8
Jul. 25.	Somerville, N. J.	Jul. 8
Jul. 25.	Toledo, Ohio	Jul. 8
Jul. 25.	Great Falls, Mont.	Jul. 8
Jul. 25.	Hammond, La.	Jul. 15
Jul. 25.	Paragould, Ark. Adv. Jul. 15.	Jul. 15
Jul. 25.	Trenton, N. J.	Jul. 15
Jul. 25.	Emporium, Pa. Adv. Jul. 22.	Jul. 22
Jul. 25.	Peoria, Ill.	Jul. 22
Jul. 25.	Trenton, N. J.	Jul. 22
Jul. 25.	Kansas City, Mo.	Jul. 22
Jul. 25.	Estacada, Ore.	Jul. 22
Jul. 26.	Sandusky, Ohio	Jul. 15
Jul. 26.	Paterson, N. J.	Jul. 15
Jul. 26.	Lebanon, Pa. Adv. Jul. 15.	Jul. 15
Jul. 26.	Baltimore, Md.	Jul. 22
Jul. 26.	Bonds, Wellsburg, W. Va. Adv. Jul. 22.	Jul. 22
Jul. 26.	Illinois	Jul. 22
Jul. 26.	New York, N. Y.	Jul. 22
Jul. 26.	Alliance, Ohio	Jul. 22
Jul. 26.	Connecticut	Jul. 22
Jul. 27.	Lake Charles, La. Adv. Jul. 8, 15.	Jul. 8
Jul. 27.	Indiana	Jul. 8
Jul. 27.	Findlay, Ohio	Jul. 22
Jul. 27.	Indiana	Jul. 22
Jul. 28.	Lexington, Miss. Adv. Jul. 15, 22.	Jul. 15
Jul. 28.	Rutherford, N. J.	Jul. 15
Jul. 28.	Indianapolis, Ind.	Jul. 15
Jul. 28.	Indiana	Jul. 15
Jul. 28.	Bowling Green, Ohio	Jul. 22
Jul. 28.	Louisville, Miss.	Jul. 22
Jul. 28.	Coldwater, Mich.	Jul. 22
Jul. 28.	Ft. Scott, Kan.	Jul. 22
Jul. 29.	Washington, Ohio	Jul. 22
Jul. 29.	Tacoma, Wash.	Jul. 22
Jul. 29.	Indiana	Jul. 22
Jul. 29.	Salem, Ohio.	Jul. 22
Jul. 31.	Corinth, Miss. Adv. Jul. 15, 22.	Jul. 15
Jul. 31.	Norwood, Ohio	Jul. 22
Jul. 31.	Mt. Holly, N. J.	Jul. 22
Jul. 31.	Helena, Mont.	Jul. 22
Aug. 1.	Guntersville, Ala.	Jul. 1
Aug. 1.	Gary, Ind.	Jul. 1
Aug. 1.	Shaker Heights, Ohio	Jul. 8
Aug. 1.	Helena, Ark.	Jul. 8
Aug. 1.	Evergreen, Ala.	Jul. 15
Aug. 1.	Jersey City, N. J.	Jul. 22
Aug. 1.	Barbourville, Ky. Adv. Jul. 22.	Jul. 22
Aug. 1.	Dillonville, Ohio	Jul. 22
Aug. 1.	Billings, Mont.	Jul. 22
Aug. 1.	Lock Haven, Pa.	Jul. 22
Aug. 1.	Tiffin, Ohio.	Jul. 22
Aug. 1.	Princeton, Ky.	Jul. 22
Aug. 1.	Bound Brook, N. J. Adv. Jul. 22.	Jul. 22
Aug. 1.	Montclair, N. J. Adv. Jul. 22.	Jul. 22
Aug. 2.	Jersey City, N. J.	Jul. 22
Aug. 2.	Asheville, Ala.	Jul. 22
Aug. 2.	Clarkesburg, W. Va.	Jul. 22
Aug. 3.	Fairmont, W. Va. Adv. Jul. 15, 22.	Jul. 15
Aug. 3.	Indiana	Jul. 22
Aug. 5.	Indiana	Jul. 22
Aug. 5.	Magnolia, Miss.	Jul. 22
Aug. 7.	Cleveland Heights (P. O. Warrensville), Ohio	Jul. 8
Aug. 7.	Baltimore, Md.	Jul. 8
Aug. 7.	Lewiston, Idaho	Jul. 15
Aug. 7.	Albuquerque, N. M.	Jul. 15
Aug. 7.	Indiana	Jul. 15
Aug. 7.	Burlington, Wash.	Jul. 22
Aug. 7.	Macon, Miss.	Jul. 22
Aug. 7.	Smyrna, Fla.	Jul. 22
Aug. 7.	Albany, N. Y. Adv. Jul. 22.	Jul. 22
Aug. 7.	Washington	Jul. 22
Aug. 7.	Lakeland, Fla.	Jul. 22
Aug. 7.	De Land, Fla.	Jul. 22
Aug. 7.	Ravenna, Ohio	Jul. 22
Aug. 7.	New Orleans, La.	Jul. 22
Aug. 7.	Indiana	Jul. 22
Aug. 8.	Republic, Wash.	Jul. 15
Aug. 8.	West New York, N. J.	Jul. 22
Aug. 8.	Greenfield, Ohio	Jul. 22
Aug. 8.	Indiana	Jul. 22
Aug. 9.	Indiana	Jul. 22
Aug. 9.	Indiana	Jul. 15
Aug. 9.	Martinsville, W. Va. Adv. Jul. 15.	Jul. 15
Aug. 10.	Elkins, W. Va.	Jul. 15
Aug. 10.	Waterville, Wash.	Jul. 22
Aug. 10.	Indiana	Jul. 22
Aug. 14.	Birmingham, Ala. Adv. Jul. 15, 22.	Jul. 8
Aug. 14.	Perrysburg, Ohio	Jul. 8
Aug. 14.	Camden, Ala.	Jul. 22
Aug. 16.	Bay Minette, Ala.	Jul. 22
———	Ocean City, N. J. Adv. Jul. 15.	Jul. 15

RAILROADS.

Jul. 25.	Roseburg, Ore.	Jul. 22

INDUSTRIAL PLANTS AND WAREHOUSES.

Jul. 27.	Fargo, N. D.	Jul. 22

BUILDINGS.

Public and Private.

Jul. 24.	Sweetwater, Tex.	Jul. 8
Jul. 24.	Red Oak, Iowa	Jul. 8
Jul. 24.	Minot, N. D.	Jul. 8
Jul. 24.	Grand Island, Neb.	Jul. 15
Jul. 24.	Fowler, Ind.	Jul. 15
Jul. 24.	New York, N. Y.	Jul. 15
Jul. 25.	Webster, S. D.	Jul. 1
Jul. 25.	Jersey City, N. J. Adv. Jul. 8, 15 and 22.	Jul. 8
Jul. 25.	Cedar, Iowa	Jul. 8
Jul. 25.	Montclair, N. J. Adv. Jul. 15.	Jul. 15
Jul. 25.	Waynesboro, Va.	Jul. 22
Jul. 25.	Floyd, Iowa	Jul. 22
Jul. 25.	Indianapolis, Ind.	Jul. 22
Jul. 25.	Murphysboro, Ill.	Jul. 22
Jul. 25.	Lacona, Iowa	Jul. 22
Jul. 26.	Washington, D. C. Adv. Jul. 1 to 15.	Jul. 1
Jul. 26.	Salt Lake City, Utah	Jul. 22
Jul. 26.	Davenport, Iowa	Jul. 22
Jul. 27.	Galt, Ont.	Jul. 22
Jul. 27.	Alliance, Ohio	Jul. 22
Jul. 27.	Secaucus, N. J.	Jul. 22
Jul. 27.	Los Angeles, Cal.	Jul. 22
Jul. 27.	Paterson, N. J.	Jul. 22
Jul. 28.	Huntington, Ind.	Jul. 8
Jul. 28.	Grinnell, Iowa	Jul. 15
Jul. 28.	Camp Verde, Ariz.	Jul. 15
Jul. 28.	Circleville, Ohio	Jul. 22
Jul. 28.	Oxford Junction, Iowa	Jul. 22
Jul. 29.	Vallejo, Cal.	Jul. 8
Jul. 29.	Perrysville, Ind.	Jul. 15
Jul. 29.	New Castle, Pa.	Jul. 22
Jul. 29.	Perryville, Ind.	Jul. 22
Jul. 31.	Le Grand, Iowa	Jul. 15
Jul. 31.	Connellsville, Pa.	Jul. 15
Jul. 31.	Calumet, Mich.	Jul. 15
Jul. 31.	Jacksonville, Fla.	Jul. 22
Jul. 31.	Cedar Rapids, Iowa	Jul. 22
Aug. 1.	Irwin, Pa.	Jul. 1
Aug. 1.	Newburyport, Mass.	Jun. 24
Aug. 1.	Alton, Ill.	Jul. 8
Aug. 1.	Asheville, N. C.	Jul. 8
Aug. 1.	New Britain, Conn.	Jul. 15
Aug. 1.	Coshocton, Ohio	Jul. 15
Aug. 1.	St. Charles, Ill.	Jul. 15
Aug. 1.	Carroll, Iowa	Jul. 22
Aug. 1.	Johnstown, Pa.	Jul. 22
Aug. 1.	Yorkville, Ohio	Jul. 22
Aug. 1.	Philadelphia, Pa.	Jul. 22
Aug. 1.	Akron, Ohio	Jul. 22
Aug. 2.	New Orleans, La.	Jun. 24
Aug. 2.	Shreveport, La.	Jul. 22
Aug. 2.	Wellington, Ohio	Jul. 22
Aug. 2.	Streator, Ill.	Jul. 22
Aug. 3.	Athens, Ohio	Jul. 15
Aug. 3.	Bryan, Ohio	Jul. 22
Aug. 7.	Portland, Ore. Adv. Jun. 10, 17.	Jun. 10
Aug. 7.	Tulsa, Okla.	Jul. 15
Aug. 7.	Sumter, S. C.	Jul. 22
Aug. 8.	Lakewood, Ohio. Adv. Jul. 15.	Jul. 15
Aug. 8.	Calgary, Alta.	Jul. 22
Aug. 8.	Eau Claire, Wis.	Jul. 22
Aug. 10.	Fort Wayne, Ind.	Jul. 15
Aug. 10.	Sumter, S. C.	Jul. 22
Aug. 11.	Burlington, N. C. Adv. Jul. 8, 15.	Jul. 8
Aug. 11.	Seattle, Wash.	Jul. 22
Aug. 11.	Frederickton, Ohio	Jul. 22
Aug. 12.	Front Royal, Va. Adv. Jul. 22.	Jul. 22
Aug. 14.	Cumberland, Iowa	Jul. 22
Aug. 14.	Jackson, Mich.	Jul. 22
Aug. 15.	Charleston, W. Va.	Jul. 22
Aug. 16.	Newark, Ohio. Adv. Jul. 15.	Jul. 15
Aug. 16.	Charleston, W. Va.	Jul. 22
Aug. 17.	Ridgewood, N. J.	Jul. 22
Aug. 21.	Winnipeg, Man.	Jul. 22
Aug. 21.	Buffalo, N. Y. Adv. Jul. 22.	Jul. 22
Aug. 25.	Ashland, Ohio Adv. Jul. 22.	Jul. 22
Aug. 28.	Nashville, Tenn.	Jul. 8
———.	Reidsville, N. C. Adv. Jun. 17.	Jun. 17

FOUNDATIONS, PIERS AND DAMS.

Jul. 24.	Girard, Kan.	Jul. 8
Jul. 25.	Newark, N. J.	Jul. 15
Jul. 25.	Steubenville, Ohio	Jul. 22
Jul. 26.	San Francisco, Cal. Adv. Jul. 15, 22.	Jul. 15
Jul. 26.	Seattle, Wash.	Jul. 22
Jul. 31.	Warren, Ohio	Jul. 8
Aug. 5.	Bay St. Louis, Miss.	Jul. 15
Aug. 8.	New Orleans, La.	Jul. 22
Aug. 11.	Cape Girardeau, Mo. Adv. Jul. 15, 22.	Jul. 15
Aug. 11.	Norwich, Conn. Adv. Jul. 15.	Jul. 15

EXCAVATION, DREDGING AND DRAINAGE.

Jul. 25.	Morris, Minn.	Jul. 1
Jul. 25.	Wilmar, Minn.	Jul. 1
Jul. 26.	Charleston, S. C. (2 Props) Adv. Jul. 1.	Jul. 1
Jul. 27.	Jacksonville, Ill. Adv. Jul. 15 and 22.	Jul. 8
Jul. 27.	Newark, N. J.	Jul. 22
Jul. 27.	Sac City, Iowa	Jul. 22
July 28.	Richfield, Utah Adv. Jul. 1.	Jul. 1
Jul. 28.	Elk River, Minn.	Jul. 22
Jul. 29.	Santa Ana, Cal.	Jul. 22
Jul. 30.	Burtville, La.	Jul. 15
Jul. 30.	Anoka, Minn.	Jul. 15
Jul. 31.	Brazil, Ind.	Jul. 22
Aug. 1.	Trenton, N. J. Adv. Jul. 15, 22.	Jul. 15
Aug. 1.	Carlsbad, N. M.	Jul. 22
Aug. 1.	Curtis, Neb.	Jul. 22
Aug. 1.	Monroe, Ga.	Jul. 22
Aug. 1.	Rock Island, Ill.	Jul. 22
Aug. 2.	Morris, Minn.	Jul. 22
Aug. 10.	Lancaster, Ohio	Jul. 15
Aug. 14.	Malta, Mont. Adv. Jul. 15.	Jul. 15
Aug. 14.	Donna, Tex.	Jul. 22
Aug. 15.	Buffalo, N. Y. Adv. Jul. 22.	Jul. 22
Aug. 15.	Buffalo, N. Y. Adv. Jul. 22.	Jul. 22
Aug. 16.	Powell, Wyo.	Jul. 22
Aug. 18.	Washington, D. C. Adv. Jul. 15.	Jul. 15
Aug. 26.	Riverside, Cal.	Jul. 22
———.	Yemassee, S. C. Adv. Jun. 24.	Jun. 24

MISCELLANEOUS.

Jul. 24.	Elec. Trailers and Trucks, Jacksonville, Fla. Adv. Jul. 8, 15 and 22.	Jul. 8
Jul. 25.	Asphalt, Pittsburgh, Pa.	Jul. 22
Jul. 27.	Snow Removal, New York, N. Y.	Jul. 22
Jul. 29.	Crushed Stone, Greenfield, Ind.	Jul. 22
Aug. 1.	Electric Equipment, Albany, Ill. Adv. Jul. 22.	Jul. 22
Aug. 2.	Garage Incinerator, Outremont, Que.	Jul. 22
Aug. 2.	Garbage Disposal, Des Moines, Iowa Adv. Jul. 8, 15 and 22.	Jul. 8
Aug. 3.	Limestone and Brick, Fairmont, W. Va. Adv. Jul. 15, 22.	Jul. 15
Aug. 4.	Motor Sweeper, Jacksonville, Fla. Adv. Jul. 22.	Jul. 22
Aug. 9.	Limestone and Brick, New Martinsville, W. Va. Adv. Jul. 15, 22.	Jul. 15
Aug. 12.	Dredge—Vallejo, Cal.	Jul. 15
Aug. 23.	Purchase of Locomotives, Panama Adv. Jul. 1.	Jun. 24
Aug. 23.	Engine—Panama Adv. Jul. 15.	Jul. 15

Steel Earnings Last Quarter Show Great Increase

Further Demands May Be Expected from Foreign Sources Due to Large Russian Appropriation for Public Utilities

FURTHER demands upon United States producers will be occasioned by the recent passage of a bill by the Russian Council of Ministers authorizing an immense expenditure during the next five years for construction of public utilities. Russian agents are reported to be in New York City now with authority to purchase enormous quantities of material. Further indications of increased foreign demand are estimates giving the proportion of pig iron produced in Philadelphia going to foreign countries as nearly two-thirds of the output. The announcement of the proposed expenditure of $70,000,000 for improvements by the Bethlehem Steel Corporation is regarded as an expression of confidence in the future of the iron business in this country.

Reports of U. S. Steel earnings published this week show the biggest profit in history. For the three months ending June 30 the net income above cost of operation and repairs was $81,126,048, as compared with $60,713,624 for the preceding period. The earnings for the June quarter last year came to only $27,950,055.

Demands for steel rails from various railroads are adding to the mills' enormous bookings. France has placed an order for 14,000 tons with the Pennsylvania Steel Company, and the Southern Pacific Railway has ordered 80,000 tons from the Tennessee company. It has been announced that the Canadian Pacific is in the market for an additional 30,000 tons and the Canadian Northern for 50,000 tons. The Harriman lines have placed orders for 6000 tons of tie plates at $50 per ton. The Western Maryland has bought 2250 kegs of spikes, and the Seaboard Air Line is negotiating for about 10,000 kegs. A new inquiry is for 15,000 tons for delivery in South Africa.

Hasty Filing of Building Plans

Plans for new office, loft and apartment buildings to cost more than $10,000,000 were filed in a single day—July 25—in the Borough of Manhattan, New York City. The rush began Thursday of last week and from then up to and including last Tuesday plans for $16,000,000 worth of proposed buildings were filed. The unusual boom was caused by the adoption of a resolution by the Board of Estimate restricting the height of buildings in certain sections of the city. The measure and the significance of its adoption are noted more fully in the "News of the Week" section.

Damage due to floods throughout the Carolinas, Virginia, Alabama and Mississippi has been largely confined to the destruction of crops and cotton. However, the roads, bridges and buildings loss has been unusually heavy and increased construction activity in that section may be expected as a result.

The larger proposed building projects noted in this week's contracting news include a $200,000 school at Dunkirk, N. Y.; a $500,000 convent at Toronto; a $500,000 hotel at New Orleans, and $150,000 car shops at Baltimore for the Western Maryland Railway. A factory is to be built at San Francisco at a cost of $250,000; at St. Louis plans are being prepared for a $500,000 hotel. Other proposed buildings are one at Northampton, costing $275,000; another at Sioux Falls, S. D., $250,000, and an apartment house at Baltimore for $200,000.

Waterworks and Sewers

Bids are desired at Lexington, Ky., and Sweetwater, Tex., for sewage-disposal works. A large contract will be let in New York City for constructing sewers and appurtenances. Riverton, Wyo., is asking for bids on a sewer system. Contract for building a $500,000 sewage-disposal plant at Milwaukee was awarded. At Plainfield, N. J., a $115,235 contract was awarded for pumping station and sewers. Sewerage systems are proposed at Holden, N. J.; Clinton, Iowa; Florence, Ala.; Richmond and San Francisco, Cal. At Fresno, Cal., contracts for $500,000 storm and sanitary sewer systems will probably be let this fall. Hamilton, Ont., plans purchasing waterworks equipment to cost $70,000. A disposal plant and sewerage system have been voted for Mount Gilead, Ohio. Macksville, Kan., has $30,000 to invest in a waterworks system.

Paving Work Continues Active

Some of the large paving contracts are summarized below:

Contracts awarded:	Kinds	Cost or Quantity
Hopkinsville, Ky.	Macadam	$208,278
Baltimore, Md.	Asphalt	82,800
Ohio State	Various kinds	384,000
Jersey City, N. J.	Highway	110,000
Miami, Fla.	Asphalt	121,103
Proposed work:		
Corpus Christi, Tex.	Bonds for sale	150,000
Athens, Tex.	Election to be held	250,000
Warren, Ohio	Bonds for sale	158,000
St. Paul, Minn.	Wood block	122,677
West Palm Beach, Fla.	Election to be held	150,000
Sandusky, Ohio	Bonds for sale	84,000
Bids desired:		
Pine Bluff, Ark.	Macadam	250,000
Vallejo, Cal.	Concrete	140,000
Birmingham, Ala.	Highway	14 miles
Albany, N. Y.	Highway	335 miles

Miscellaneous Headings

Contract for elimination of four grade crossings has been let at Columbus, Ohio. At Minneapolis a $400,000 addition to the Russell Hotel is planned. Eleven concrete bridges will be erected at Montreal at a probable cost of $500,000. A four-span concrete arch will be erected at Portageville, N. Y., while at San Diego a $50,000 concrete structure is being advocated. Contract for a bulkhead at Venice, Cal., has been awarded at $125,000. Dams costing $690,400 and pipe lines costing $250,000 are to be voted on in September at San Diego, Cal. Large contracts for levee work will be let in August at Baton Rouge and Rayville, La. Surveys for 23 miles of levee repair and reconstruction are reported from Muscatine, Iowa.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Forestport, N. Y.—State Conservation Commission, Albany, is having surveys made for establishment of storage reservoirs for regulation of water flow of the Black River valley. Assistant Engineer Edwin S. Cullings of Albany is in charge.

Mt. Morris, N. Y.—The Village Bd. of Trustees considering constructing a pipe line for municipal waterworks; cost about $25,000.

Rochester, N. Y.—Reported construction work will soon begin by Eastman Kodak Company on pipe line to Lake Ontario, capacity 12,000,000 gal. per day, extending from Kodak Park to the shore and out 7800 ft. into Lake Ontario, where the intake will be in a crib in 50 ft. of water; the Lake segment of pipe line will be 42 in. in diameter and remainder 24 in. in diameter. A pumping station is to be erected on lake shore opposite Dewey Avenue east of Bennett Woods and at Kodak Park a reservoir of 6,000,000 gal. capacity will be built. The Eastman Kodak Co. will also erect a reinforced concrete warehouse 5 story, 147 x 343 ft., and a railway on Hanford Road.

Edgewater, N. J.—All bids opened by City Council for constructing Sewer No. 11 rejected.

Haledon, N. J.—Plans for sewerage system being prepared by H. J. Harder, City Engr., Paterson.

Pitman, N. J.—Citizens July 18 voted to construct a sewer system and disposal plant. J. E. Peterson, Borough Clerk.

Prospect Park, N. J.—Contract soon to be let for constructing a sewerage system and sewage disposal works. Address H. J. Harder, Engr., Paterson.

Nescopeck, Pa.—Citizens of Borough considering water works costing $70,000. Address Borough Clerk.

Hagerstown, Md.—City Sewerage Commission purchased site for sewage disposal plant.

Atlanta, Ga.—Resolution adopted by Council for improvements to water works system, including addition of 1,000,000-gal. pump, to present equipment, and building of a dam designed to deflect the river current to a more navigable connection with the intake pipes at pumping station.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Lockhard, Fla.—The Citizens Light & Water Co. incorporated to construct water works and power plant.—Capital $75,000.

St. Cloud, Fla.—Election to be held Sept. 5 to vote on constructing a sewer system and septic tank (65,000 gal. daily capacity) to cost $21,000. Wilbur A. Ginn, Engineer, Sanford; Fred B. Kenney, City Clerk.

St. Cloud, Fla.—An election soon to be held to vote $114,000 bonds, if carried, a waterworks system costing $72,000 and sewerage system and disposal plant costing $21,000 will be built. Other improvements contemplated include street improvements. Address City Clerk.

Florence, Ala.—Bd. of City Commissioners engaged Knight & Quayle, Consulting Engineers, Chattanooga, Tenn., to make a study and report on city sewerage and garbage situation, including prospective enlargement and extension to present system.

Coffeeville, Miss.—Water works bonds for $15,000 will be sold Aug. 1 by F. L. Dye, Clk. Mayor, Board Aldermen.

Laurel, Miss.—Plans prepared and contract soon to be let for extending the storm sewers. Address Mayor.

New Orleans, La.—Reported extensions to water system and pavements contemplated. Address George L. Sarpy and L. A. Donechaud, Members of Committee in Charge of Improvements.

Louisville, Ky.—Louisville Water Works Board has engaged J. M. Johnson, 54 Board of Trade Building, Louisville, as consulting engineer for new pumping station on Ohio River. James Wilson, Chief Engineer of company, prepared plans, which have been submitted to Mr. Johnson for approval.

Cincinnati, Ohio.—Construction of a reservoir in western section of city contemplated, capacity 200,000,000 gals. Address Supt. Water Works.

Cleveland, Ohio.—City Council authorized the issue of $2,000,000 bonds for sewage disposal plants, $1,000,000 for proposed public hall and $500,000 for waterworks improvements.

Sidney, Ohio.—Election to be held Aug. 8 to vote on constructing an 8-in. sewer, to cost $19,700. Thaleon Blamc, Engineer, Sidney.

St. Marys, Ohio.—Citizens voted bonds for municipal water works and electric light plant. Address City Clerk.

Clinton, Iowa.—J. G. Thorne, City Engineer, has been authorized by Council to complete plans for new waterworks system. Plans will be completed in fall.

Greenville, Ohio.—Contract soon to be let by City for a steam-driven air compressor and air-lift equipment for two wells. J. W. Moore, 47 Union Trust Bldg., Indianapolis, Ind., Engr.

Sewer bonds for $20,000 will be sold Aug. 16 by C. R. Jobes, City Auditor.

Lima, Ohio.—Plans completed by R. W. Pratt of Cleveland and W. G. Clark, Toledo, for pump station, pumps and filtration plant for new water works, and plans for 1,000,000,000-gal. reservoir at Lost Creek will be completed in about 30 days.

Mt. Gilead, Ohio.—Council has voted to construct a special disposal plant and establish a sewerage system for village.

Salem, Ill.—See "Prices and Lettings."

Odebolt, Iowa.—Citizens voted bonds to construct waterworks. Bonds will be sold Aug. 7. W. V. Bickelhaupt, Engr., Des Moines; A. F. P. Schmitz, Clerk.

Galena, Kan.—A filtration plant costing $30,000 is to be constructed in connection with the municipal water plant, at a cost of $30,000. W. L. Ricksecker, City Engineer.

Macksville, Kan.—Citizens July 18 voted $30,000 bonds for water works system. W. B. Rollins & Company, Kansas City, Mo., Engineer; H. J. Weil, Mayor.

Park River, N. D.—All bids opened recently for constructing extensions to water works, including 3,500 ft. of new mains, have been rejected by City Council and new bids authorized. Address City Clerk.

Anaconda, Mont.—Reported Council has passed resolution providing for constructing a sewer in Third Street to connect with the Fourth Street sewer, and cost $42,000. Council is reported to have authorized construction of sewers in Alder Street, Eastern and Northern Additions of the city.

Carthage, Mo.—City contemplates laying about 2000 ft. of 44-in. storm sewer. F. B. Newton, City Engineer.

Joplin, Mo.—The City Commission engaged Albert Moore to make a survey and prepare estimates of cost of constructing main outlet arteries for storm sewers.

St. Louis, Mo.—Board of Estimate and Apportionment voted to approve an appropriation of $68,000, to be used in construction of relief sewers in residential districts, for repairs to old sewers and for elimination of foul odors from creeks and the River des Peres.

Stuggart, Ark.—Stuggart Public Service Company, recently organized, reported intends constructing water works and electric light plant to supply Stuggart and surrounding territory.

Jourdantown, Tex.—Extensive improvements contemplated to municipal water plant. A. M. Blythe, Gen. Manager.

Sweetwater, Tex. — Sewage disposal bonds for $50,000 will be sold Aug. 2 by W. H. Bartlett, City Secy.

Hunter, Okla.—Construction of waterworks contemplated by city. MacIntosh Walton Co. of Oklahoma, Engineers.

Miami, Okla.—Citizens voted $25,000 water works and electric light bonds. Address City Clerk.

Clayton, N. M.—Contract soon to be let for extending and improving water works, including 10 to 12 miles of 4- to 10-in. mains, one pump capable of lifting 250 gal. per minute or two pumps 125 gal. capacity. Air lift preferred. Cost $55,000. H. O. Duerr, Consulting Engineer, Clayton; M. R. Jones, Town Clerk.

Port Townsend, Wash.—City Council directed William J. Sadler, City Engineer, to survey a route for proposed pipe line to divert stream into headworks dam that will add 500,000. gals per day to present water supply.

Seattle, Wash.—Plans and specifications filed by Water Dept. (L. B. Youngs, Supt.) with Bd. of Public Works for constructing water main across West Waterway at Chelan Avenue; cost $15,000.

Reported City Utilities Committee is considering extensions and betterments to Cedar River water system, including construction of a steel main from Swan Lake to city reservoirs, to cost probably $3,000,000.

Vancouver, Wash.—North Coast Power Co., controlling street railway system and water works here, reported contemplates making extensive improvements, including 23,700 ft. water mains, of which 11,600 will be 8-in. pipe. It is also planned to lay an 18-in. gravity pipe line from springs east of city to reservoir, and to replace present 100,000-gal. tank with a 75-ft. tower. Company also considering installing water meters.

Eugene, Ore.—Contract will soon be let by city for constructing sewers in Fourteenth Avenue, to include 767 ft. 16-in., 400 ft. 14-in., and 386 ft. 12-in. sewer.

Corcoran, Cal.—The Corcoran Water & Gas Co. contemplates spending $10,000 for improvements to plant.

Fresno, Cal.—Contracts will probably be let in September by City Council for constructing a storm water sewer system and a sanitary sewer system, bonds amounting to $500,000 for which have been sold. B. E. Cronkite, City Engineer; Olmsted & Gillelen, Hollingsworth Building, Los Angeles, Consulting Engineers.

Richmond, Cal.—H. D. Chapman, City Engineer, completed specifications for a storm sewer and sanitary sewer about 2 miles long, to empty into inner harbor; cost $125,000.

San Francisco, Cal.—Plans prepared by H. W. Shimart, Asst. City Engineer, for construction of a sewer for district west of Twin Peaks; cost about $60,000.

Pocatello, Idaho.—Plans are being prepared for 15 miles of flow line pipe and enlargement of distribution system for the waterworks which the city recently purchased. The installation of meters, probably 200, is also under consideration. Edgar C. Smith, Superintendent of Water Department.

Montreal, Que.—Council voted to purchase water meters at a cost of $10,000. T. W. Lesage, Superintendent of Water.

Hamilton, Ont.—Plans for installing additional pumping equipment at water works to cost $70,000 are being prepared by Chief Engineer James Bain of the Water Works Department.

It is proposed to lay 1350 ft. 20-in. water main, costing about $10,000. G. R. Gray, Engineer, Hamilton.

BIDS DESIRED.

Boston, Mass.—By Edward F. Murphy, Comr. Pub. Works, as follows: Until July 31, for pipe sewers and drains in Alley No. 914, Roxbury and Clinton Street, city proper; until Aug. 1, pipe sewers and drains in Water Street and East Glenwood Avenue, Hyde Park; Aug. 2, by same place for pipe sewers and drains in Fulton and Barrett Streets and Cross Street, city proper.

Hartford, Conn.—Until Aug. 7, by Board Water Commissioners for laying c. i. water pipe in Hartford and West Hartford, advertised in the Engineering Record. Caleb Mills Saville, Ch. Engr., Pilgard Bldg., Hartford.

Irvington, N. Y.—Until Aug. 15, by Board of Water Commissioners (Joseph A. Murphy, Clerk), for constructing about 2650 lin. ft. 12-in. water main. Advertised in Engineering Record.

New York, N. Y.—Until July 31, by Marcus M. Marks, Pres. Manhattan Borough, for alterations and improvements to sewer in Park Avenue, West Side. Security $7,000.

Until Aug. 3, by Douglas Mathewson, Pres. Bronx Borough, for constructing sewers and appurtenances in E. 177th Street, Morris Park and Cruger Avenues, to include 203 lin. ft. 8 ft. 3 in. x 8 ft. double concrete sewer, 1014 lin. ft. 13 ft. x 8 ft., 1791 lin. ft. 9 ft. 3 in. x 8 ft., 263 lin. ft. 8 ft. 9 in. x 8 ft., 459 ft. 7 ft. x 8 ft., 23 lin. ft. 3 ft. 3 in. single concrete sewer, and 82 lin. ft. 32 in. x 44 in. egg-shaped and 764 lin. ft. 12 to 30 in. vitr. pipe sewer, 20,000 cu. yd. rock excav., 225 M ft. timber sheeting, etc. Security $100,000.

Until Aug. 3, by Marcus M. Marks, Pres. Manhattan Borough, for constructing receiving basins on Third and Madison Avenues; security $12,200. Separate bids same time for improving basins on Bleecker Street; security $2,300.

Atlantic City, N. J.—Until Aug. 10, by Board of Commissioners of Atlantic City for furnishing gate valves and check valves. Advertised in Engineering Record. J. B. Thompson, Director Parks and Public Property.

Oakmont, Pa.—Until Aug. 1, by Borough Council, for 5280 lin. ft. 15 to 20-in. pipe sewers, 240 lin. ft. 42-in. brick sewer, 390 lin. ft. 36-in. brick sewer. Douglass & McKnight, Borough Engrs., 1315 Union Bank Bldg., Pittsburgh.

Philadelphia, Pa.—Until Aug. 3, by Geo. E. Dateman, Dir. Public Works, Room 412 City Hall, for reconstructing sewer and raising water mains in Jasper Street and sinking test pit in Wheatsheaf Lane.

East New Market, Md.—Until Aug. 15, by Board Town Commissioners, for installing water mains and appurtenances, advertised in Engineering Record. Kastenhuber & Anderson, Engineers, Easton; C. E. Bell, secretary.

Richmond, Va.—Until Aug. 15, by Superintendent Water Works E. E. Davis, for 2531 lengths 6 to 12-in., 62,755 lb. special castings, together with valves, etc.

Shepherdstown, W. Va.—Until Aug. 8, by Harrison Schley, Secretary, for a franchise to construct water works costing $20,000.

Macon, Miss.—Until Aug. 7, for constructing water works. Address John A. Tyson, Chancery Clk.

Lexington, Ky.—Until Aug. 8, by Board City Commissioners, for furnishing material and constructing sewage disposal works, to consist of grit chamber, inverted siphon, preliminary settling tank, dosing tanks, filters, sludge beds, etc. Soloman-Norcross Co., Consulting Engrs., Atlanta.

Coshocton, Ohio.—Reported desired until Aug. 10, by Elmer Smith, Dir. Public Service, for constructing a sewage disposal plant 1½ miles long; probable cost $30,000. Chester & Fleming, Consulting Engrs., Union Bank Bldg., Pittsburgh, Pa.

Delaware, Ohio.—Reported desired until Aug. 5, by Lloyd Griffith, Clk. Board Education, R. F. D. No. 4, for constructing sewage disposal plant in Berlin Township. Richards Eng. Co., Consulting Engr., 27½ E. Long Street, Columbus.

Medina, Ohio.—Until Aug. 12, by Board Public Affairs (F. E. Clark, Clerk), for constructing a mechanical water filtration and pumping plant and appurtenances, advertised in Engineering Record. F. L. Rollins, Superintendent Waterworks.

New Bremen, Ohio.—Until Aug. 12, by H. A. Schrage, Village Clerk, for constructing a storm sewer.

East Tawas, Mich.—Until Aug. 5, by J. W. Tait, city Clerk, for furnishing and laying 1000 ft. influent conduit, erecting 75,000-gal. elevated steel tank and pumps, advertised in Engineering Record. J. H. Bloomshield, Consulting Engineer, Bay City.

Elmhurst, Ill.—Until Aug. 8, by Board Local Improvements, for constructing sewers, advertised in Engineering Record.

Glenview, Ill.—Until Aug. 1, by Board Local Improvements (Harry H. Hoffman, Secy.), for a system of water supply mains in Lake and other streets.

Also for furnishing material and erecting an elevated tank and tower, deep well, pumping machinery and pumping station. Address President of Village.

Lamoille, Ill.—Reported desired until July 31, by J. F. Allen, Pres. Board Trustees, for 50,000 gal. water tower deep well pump, oil engine pumping station and water works system. Probable cost $10,000.

Colby, Wis.—Until Aug. 17, by F. W. Lulloff, City Clerk, for constructing a reinforced concrete reservoir 20 ft. deep and 36 ft. in diameter; involves 885 yd. excavation, 6 tons reinforcing and 125 yd. concrete.

Kaukauna, Wis.—Until Aug. 18, for constructing sewers in Tenth, Quincy and Brook Avenues. Address City Clerk.

Alden, Iowa.—Until Aug. 3, by G. F. Biglow, for furnishing material and installing 2500 ft. 4-in. water main with hydrants, valves, etc. H. C. McKean, Engr., Iowa Falls, Iowa.

Eldon, Iowa.—Until Aug. 7, by H. E. Ritz, City Clerk, for sewer system, advertised in Engineering Record.

Fort Madison, Iowa.—Reported desired until Aug. 10, by the Citizens Corporation for furnishing material and improving water works. Burns & McDonnell, Engrs., 402 Interstate Bldg., Kansas City, Mo.

Lake City, Minn.—Until Aug. 4, by City Council, for water main extension to consist of 4075 lin. ft. 6 in. c. i. water mains, hydrants, valves, etc. E. R. Paterick, City Clerk.

Mabel, Minn.—Until Aug. 8, by Edw. J. Johnson, Village Recorder, for constructing sanitary sewer system and disposal tank.

St. Paul, Minn.—Until Aug. 7, by H. W. Austin, Purchasing Agent, for furnishing material and constructing relief sewers on Selby Avenue, Eva and Sydney Streets.

Nickerson, Kan.—Reported desired until July 31, by E. F. Turbush, City Clk., for extending sewers. Black & Veatch, Engrs., 507 Interstate Building, Kansas City, Mo.

Grand Forks, N. D.—Until Aug. 7, by City Council, for constructing water Main No. 79, in Cedar Street, from Fourth to Fifth Avenue, in Holes Addition. W. H. Alexander, City Auditor.

Kildeer, N. D.—Until Aug. 1, by Board Village Trustees for constructing waterworks, including well, steel tower and tank pumping machinery, etc. R. C. Pinkham, City Clk.

Doland, S. D.—Until Aug. 1, by P. L. Brown, City Auditor, for water works, advertised in Engineering Record.

Mitchell, S. D.—Until Aug. 7, by Thos. Eastcott, City Auditor, for constructing 3148 ft. 8 in. sanitary sewer, together with manholes, etc.

Riverton, Wyo.—Until Aug. 3, by Town Council, for constructing sewer system consisting of saltglazed vitr. pipe, manholes, etc. Also separate bids for water works improvement pipes, valves, boxes, etc. Both proposals advertised in Engineering Record. C. C. Carlisle, Consulting Engr., 212 First Natl. Bank Bldg., Cheyenne.

Highwood, Mont.—Reported desired until Aug. 7, for constructing water works. Probable cost $10,000. E. E. Davis, Supt. Water Works.

Olympia, Wash.—Until July 31, by State Board Control (O. A. Torgerson, Secy.) for constructing a septic tank and alterations to sewer system at Northern State Hospital.

Chino, Cal.—Until Aug. 15, by E. L. P. Wetmore, City Clk., for constructing sewerage system to consist of approximately 51,896 ft. 8 to 16-in. pipe, 84 manholes, 21 flushtanks, one Imhoff tank. Alternate bids on vitr. and cement pipe. Bonds for $55,000 have been sold for this system. Olmstead & Gillelen, Engrs., 112 Hollingsworth Bldg., Los Angeles, Cal.

Hanford, Cal.—Reported desired until Aug. 1, for constructing storm drain. Probable cost $35,000. E. M. Lynch, City Engr.

Matheson, Ont.—Until Aug. 8, by F. E. Ginn, Town Clk., for laying 110 lin. ft. 10-in. steel pipe and 11,960 lin. ft. 8 to 10-in. wire bound wood stave pipe, timber crib for intake, concrete pump house and well, reinforced concrete reservoir. McAuslan & Anderson, Engrs., North Bay.

Assiniboia, Sask.—Until Aug. 15 (Extension of date from Aug. 8), by J. R. Nolan, Secretary-Treasurer, for furnishing materials and constructing water works, and electirc lighting plant including pumps, motors, piping and air compressor, 17,500 ft. 4 to 8-in. steel or c. i. pipes and specials, valves, etc., advertised in Engineering Record. Murphy & Underwood, Consulting Engineers, Saskatoon, Sask.

Panama.—By Bureau Supplies and Accounts, Navy Dept., Washington, D. C., for Sch. 9934, Newport, R. I., one motor-driven test pump; Sch. 9918, 31,100 ft. galvanized steel conduit; Sch. 9917, miscellaneous composition pipe fittings; Sch. 9913. Mare Island. 22,500 ft. galvanized steel pipe; Sch. 9932, safety valves, etc.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Boston, Mass.**—Mayor, July 20, approved contract with William J. Barry, 431 Ashland Street, for constructing circular concrete conduit pipe sewers and surface drains in Richwood Street, Center Street and outlet branch in Roslindale branch of Stony Brook, Section 2, West Roxbury, at $55,600.

★**Pittsfield, Mass.**—Contract for constructing Tyler Street drain awarded J. H. Ferguson & Company, Dorchester, at $17,052.

★**Atlantic City, N. J.**—Following are four bids opened July 20 by Board Commissioners (L. Van Gilder, Engineer, Superintendent Water Department) for c. i. pipe and castings: U. S. C. I. Pipe & Foundry Company, Morris Bldg., Philadelphia, Pa., $58,757 (recommended for award); R. D. Wood & Company, 400 Chestnut Street, Philadelphia, Pa., $59,410; Warren Foundry & Machine Company, 111 Broadway, New York, $59,487, and Standard C. I. Pipe & Foundry Compony, Bristol, Pa., $62,551.

Edgewater, N. J.—See "Proposed Work."

★**Easton, Pa.**—The Lehigh Valley Water Co. awarded contracts for improvements as follows: Constructing reservoir at top of Chestnut Ridge and laying water mains on streets of College Hill to R. T. & C. D. Stewart Contr. Co. of Easton, laying 9000 ft. pipe, to Warren Foundry & Machine Co. of Phillipsburg, N. J.

★**Henderson, N. C.**—Contract for constructing 10,000 ft. 8 in. and 12 in. sewers and sewage disposal plant awarded to A. H. Guion of Charlotte at $11,669 (bids opened July 18 by city). Anderson & Christie, Inc., Consulting Engineers. G. W. Adams, City Clerk.

★**Salisbury, N. C.**—Contracts for constructing waterworks to cost $133,000 awarded by City as follows: Laying pipe line from Salisbury to river, to W. N. Mills, Warrenton, N. C.; valves, Chapman Valve Manufacturing Company, Indian Orchard, Mass; building 8,000,000-gal. sedimentation reservoir at Cross Roads in Franklin Township, to C. S. Lee of Winston-Salem; filter station, coagulating basin, river power station, filtering water reservoir, and river suction station, to A. J. Twigg & Son, Augusta, Ga.; 2-unit filter plant, New York, Continental Jewell Filtration Company, New York; transformers General Electric Company, Pittsburgh, Pa; furnishing 6 or 7 miles of pipe, U. S. Cast Iron Pipe & Foundry Company, Chattanooga, Tenn.; pumps and motors, Morris Machine Works, Baldwinsville, N. Y.

Wilmington, N. C.—All bids opened July 19 for furnishing 500 ⅝ and ¾ in. water meters rejected. Thomas D. Meares, City Clerk.

★**Columbia, S. C.**—Contract for furnishing 15 tons of lead for use in connection with laying water mains awarded by City Council to Southern States Supply Co., at $7.03 per cwt.

★**Lockport, La.**—Contracts awarded by Town Council as follows: Water tower 125 ft. high with a 50,000-gal. conical bottom tank to Pittsburg-Des Moines Steel Co. of Pittsburgh, Pa., and to Fairbanks-Morse Co. of New Orleans for furnishing gasoline engine and duplex pump.

★**New Orleans, La.**—Contract for furnishing 2 lots of riveted steel pipes for use at drainage stations No. 3 and No. 7 were awarded by Sewerage and Water Board to John H. Murphy Iron Works at $11,730 and $4,890 respectively.

★**Lowellville, Ohio.**—Contract in connection with water works (bids opened July 15) awarded as follows: Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa., concrete steel standpipe at $4,500; P. A. Andrews, Youngstown, pump house at $1,540, and J. P. Morrison, Youngstown, distributing system at $47,800. William Wilson, Engineer, Youngstown, Ohio.

Aledo, Ill.—See "Steel Bridge Work."

★**Berwyn, Ill.**—Contract awarded (bids opened July 11) by Bd. Local Improvements (Oscar N. Lindahl, Secy.) for laying a 12-in. c. i. water-supply pipe in Thirtieth Street and Oak and Wesley Avenues, to H. D. Hallet of Aurora, at about $11,650.

★**Decatur, Ill.**—Contract awarded Henry R. Worthington Pump Mfg. Co., 115 Broadway, New York, N. Y., for one cross-compound condensing crank fly wheel Corliss pumping engine (bids opened July 13 by City Clerk), at $41,000.

Salem, Ill.—No bids opened July 15 by city for constructing sewer system and sewage disposal plant.

Sears, Ill.—See "Steel Bridge Work."

★**Milwaukee, Wis.**—Contract for constructing sewage disposal plant in Milwaukee awarded to A. H. Prange of Grand Rapids, Mich.; cost about $500,000.

★**Oskaloosa, Iowa.**—Contract awarded Kansas Paving & Construction Company, Kansas City, Mo., for constructing sewerage system and disposal plant (bids opened July 10). T. H. Carlin, City Clk.

★**Red Lake Falls, Minn.**—Contract for constructing sewers (bids opened July 17) awarded John McDonnell, Duluth, Minn., at $17,308. Joseph Perrault, City Clerk.

★**Wadena, Minn.**—Following are four lowest bids, opened July 10 by C. Murray, Village Recorder, for constructing, (a) sewer, (b) treatment plant: Pastoret Construction Co. of Duluth, (a) $36,216, (b) $4,050 (awarded contract on (a) and (b); Goodman & Laitvad of Bemidji, (a) $39,216, (b) $4,860; E. T. Webster of St. Paul, (a) $39,407, (b) $4,650, and O'Neil & Preston of St. Paul, (a) $40,546. A. C. Murray, Village Recorder.

★**Newark, N. J.**—Following are unit figures of the two bids opened July 18 by Passaic Valley Sewerage Commission, Newark, for constructing Lawrence Street branch intercepting sewer, Section 22, Paterson: (a) Culp Company, Inc., Paterson, $46,537 (awarded contract); (b) Canedella & Company, Passaic, $48,207.

	*(a)	(b)
350 lin. ft. earth excav. and refilling in trench for 36-in. conc. sewer.	$6.25	$8.40
2,215 lin. ft. earth excav. and refill in trench for 30-in. concrete sewer.	5.00	8.00
670 lin. ft. earth excav. and refill in trench for 15-in. vitr. pipe sewer.	4.50	5.00
390 lin. ft. earth excav. and refill in trench for 12-in. vitr. pipe sewer.	4.00	4.00
340 lin. ft. earth excav. and refill in trench for 8-in. vitr. pipe sewer.	3.00	3.00
1,200 cu. yd. concrete masonry in trench, Portland cement mortar....	10.50	8.00
250 cu. yd. brick masonry in manholes, Portland cement mortar and appurtenant work.....	17.00	0.01
50 cu. yd. rock excav. in trench.....	6.00	6.00
Excavation and refill, etc., for insertion of special structures in local sewer, etc.....	8,000.00	7,910.00
Furnishing and setting one set of sewage regulating apparatus.....	600.00	560.00
Furnishing and erecting back water gates in seven local sewers, etc..	3,600.00	1,575.00

★**Plainfield, N. J.**—Following are unit figures of the four lowest bids opened July 3 by J. T. MacMurray, City Clerk, for constructing pumping station and sanitary sewers: (a) Lange & Haslam Company, Ridgefield, $115,235 (awarded contract); (b) James Ferry & Sons, Inc., Baltimore, Md., $119,235; (c) John M. Kelley Company, Camden, N. J., $124,202; (d) Joseph F. Burke Company, Plainfield, $130,434. (Andrew J. Gavett, Engineer in Charge.)

	*(a)	(b)	(c)	(d)
Bituminous Joints:				
8-in. Vitr. Pipe.				
1,860 lin. ft. under 6 ft. deep	$0.71	$0.82	$0.713	$0.74
22,840 lin. ft. 6 to 8 ft. deep	0.96	1.04	1.015	1.07
7,839 lin. ft. 8 to 12 ft. deep	1.01	1.25	1.80	1.84
731 lin. ft. 10 to 12 ft. deep	1.26	1.60	1.89	1.85
782 lin. ft. 12 to 14 ft. deep	1.56	2.20	3.02	3.06
590 lin. ft. 14 to 16 ft. deep	2.06	3.00	3.23	3.18
40 lin. ft. 16 to 18 ft. deep	2.56	4.00	3.57	3.25
10-in. Vitr. Pipe.				
880 lin. ft. 6 ft. deep	0.83	0.89	0.80	0.86
710 lin. ft. 6 to 8 ft. deep	1.08	1.12	1.45	1.48
1,855 lin. ft. 8 to 10 ft. deep	1.33	1.33	1.78	1.85
15-in. Vitr. Pipe.				
1,190 lin. ft. 6 to 8 ft. deep	1.67	2.00	2.00	1.90
260 lin. ft. 8 to 10 ft. deep	2.12	2.75	2.42	2.39
18-in. Vitr. Pipe.				
1,075 lin. ft. under 6 ft. deep	2.00	2.16	2.11	2.20
781 lin. ft. 6 to 8 ft. deep	2.25	2.45	2.42	2.46
1,530 lin. ft. 8 to 10 ft. deep	2.95	3.50	2.57	2.55
904 lin. ft. 10 to 12 ft. deep	3.30	4.25	3.28	3.25
185 lin. ft. 12 to 14 ft. deep	3.75	6.00	3.52	3.45
24-in. Vitr. Pipe.				
25 lin. ft. 14 to 16 ft. deep	5.30	8.00	6.09	5.50
8-in. C.-I. Pipe.				
430 lin. ft. under 6 ft. deep	1.65	1.55	1.34	1.30
405 lin. ft. 6 to 8 ft. deep	1.85	1.78	1.98	1.90
859 lin. ft. 8 to 10 ft. deep	2.15	2.09	2.67	2.70
10-in. C.-I. Pipe.				
258 lin. ft. 6 to 8 ft. deep	2.20	1.85	2.48	2.40
710 lin. ft. 8 to 10 ft. deep	2.45	3.00	2.99	3.04
12-in. C.-I. Pipe.				
125 lin. ft. under 6 ft. deep	2.50	2.42	2.63	2.50
527 lin. ft. 6 to 8 ft. deep	2.70	2.61	3.11	2.08
475 lin. ft. 8 to 10 ft. deep	2.90	3.50	3.52	3.57
205 lin. ft. 10 to 12 ft. deep	3.15	5.00	3.90	3.80
105 lin. ft. double 12-in. c.-i. sewer crossing under Central R.R. of N. J.	30.00	17.50	11.16	20.00
18-in. C.-I. Pipe.				
710 lin. ft. 6 to 8 ft. deep	3.50	4.32	4.45	4.60
135 lin. ft. 8 to 10 ft. deep	4.00	6.00	5.36	5.25
1,020 4-in. Tee branches on 8-in. vitr. pipe sewer	1.16	0.45	1.00	1.06
84 4-in. Tee branches on 10-in. vitr. pipe sewer	1.55	0.70	1.33	1.25
44 4-in. Tee branches on 15-in. vitr. pipe sewer	2.95	1.10	2.37	2.25
49 4-in. Tee branches on 18-in. vitr. pipe sewer	4.30	1.45	3.23	3.00
3 4-in. Tee branches on 8-in. c.-i. pipe sewer	8.80	8.00	12.60	12.00
6 4-in. Tee branches on 10-in. c.-i. pipe sewer	13.00	11.25	16.80	16.00
8 4-in. Tee branches on 12-in. c.-i. pipe sewer	15.00	14.50	21.92	20.00
15 4-in. Tee branches on 18-in. c.-i. pipe sewer	23.00	23.00	34.59	34.00
17 4-in. crosses on 8-in. c.-i. pipe sewer	12.50	9.50	15.21	14.20
7 4-in. crosses on 10-in. c.-i. pipe sewer	15.00	13.50	19.38	18.00
2 4-in. crosses on 12-in. c.-i. pipe sewer	19.00	17.00	24.51	20.00
2 4-in. crosses on 18-in. c.-i. pipe sewer	25.00	25.00	38.04	35.00
52 4-in. extension connections	2.50	3.50	4.04	4.00
6,560 lin. ft. 4-in. c.-i. pipe house connections	0.75	0.70	1.00	1.10
1,000 lin. ft. 4-in. underdrains open joints	0.20	0.30	0.22	0.20
500 lin. ft. 6-in. underdrains open joints	0.35	0.35	0.30	0.28
500 lin. ft. 6-in. underdrains tight joints	0.50	0.50	0.33	0.30
Standard Manholes.				
5 under 6 ft. deep	55.00	43.00	46.21	48.00
51 6 to 8 ft. deep	65.00	43.00	54.55	52.00
21 8 to 10 ft. deep	70.00	43.00	66.86	65.00
4 10 to 12 ft. deep	75.00	43.00	78.41	80.00
2 12 to 14 ft. deep	80.00	43.00	94.36	101.00
1 14 to 16 ft. deep	90.00	43.00	103.14	110.00
Special Manholes.				
3 under 6 ft. deep	55.00	53.00	53.90	50.00
10 6 to 8 ft. deep	65.00	53.00	67.93	65.00
11 8 to 10 ft. deep	70.00	53.00	89.47	91.00
3 10 to 12 ft. deep	75.00	53.00	98.41	95.00
1 12 to 14 ft. deep	80.00	53.00	113.50	110.00
10 flush tanks	125.00	73.00	123.56	127.00
34 combination flush tanks	140.00	125.00	172.58	200.00
6 8-in. drop connections	15.00	10.00	11.24	10.00
1 10-in. drop connection	20.00	12.00	11.24	10.50
400 cu. yd. concrete for concreting sewer, as shown in drawing	8.00	8.00	8.00	7.50
20 cu. yd. concrete in excess of that on drawing	8.00	10.00	8.00	7.50
30 M ft. lumber in place for bracing, sheeting and shoring	40.00	30.00	30.00	35.00
15 M ft. lumber for constructing platforms and foundations	60.00	50.00	30.00	35.00
6,000 lin. ft. foundation piles	0.55	0.25	0.08	0.10
200 lin. ft. foundation of screened gravel slag or broken stone	3.50	3.00	3.18	2.50
50 cu. yd. rock excavation	3.00	4.00	4.00	3.50
2,500 sq. yd. reconstructed macadam pavement	0.70	1.50	0.60	0.65
100 sq. yd. reconstructed bituminous pavement	0.70	2.00	1.30	1.20
10 lin. ft. 4-in. c.-i. pipe spurs built in manholes	5.00	2.00	2.00	1.75
900 lin. ft. 12-in. c.-i. pipe force main	1.85	2.00	3.36	3.50
28 lin. ft. 12-in. c.-i. pipe, eighth bend 6-ft. radius	9.60	7.00	6.78	7.00
Pumping station, building and well	5,848.00	4,200.00	4,368.34	4,500.00
Pumping station machinery	5,022.00	6,700.00	4,061.62	6,000.00
Concrete connecting chamber	125.00	50.00	150.00	50.00

★**Tucson, Ariz.**—Following are unit figures of the four lowest bids opened June 26 by city for constructing 17 miles of 8 to 20-in. lateral sewers and 3 miles of 30-in. outfall sewers: (a) T. J. Shea, 1800 Ford Avenue, Los Angeles (awarded contract); he bid $115,362 vitr. pipe including outfall sewer and $112,381 concrete sewer; (b) T. M. Torson & Son, San Diego, $119,842 vitr. pipe, $115,025 concrete; (c) S. C. Contracting Company, Los Angeles, $126,185 vitr. pipe and $121,138 concrete; (d) James Kennedy, Los Angeles, $149,718 vitr. pipe and $143,152 concrete.

	*(a)	(b)	(c)	(d)
70,643 ft. 8-in. vitrified	$0.63	$0.64	$0.73	$0.96
70,643 ft. 8-in. concrete	0.60	0.58	0.68	0.88
4,231 ft. 10-in. vitrified	0.68	0.66	0.90	1.15
4,231 ft. 10-in. concrete	0.65	0.62	0.80	1.07
1,688 ft. 12-in. vitrified	0.93	0.81	1.05	1.40
1,688 ft. 12-in. concrete	0.88	0.76	0.95	1.32
1,484 ft. 14-in. vitrified	1.15	0.93	1.20	1.65
1,484 ft. 14-in. concrete	1.05	0.88	1.05	1.57
475 ft. 18-in. vitrified	1.80	1.50	1.70	2.50
475 ft. 18-in. concrete	1.70	1.44	1.50	2.42
2,676 ft. 20-in. vitrified	2.65	1.82	1.90	2.90
2,676 ft. 20-in. concrete	2.50	1.75	1.70	2.82
352 ft. 24-in. vitrified	2.75	2.60	2.50	3.90
352 ft. 24-in. concrete	2.60	2.50	2.30	3.70
2,674 ft. 30-in. concrete	2.75	3.00	3.00	3.85
1,150 ft. manholes	5.00	4.50	3.00	5.00
104 ft. flush tanks	9.00	6.50	3.20	16.75
Outfall sewer (concrete)	41.750	46.800	48.678	43.316

★**Dighton, Kan.**—Contract for constructing waterworks and electric light plant (bids opened July 20) awarded Everett & Burt, Hutchinson, at $26,500. W. B. Rollins & Company, Consulting Engineers, 439 Midland Building, Kansas City, Mo.

★**Blue Hills, Neb.**—Contract for constructing improvements to water works and electric light plant awarded William C. Southman of Grand Island.

★**Stanberry, Mo.**—Contract for constructing sewer system awarded to W. F. Powers, Guthrie, Okla., at $18,817 (bids opened July 17). Black & Veatch, 507 Inter-State Bldg., Kansas City, Mo., Engrs. C. A. Greenlee, City Clerk.

★**Los Angeles, Cal.**—Contracts reported awarded as follows by Board of Supervisors for steel pipe for San Fernando Irrigation system; total cost about $714,000; Baker Iron Works, Llewellyn Iron Works, Western Pipe & Steel Company and Los Angeles Manufacturing Company, all of Los Angeles.

Air Compressor—Orange, Cal.—Following bids opened July 15 by F. Bell, City Clerk, for furnishing steam-driven air compressors, (a) f.o.b. Orange, (b) installed: Henry B. Worthington of Los Angeles, (a) $7,710, (b) $8,000; Smith, Booth & Usher Co. of Los Angeles, (a) $7,000, (b) $7,845. H. Wagner, Deputy Clerk.

Pasadena, Cal.—Lowest bid opened July 18 by City Commissioners for furnishing 301 tons of 8 to 24-in. Class B c. i. water pipe and 18 tons 14 to 24-in. special castings, and 2 tons 6 to 12 Class "D" special fittings, submitted by U. S. C. I. Pipe & Foundry Company, Chicago, Ill., at $37.60 per ton for pipe castings and 3.25 cts. per lb. for fittings.

STEEL BRIDGE WORK

PROPOSED WORK.

Norristown, Pa.—See "Paving and Roads."

Philadelphia, Pa.—Plans completed by Peuckert & Wunder, 310 Chestnut Street, for two-story and basement brick, steel, concrete, stone and terra cotta bottling plant, to be erected for John J. Wolf; cost $50,000.

Pittsburgh, Pa.—Pittsburgh Railways Company (F. Uhlenhart, Jr., Ch. Engr., 435 Sixth Avenue) contemplates erecting new brick and steel car barns in Carrick, to cost approximately $83,000.

Palatka, Fla.—See "Roads and Paving."

Shreveport, La.—Plans being prepared for concrete and steel garage, to be erected for Wray-Dickinson of Shreveport; cost approximately $80,000.

Cleveland, Ohio.—Plans filed for erecting three-story, 121 x 204 ft., brick, steel and concrete auditorium at Euclid Avenue and East Thirty-fifth Street for Cleveland Mystic Shriners; cost $500,000. Hubbell & Benes, Archts., 4500 Euclid Avenue.

Balustrades on the new high-level bridge will cost about $80,000. Contract soon to be let. Address County Engineer.

Minneapolis, Minn.—Northrup Collegiate School, 1800 First Avenue South, applied for permit to erect three-story brick, steel and reinforced concrete building at 415 Kenwood Boulevard; cost $75,000.

Independence, Mo.—Plans being prepared for small one-track viaduct which Kansas City Southern Railway Company (C. E. Johnston, Chief Engineer, Kansas City, Mo.) intends constructing at College Avenue.

Kansas City, Mo.—City and Street Railway propose constructing a bridge across Brush Creek at Troost Avenue. Address City Engineer.

Spokane, Wash.—Bridge bonds for $300,000 will be sold Aug. 24, by Sinking Fund Commission. F. W. Burch, City Aud.

Baker, Ore.—Estimates being prepared for 7 steel bridges to be constructed between Whitney and Bridgeport, and 4 steel bridges in Pine Valley. Ira L. Hoffman, County Engineer.

BIDS DESIRED.

Salem, Mass.—Until July 31, by County Commissioners of Essex County, at office at Salem, for rebuilding the Essex bridge over the Danvers River, to consist of removing old pile structure, 1508 ft. long, except the draw spans, furnishing labor and material and constructing in place a pile and timber bridge, a total length of 860 ft. solid fill approaches and with riprap slopes, together with granite block paved roadway and granolithic sidewalks.

Bennington N. Y.—Until Aug. 10, by Joseph F. Drilling, Town Clerk, for constructing bridge across Cayugo Creek which citizens on July 6 voted in favor of constructing. A. B. Milvin, Attica, Engineer.

Mt. Holly, N. J.—Until Aug. 2, for rebuilding feeders at county line bridge over Pensauken Creek. James Logan, Co. Engr., Mt. Holly.

Hamlin, W. Va.—Until Aug. 4, by County Court, for constructing a three-span, 16-ft. roadway bridge at mouth of Big Hart Creek across Guyandotte River. Oliver & Maupin, Engrs., Huntington, W. Va.

Parkersburg, W. Va.—Reported desired until Aug. 5, for constructing bridge over Boaz Stop. Probable cost $40,000. Sanderson & Porter, Engrs., 52 William Street, New York.

Edwardsville, Ala.—Until Aug. 14, by County Commissioners, for constructing steel bridge across the Tallapoosa River at Riddle Bridge site. A. H. Glasgow, Judge of Probate.

Selma, Ala.—Until Aug. 21, for constructing a 340-ft. steel bridge. W. O. Crisman, County Engr., Selma.

Warren Ohio.—Reported desired until Aug. 7, F. L. Hoffman, County Clk., for sub and superstructure of Pine Street bridge.

East Tawas, Mich.—See "Waterworks and Sewerage Systems."

Lamoille, Ill.—See "Waterworks and Sewerage Systems."

Council Bluffs, Iowa.—Until Aug. 3, by Board County Supervisors, for constructing a 100-ft. pony truss steel span 18-ft. roadway with concrete slab floor two 34 I-beam approach spans, two concrete piers, etc. J. D. Hannan, Co. Aud.

Dakota City, Neb.—Until Aug. 19, by Board Supervisors of Drainage District No. 2, at office of R. E. Evans, Attorney for District, at Dakota City, for a 20-ton, 100-ft. steel span, one panel skew, and three 15-ton, 60-ft. steel spans across Elk Creek, near Jackson, and three 15-ton, 40-ft. steel spans over Pigeon Creek Ditch, near Hubbard. For further information address Towl Engineering Co., 1122 City National Bank Building, Omaha, Neb.

La Moure, N. D.—Reported desired until Aug. 9, for constructing a 36 ft. span steel bridge, with 18 ft. roadway. O. C. Temple, Co. Aud.

Red Lodge, Mont.—Reported desired until Aug. 10, by J. E. Deegan, County Clerk and Recorder, for constructing a steel bridge 42 ft. long 16 ft. wide over Red Lodge Creek at Geo. Robertson Ranch.

Bakersfield, Cal.—Until Aug. 9, by Board County Supervisors (F. E. Smith, Clk.), for constructing a 150-ft. pile bridge across Buttonwillow Slough, about 25 miles west of Bakersfield.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Athens, Pa.—See "Reinforced Concrete."

★**Philadelphia, Pa.**—Contract awarded George A. Fuller Company, Morris Building, for erecting four-story brick, steel and stone bank building for Logan Trust Company; cost $115,000.

Somerset, Pa.—See "Reinforced Concrete."

★**Rehoboth, Del.**—Contract awarded by County Commissioners, Wilmington, for constructing drawbridge over U. S. Canal at Rehoboth to George W. Drury Co., York, Pa., at $13,000. Bids opened July 11.

★**Rome, Ga.**—Contract awarded by County Commissioners for constructing Broad Street bridge to Hughes Engineering Co., Indianapolis, Ind., at $69,219.

Lockport, La.—See "Water Works and Sewerage."

★**Dayton, Ohio.**—Contract awarded by County Commissioners for superstructure of bridge No. 174, to consist of 200-ft. span and four 100-ft. spans, with 18-ft. roadway and creosoted wood block floor, to Brookville Bridge Co., Brookville, at $33,772 (bids opened July 22).

Lowellville, Ohio.—See "Water Works and Sewerage."

★**Youngstown, Ohio.**—Contract awarded by New York Central Railroad for iron and steel needed in Himrod Avenue bridge to American Bridge Co., Ambridge, Pa., at $76,000.

★**Aledo, Ill.**—City Council awarded contract for constructing 150,000-gal. water tank to Chicago Bridge & Iron Works, 1300 West 105th Street, Chicago, at $6,800.

★**Rock Island, Ill.**—Contract for a 100,000-gal. tank and 125-ft. tower (bids opened July 1) awarded Rock Island Bridge & Iron Company, Rock Island, at $9,070. Wallach Treichler, City Engineer.

★**Sears, Ill.**—Contract for erecting a 100,000-gal. tank awarded Rock Island Bridge & Iron Wks. of Rock Island, at $9,070.

★**Houston, Tex.**—Contract awarded James Stewart & Company, First National Bank Building, for erecting five-story, fireproof, steel, concrete and brick factory at Preston and St. Emanuel Streets for Cheek-Neal Coffee Company; cost about $100,000. Finger & Bailey, Archts., Krees Building.

★**St. Johns, N. B.**—Contracts awarded by Board of Public Works for constructing bridges as follows: Dominion Bridge Co., Montreal, Que., for Arostook Bridge, at $33,318; Maritime Bridge Co., New Glasgow, N. S., for Scodouc River Bridge, at $22,000.

REINFORCED CONCRETE

PROPOSED WORK.

Rochester, N. Y.—See "Water Works and Sewerage."

Hoboken, N. J.—R. B. Davis Baking Powder Company, 8 Jackson Street, will erect five-story, 100 x 200 ft., reinforced concrete addition to plant.

Knoxville, Tenn.—Contract will soon be let by Knox County Commissioners for constructing concrete bridge over Little River near Toole's Ferry, on Blount County line. Knox Couty will pay $12,000 toward cost.

Chicago, Ill.—Plans being prepared by Paul Gerhardt, 64 West Randolph Street, for ten-story, 90 x 160 ft., reinforced concrete hotel to be erected at Ontario and Cass Streets; cost $400,000.

James B. Dibelka, 130 North Fifth Avenue, is architect for seven-story, 54 x 130 ft., reinforced concrete hotel to be erected on Diversey Parkway and Lake Shore Drive; cost $150,000.

Galesburg, Ill.—Contract soon to be let for erecting two-story and basement, 148 x 112-ft., brick, stone or terra cotta high school, gymnasium and a swimming pool, 20 x 60 ft., of reinforced concrete.

Minneapolis, Minn.—An eight-story, reinforced concrete fireproof addition is to be erected to Russell Hotel, 16 Fourth Street South; cost about $400,000.

Chickasha, Okla.—City Council reported plans constructing concrete bridge at Fourth Street; estimated cost $6,000.

Los Angeles, Cal.—Central Milling Company (J. M. Gardiner, President), 518 Byrne Building, will erect six grain bins, 70 ft. high, probably of reinforced concrete; a five-story brick flour mill at Commercial and Vignes Streets also contemplated.

San Diego, Cal.—Charles S. Hardy of San Diego, and others, reported to have petitioned the City Council to construct a reinforced concrete bridge across San Diego River to replace one washed out last winter. Probable cost, $50,000. Address F. M. Lockwood, Manager of Operations.

Santa Ana, Cal.—Plans being prepared by S. H. Finley, County Engineer, for concrete bridge to be constructed over Santa Ana River at West Chapman Avenue, Santa Ana, about 30 ft. wide, 574 ft. long, consisting of two 54-ft. spans and several 36-ft. spans; estimated cost $40,000.

BIDS DESIRED.

Woonsocket, R. I.—Until Aug. 15, by Bd. of Aldermen, for Contract 1, concrete retaining wall and reinforced concrete extension to arch bridge on Mill Street and over Peters River, and Contract 2, a reinforced concrete bridge on Allen Street and over Lippitt Woolen Company's tail race, advertised in Engineering Record. Frank H. Mills, City Engineer.

Portageville, N. Y.—Until Aug. 12, by G. H. Nessell, Town Superintendent, for Genesee Falls, and H. S. Barber, Town Superintendent of Portage, at office of Town Clerk, Portageville, for constructing a four-span reinforced concrete arch bridge over Genesee River at Portageville, and for removal of present structure, advertised in Engineering Record.

Salem, N. J.—Until Aug. 7, for constructing reinforced concrete highway bridge over Oldmans Creek. H. B. Keasby and W. C. Cattrell, County Engrs.

Philadelphia, Pa.—Until Aug. 5, for erecting a ten-story and terra cotta steel and concrete building 49 x 94 ft. for Franklin Trust Co. De Armond, Ashmed & Bickley, Archts., 618 Chestnut Street.; Scofield Engineering Co., Engrs., Commercial Trust Bldg.

Uniontown, Pa.—Until Aug. 11, by Harry Kisinger, County Controller, for constructing a 32-ft. bridge over Browns Run, German Township; 36-ft. span over Dunlaps Creek, Redstone Township; a 60-ft. arch over Bulls Run, Luzerne Township; a 30-ft. span over Halls Run in Henry Clay Township and a double 20-ft. arch over George Creek in Georges Township; all of reinforced concrete.

Washington, D. C.—Until Aug. 15, by Commissioners D. C. (Oliver P. Newman, Chmn.), for constructing reinforced concrete steps in Garfield Park southeast.

Buckhanon, W. Va.—Reported desired until Aug. 16, by County Commissioners (Ernest Phillips, Clerk), for constructing four concrete bridges.

Marlinton, W. Va.—Reported desired until Aug. 8, for constructing reinforced concrete bridge across Slaty Fork of Elk River. S. L. Brown, City Clk.

Gainesville, Ga.—Until Aug. 11, by County Commissioners, for constructing a bridge over Chattahoochee River, consisting of three concrete caps for existing piers and two steel truss spans, one 121 ft. 4 in. and one 117 ft. 6 in. Searcy B. Slack, Engineer, Athens.

Marysville, Tenn.—Reported desired until Aug. 5, by Road Commissioners, for constructing reinforced concrete bridge over Little River at Tool Ford. R. O. Gallagher, Co. Engr.

Cincinnati, Ohio.—Until Aug. 4, by County Commissioners, for constructing concrete bridge on Road No. 3 in Colerain Township.

Hamilton, Ohio.—Reported desired until Aug. 1, for constructing two reinforced concrete bridges; probable cost $10,000.

Illinois—By State Highway Commision, Springfield, for constructing following bridges:

Until Aug. 1:

Mt. Sterling, Ashbaker Bridge, 30-ft. span, 16-ft. roadway, concrete bridge in Missouri Township. Engineer's estimate, $1,135.

Versailles, Davis Bridge, 30-ft. span, 18-ft. roadway, reinforced concrete bridge in Versailles Township. Engineer's estimate, $1,210.

Until Aug. 2:

Shelbyville, Town House Bridge, steel on reinforced concrete abutments, an 85-ft. span, 18-ft. roadway. Engineer's estimate, $6,840.

Council Bluffs, Iowa.—See "Steel Bridge Work."

Mahonomen, Minn.—Reported desired until Aug. 1, for constructing culverts on about 7 miles of roads. W. F. Bellcourt, Town Clk.

New Richland, Minn.—Until Aug. 15, by Village Council for constructing a 16 ft. x 69 ft. reinforced concrete bridge on Broadway St. John J. Spillane, Village Recorder.

Oswego, Kan.—Reported desired until Aug. 9, by Fairfax Barnes, County Clerk, for five reinforced concrete arch bridges.

Tekamah, Neb.—Until Aug. 15, for erecting reinforced concrete courthouse, 4-story and attic. Cost $70,000. Rose & Peterson, Parker Building, Kansas City, Kan., Archts. F. O. Lundstrom, Co. Clk.

Los Angeles, Cal.—Until Aug. 4, by Owen H. O'Neill, County Engineer, for constructing bridges in Sect. D, Route 2, of the California State Highway, to consist of one 45 ft. long, 21 ft. wide; estimated cost $7,500; and two others, 37½ ft. long and 21 ft. wide; estimated cost $5,750 and $6,759 respectively, all of reinforced concrete type. Mayberry & Parker, Engineers, Pacific Electric Building, Los Angeles.

Santa Ana, Cal.—Until Aug. 2, by Board of Supervisors (W. B. Williams, Clerk), for constructing reinforced concrete girder bridge 564 ft. long and about 30 ft. wide, on concrete piles foundation, and consisting of two 56-ft. center spans and a number of 36-ft. spans across Santa Ana River at West Chapman Avenue about 2 miles west of Orange. S. H. Finley, County Highway Engineer.

Santa Barbara, Cal.—Until Aug. 4, by County Board Supervisors (C. A. Hunt, Clk.), for constructing reinforced concrete bridges over Zaca Creelon State Highway Line in Sect. D.

Seagrave, Ont.—Until Aug. 8, by J. R. McNeillie, County Clerk, at Lindsay, for constructing a 50-ft. bridge across the Nonquon River at Seagrave as follows: Contract 1—A concrete bridge. Contract 2—A steel superstructure to be erected on concrete piers, to be constructed under another contract, and Contract 3—Two concrete piers, to be ready for reception of superstructure not later than Sept. 15 and superstructure to be erected not later than Sept. 30.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Athens, Pa.—State Board of Public Grounds and Buildings at Harrisburg opened four following bids for new State Bridge at Athens: Stebbins Construction Co., Wellsboro, $93,011; W. S. Rae, Pittsburgh, $90,867; Pennsylvania Steel Co. of Steelton, $85,996; Whitaker & Diehl, Harrisburg, $82,048. Bids for concrete approaches were as follows: Horseheads Bridge Co. of Horseheads, N. Y., $27,490; Stebbins Construction Co. of Wellsboro, $25,976; Pennsylvania Steel Co. of Steelton, $24,650; Whitaker & Diehl of Harrisburg, $22,966.

★**Greensburg, Pa.**—Contract for constructing two reinforced concrete bridges in Donnegal Township (bids opened July 10) awarded by John S. Sell, County Comptroler, to G. W. Drury, York.

★**Somerset, Pa.**—Contract awarded by County Commissioners for constructing concrete and steel bridge over Paint Creek to Frank H. Ziegler, Somerset, at $6,393.

★**Maryland.**—Contract awarded by State Road Commission, Baltimore, for constructing 5-span reinforced concrete bridge, about 150 ft. in length, along Liberty Heights Avenue, Baltimore, over Western Maryland Ry., to L. G. Dinterman, Walkersville, at $19,168 (bids opened July 18.)

★**Middlebourne, W. Va.** — Contract awarded by County Court for two 75-ft. arches over Middle Island Creek to Pipes & Watson, Middlebourne, at $8,860.

★**Kingston, Tenn.**—Contract awarded by County Commissioners for constructing concrete bridge across Emory River to Luten Bridge Co., Knoxville, Tenn., at $50,000.

★**Greenup, Ky.**—Contract awarded recently for constructing concrete bridge to Burgess & Co., Scottsville, Va., at $6,800. W. J. Carrel, Bridge Engineer, Frankfort.

Medina, Ohio.—See "Foundations, Piers and Dams."

★**Marshall, Mich.**—Contract awarded (bids opened July 11) by J. D. Wright, City Recorder, for constructing a reinforced concrete bridge over Kalamazoo River, to Wynkopp-McGormley Co., Toledo, Ohio, at $8,750.

★**Monroe, Mich.**—Contract awarded by City Commission for constructing two concrete bridges across Raisin River to Hanneman Bros., Detroit, at $55,739.

★**Chippewa Falls, Wis.** — Contract awarded for constructing 90-ft. arch concrete bridge to Iowa Bridge Co., Minneapolis, Minn., at $13,950. J. T. Hurd, City Engineer.

Galveston, Tex.—See "Foundations, Piers and Dams."

Manhattan Beach, Cal.—Lowest bid opened July 19 by City Trustees for constructing frame beach pavilion 120 x 80 ft. with reinforced concrete piers, submitted by George W. Harnou, at $21,443. Train & Williams, Architects, 226 Exchange Building, Los Angeles.

ROADS AND PAVING

PROPOSED WORK.

Marlboro, Mass. — City Council will spent $48,000 for permanent paving on Main, West Main and Highland Streets. P. B. Murphy, City Clerk.

Plainfield, N. J.—City Council plans improving with macadam Ravine Rd., Leland, Kensington, Stelle Avenues and Lake Street. John J. Carroll, City Clerk.

Trenton, N. J.—Contract will soon be let for paving Bayard Street from Clinton to Chestnut Avenue with asphaltic concrete on 5-in. base.

Cresson, Pa.—City Commissioners plan paving road through the Narrows between Moundsville and Wheeling. Address County Clerk.

New Eagle, Pa.—Citizens voted $20,000 street improvement bonds. Address Borough Clerk.

Norristown, Pa.—County Commissioners plan spending $160,000 for road and bridge work. Address County Clerk.

York, Pa.—All bids opened July 14 by City Clerk, for paving a portion of Reinche Place, Newberry, Edgar, Poplar, Locust, Prospect, Duke, Penn, Charles, South Maple and Queens Streets, Rouse and College Avenues and Clark Alley, in all about 49,353 sq. yd., rejected. See "Prices and Lettings." C. F. Wallow, City Engr.

Keyser, W. Va.—New Creek Dist. road bonds for $200,000 will be sold Aug. 15 by J. V. Bell, Clk. County Court.

Parkersburg, W. Va.—County Commissioners sold $100,000 permanent road bonds. Address County Clerk.

Fayetteville, N. C.—Road bonds for $25,000 will be sold July 31 by County Commissioners (T. G. McAlister, Chmn.).

Palatka, Fla.—Road and bridge bonds for $80,350 will be sold Aug. 8 by Board County Commissioners. Henry Hutchinson, Clk.

St. Cloud, Fla.—See "Waterworks and Sewerage Systems."

West Palm Beach, Fla.—Election will be held Aug. 15 to vote $150,000 bonds for constructing highway from West Palm Beach to Lake Okeechobee. Address County Clerk.

Florence, Miss.—Citizens of Supervisors' District No. 1 voted $50,000 good-road bonds. W. C. Ellis, Commissioner.

Bowling Green, Ohio.—County Commissioners sold $30,000 road improvement bonds. Address County Clerk.

Canton, Ohio.—Paving bonds for $26,100 will be sold Aug. 21, by Saml. E. Barr, City Auditor.

Sandusky, Ohio.—Paving bonds for $84,000 will be sold Aug. 10 by Board County Commissioners. Frank R. Smith, Co. Aud.

Warren, Ohio.—Paving bonds for $158,000 will be sold Aug. 14, by W. L. Hoffman, Clk. County Commissioners.

Jasper, Ind.—County Commissioners sold $13,200 road bonds. Address County Clerk.

Belvidere, Ill.—Board of Supervisors voted to spend $26,616 for improving highways. Address Clerk of Supervisors.

Milan, Ill.—County Court at Rock Island has approved sidewalk improvements totaling $11,000. Contract will soon be let. Address Clerk of County Court at Rock Island.

Rock Island, Ill.—Board of Local Improvements approve plan for paving Forty-first Street and Railroad Avenue with brick; estimated cost $19,000.

Albert Lea, Minn.—Reported $60,000 is to be spent this year in road improvement in Freeborn County. Address County Clerk.

St. Paul, Minn.—City Council passed ordinances for paving Rice Street with creosoted wood blocks, at $73,693, and Como Avenue with creosoted wood blocks, at $48,984.

Plattsmouth, Neb.—Contract will soon be let by City Council for street paving; estimated cost $30,004. Address City Clerk.

Helena, Mont.—Reported City Council considering paving Helena Avenue. Estimated cost $67,000. Address City Clerk.

Carthage, Mo.—City plans paving with asphalt macadam, hot-mix method, on 9 blocks, about 14,000 sq. yd. in all. F. B. Newton, City Engineer.

Joplin, Mo.—Contract soon to be let by City Council for paving 14,000 yd. concrete pavement on Seventh Street, 11,000 yd. National paving on Sixth Street, 17,000 yd. vertical fiber brick on Main Street, 7500 yd. rock asphalt on Wall Street, 15,500 yd. bitulithic paving on Joplin Street. Address City Clerk.

Hope, Ark.—State Highway Commission, Little Rock, preparing plans for 2 miles of concrete road from Hope to Dyke Springs; estimated cost $11,000.

Athens, Tex.—Election will be held Nov. 7 to vote on issuing $250,000 bonds for constructing pike roads in county. Address County Clerk.

Corpus Christi, Tex.—Attorney General approved $150,000 bond issue for street improvements.

Dallas, Tex.—City Council plans paving Lamar Street from Mosher to Cadiz Streets. Estimated cost $80,000. Address City Clerk.

Frankston, Tex.—Citizens Precinct No. 4 voted $100,000 road bonds. Address Clerk of Precinct No. 4.

Georgetown, Tex.—County Commissioners plan holding election to vote $200,000 improvement road bonds. Address County Clerk.

Greenville, Tex. — Citizens defeated $1,400,000 road improvement bond issue. Address County Clerk.

Lipscomb, Tex.—Attorney General approved $75,000 bond issue for road improvements. Address County Clerk.

Seattle, Wash.—Contract will soon be let by Board of Public Works for paving Olive Street with brick. A. H. Dimock, City Engineer.

Plans and specifications for paving Second Avenue Northeast have been filed with Board of Public Works; estimate cost $12,000. A. H. Dimock, City Engineer.

Astoria, Ore.—It is proposed to pave 30,000 sq. yd. with asphaltic concrete, bitulithic or brick, including concrete curb and gutter, on Bond, Franklin, Jerome, Eleventh, Twelfth and Duane Streets. G. T. McClean, Astoria, Engr.

Hubbard, Ore.—Reported City Council plans paving 1½ miles with concrete and asphalt and constructing sewer system. Plans are being prepared.

Silverton, Ore.—Contract will soon be let by City Council for hard-surfacing Eureka Avenue. Mark Paulson, City Recorder.

Pasadena, Cal.—Reported City Commissioners will let contract about last of August for grading and constructing oiled concrete pavement and cement curbs on Lock-Haven Street; also for grading and constructing 4-in. macadam pavement, cement curb and cement walk on Holliston Avenue. Heman Dyer, Clerk of Supervisors.

San Diego, Cal.—Contract will soon be let by City Council for grading and constructing concrete pavement, cement curbs, concrete retaining walls and about five reinforced concrete culverts, etc., on Owen, McCall, Lawrence, Kellogg and San Fernando Streets. George Cromwell, City Engineer.

Brigham, Utah.—County Commissioners will construct three miles of road between Willard and Hot Springs. Address County Clerk.

BIDS DESIRED.

Reading, Mass.—Until Aug. 1, by Board of Selectmen for constructing sections of State highway in town of Reading. E. O. Dewey, Chmn. of Selectmen.

Albany, N. Y.—By State Commission of Highways, 55 Lancaster Street, Albany, for State Highway work as follows: Until Aug. 14, approximately 110 miles; Aug. 16, approximately 110 miles; Aug. 18, approximately 115 miles, advertised in Engineering Record. Edwin Duffey, Commissioner.

Brooklyn, N. Y.—Until Aug. 2, by L. H. Pounds, Borough President, for paving portions of Ocean Avenue, Prospect Place, Nostrand Avenue, and constructing sidewalks on Hemlock Street, Jackson and other streets, in all about 28,559 sq. yd. asphalt, 33,179 sq. ft. cement sidewalks, etc. Security, $29,800.

New York, N. Y.—Until Aug. 3, by Douglas Mathewson, President Bronx Borough, for paving and repaving portions of Faille Street, Union Avenue and other streets, constructing sidewalks on Gleason Avenue, in all about 30,462 sq. yd. sheet asphalt, 4420 sq. yd. bituminous concrete pavement, 6500 yd. granite block pavement and 33,300 ft. cement sidewalk, etc. Security, $51,700.

Audubon, N. J.—Until July 31 (change of date from July 24) by Conway Bennett, Borough Clerk, for improving certain streets in Borough, in all about 44,740 sq. yd. plain concrete road and 25,377 sq. yd. waterbound macadam. J. J. Albertson, Borough Engineer, Magnolia.

Guttenberg, N. J.—Until Aug. 7, by Board of Council, for paving Park Avenue the entire length.

Irvington, N. J.—Until Aug. 2, by Board Commissioners of Town, for furnishing material and paving 7588 sq. yd. bitulithic pavement, 6 in. concrete foundation, together with curbing, sewer connections, etc. I. J. Casey, Town Engr., Irvington.

Morristown, N. J.—By Board of Freeholders as follows: Until Aug. 7, for 13 roads and one separate road and until Aug. 14, for two roads, advertised in Engineering Record.

New Brunswick, N. J.—Until Aug. 1, for repaving Commercial Avenue, Carroll Place, George and other streets with vitr. brick or asphalt block on concrete base, or Warrenite. Eugene J. McLaughlin, City Clk.

Paterson, N. J.—Until Aug. 16, by Road Committee of the Board of Chosen Freeholders (Geo. W. Botbyl, Clk.), at Paterson, for improving the following roads: Totowa Road, from Lincoln Bridge to Union Avenue, in Borough of Totowa, with bituminous concrete; Piaget Avenue, from Main to Hazel Street, with macadam; Wanaque Avenue, from N. Y. S. & W. R. R., to Julius Smith Bridge, with bituminous concrete and granite blocks.

Trenton, N. J.—Reported desired until Aug. 1, by County Freeholders, for resurfacing Lawrenceville and Princeton roads with warrenite and brick. Probable cost $110,000. Theo. Tobish, Co. Engr.

Butler, Pa.—Until Aug. 18, by County Commisioners (J. N. Maharg, Chmn.), for furnishing material and grading, paving and curbing the Butler and Saxonburg roads in Jefferson Township, a distance of about 20,175 ft., to consist of 31,663 sq. yd. vitr. brick, 20,053 yd. excav., 5452 lb. reinforcing bars, etc.

Du Bois, Pa.—Reported desired until Aug. 1, for paving with brick. Probable cost $20,000. R. V. Bloom, City Clk.

Baltimore, Md.—Until Aug. 2, by Board of Awards, for grading and paving with cement concrete 24 blocks, and alleys. R. M. Cooksey, Highway Engr.

Canterville, Md.—Until Aug. 1, by County Commisioners, for constructing a section of State Aid Highway in Queen Anne County, along the Churchhill Suderville Road, for a distance of about 5.21 miles. F. E. Schnepfe, Co. Road Engr.

Maryland.—Until Aug. 8, by State Roads Commission, 601 Garrett Building, Baltimore (Clyde H. Wilson, Secretary), for constructing about 21.1 miles State aid highway, advertised in Engineering Record.

Rockville, Md.—Until Aug. 8, by County Commissioners Montgomery County (John R. Lewis, President), for constructing section of State aid highway along Poolesville Road, distance 4¼ miles, advertised in Engineering Record.

Hamlin, W. Va.—Reported desired until Aug. 9, by A. F. Black, County Clerk, for constructing the Porter Fork Road, about 4 miles long, in Dubal Dist.

Bay Minette, Ala.—Until Aug. 16, by Board County Commissioners, for constructing the Delta Road. J. M. Garrett, County Engineer.

Birmingham, Ala.—Until Sept. 11 (extension of date from Aug. 14), by Board of Revenue of Jefferson County, for constructing about 14 miles of highway from Birmingham to Warrior River. Advertised in Engineering Record.

Grenada, Miss.—Until Aug. 7, by the County Board of Suprevisors (M. E. Powell, Clk.), for constructing the following public roads from Grenada to Yalobusha County line, from Haserway to Calhoun County line, from Grenada S. to Montgomery County line, from Grenada easterly to Kincaid, and a number of other roads.

Bedford, Ky.—Reported desired until Aug. 8, by O. S. Joyce, County Clerk, for 3 miles of macadam pavement on Bedford and La Grange Roads; also separate bids for 9 miles of macadam on same roads; probable cost $40,000.

Frankfort, Ky.—Until Aug. 8, by R. Wiley, Comr. Public Works, for reconstructing county road between Bedford and Campbellsburg, extending from Ewing Ford to Henry County line. Also separate bids, same time and place, for reconstructing county road between Bedford and Lagrange.

Hartford, Ky.—Reported desired until Aug. 1, by Fiscal Court, for improving the Calhoun and Hartford Inter County Seat Road, to consist of: Hartford Road, 66,200 cu. yd. excav., 1100 cu. yd. river gravel, 5800 yd. sandstone base, 11,000 cu. yd. bank gravel, etc. Calhoun Road, 24,000 cu. yd. excav, 18,300 tons broken stone, 11,200 yd. river gravel, 11,200 cu. yd. bank gravel, etc. Address Clerk of Fiscal Court.

Lebanon, Ohio.—Reported desired until Aug. 15, by C. S. Mounts, County Auditor, for constructing 5 miles crushed rock pavement on Dayton, Lebanon and McPhillips Roads.

Port Clinton, Ohio.—Reported desired until Aug. 8, for paving and curbing 11 blocks. Probable cost $10,000. W. H. Williamson, City Clk.

Richmond, Ind.—Until Aug. 3, by County Commisioners for constructing about 11 miles of National Road, as follows: Center Township, Section No. 1, John D. Nixon Road, 29,906 sq. yd. concrete, 10,000 cu. yd. excav., 12,000 ft. 6-in. tile, etc., cost $46,354; Jackson Township, Section 1, Orange F. Hall Road, 22,240 sq. yd. concrete, 7500 cu. yd. excav., 4310 ft. 6-in tile, etc., cost $34,002; Jackson Township, Section 2, James A. Boyd Road, 21,500 sq. yd. concrete, 7000 cu. yd. excav., 3350 ft. 6-in. tile, etc., cost $33,075; Jackson Township, Section 3, George F. Gipe Road, 18,992 sq. yd. concrete, 6000 cu. yd. excav., 6400 ft. 6-in. tile, etc., cost $28,508, and Jackson Township, Section 4, Edward G. Jacobs Road, 20,800 sq. yd. concrete, 5400 cu. yd. excav., 9250 ft. tile, etc., cost $31,750.

Akron, Mich.—Until July 31 by Highway Commissioner Cleveland Neal, Akron, Wisner Township, for constructing about 3½ miles of Class C, State Reward Road. R. W. Roberts, Engr., Saginaw.

St. Johns, Mich.—Until Aug. 7, by Road Commissioners of Clinton County for constructing 3½ miles of class C slag and gravel trunk line highway through the city advertised in Engineering Record.

Cicero, Ill.—Until July 31, by Board Local Improvements (James S. Ryland, Secy.), for paving with concrete a number of alleys.

Granite City, Ill.—Reported desired until Aug. 1, by Board Local Improvements, for 11,500 sq. yd. reinforced concrete paving in East and North Twenty-fourth Street. Probable cost $45,000.

Illinois.—Until Aug. 2, by State Highway Department, Springfield, for constructing following roads:

Poplar Grove, Boone County, Sect. E, 3514 ft. concrete, Engineer's estimate $5,061.

Irene, Boone County, Sect. F, 8000 ft. waterbound macadam. Engineer's estimate $12,993.

Flat Rock, Crawford County, Sect. C, 2200 ft. concrete. Engineer's estimate $7,155. Sect. D, 2579 ft. concrete. Engineer's estimate $7,383.

Dietrich, Effingham County, Sect. D, 6500 ft. earth. Engineer's estimate $2,495.

Lamberth, Monroe County, Sect. B, 1575 ft. concrete. Engineer's estimate $2,154.

Waterloo, Monroe County, Sect. C, 5052 ft. Engineer's estimate $2,663.

Monroe, Wis.—Until Aug. 4, by Wm. Dunwiddie, City Clk., for laying 4583 yd. brick, creosoted block or reinforced concrete pavement, 1040 lin. ft. curb and gutter, 170 ft. retaining wall, etc.

Stoughton, Wis.—Reported desired until Aug. 7, for paving on Main Street with brick and with waterbound macadam on several other streets. Address L. C. Courrier, First National Bank Bldg., Secy. Assessment Com.

West Allis, Wis.—Reported desired until Aug. 14, by A. L. Wichner, City Clerk, for 10,000 yd. reinforced concrete pavement on Beloit Road.

Clinton, Iowa.—Until Aug. 8, by Frank W. Leedham, City Clk., for street improvements, in all about 16,868 sq. yd. vitr. brick paving and 10,617 lin. ft. concrete curb and gutter. Advertised in Engineering Record. J. G. Thorne, City Engineer, 317 Homes Block.

Keokuk, Iowa.—Reported desired until July 31, for paving portions of Eighth, Tenth, Johnson and other streets, in all about 46,650 sq. yd., together with curbing. O. W. Sandberg, City Clk.

St. Paul, Minn.—Until Aug. 7, by H. W. Austin, Purchasing Agent, for improving portions of Aldine Street, East and West Alley, Evans Addition, Block 3, and Holtershoff and Meades Addition, Block 3.

Mandan, N. D.—Reported desired until July 31, for paving Fifth Avenue and two other streets, with either vitr. brick, wood block, asphalt, bituminous or Tarvia mixed with Tarvia Penetrated.

Albany, Mo.—Reported desired until Aug. 1, for paving 30 blocks. N. E. Holden, City Clk.

Fulton, Mo.—Until Aug. 10, by city, for 2200 sq. yd. vitr. brick and 2000 yd. of scarifying, grading, rolling and oiling. F. E. Baker, City Engr.

Sedalia, Mo.—Reported desired until Aug. 7, by W. E. Gold, City Clerk, for paving Fourth and Park Streets with vertical fiber brick. (F. T. Leaming, City Engineer.)

Helena, Ark.—Reported desired until Aug. 10, by W. E. Winn, Engr., for constructing two miles concrete road, etc. Probable cost $24,000.

Pine Bluff, Ark.—Reported desired until Aug. 10, by County Commissioners (J. P. Walt, Chmn.), for constructing 40 miles of bituminous macadam and gravel road, to include 157,000 cu. yd. embankment, together with small concrete and steel bridges, etc. Probable cost $250,000. E. C. Tovey, Engr., Pine Bluff.

Colfax, Wash.—Reported desired until Aug. 21 by A. R. Metz, Co. Aud., for grading, draining, bridging and graveling Permanent Highway No. 12, 11 miles, between La Crosse and Dusty. Bids desired in lump sum for grading, draining and bridging, and graveling separately. John M. McCaw, County Engr.

Prosser, Wash.—Reported desired until Aug. 1, by James G. Boyle, City Clk., for paving several streets with concrete. Probable cost $10,000.

Shelton, Wash.—Reported desired until Aug. 1 by Eva. L. Robinson, County Auditor, for constructing South Shore Road 5 miles. Probable cost, $12,000. Arthur L. Ward, Co. Engr.

Bakersfield, Cal.—Until Aug. 8, by Board Supervisors (F. E. Smith, Clk.) for constructing two miles of pavement, consisting of 4-in. concrete base and surface of asphaltic oil or Topeka top, on Bellevue Road, about 5 miles southwest of Bakersfield. Also separate bids for grading and constructing pavement and culverts on 1.78 miles of Bakersfield Glennville Road, Div. 9, Sec. 7. Address Kern County Highway Commision.

Glendale, Cal.—Until Aug. 3, by City Trustees for grading and constructing approximately 146,400 sq. ft. 6-in. macadam pavement and 8600 lin. ft. cement curb on Glendale Avenue, between First Street and Verdugo Road. Edw. M. Lynch, City Engr.

Hanford, Cal.—Until Aug. 7, by Board of Supervisors (E. F. Pickerell Clk.), for grading and constructing 17.5 miles of county highway (Grangeville north and west, Armona south and west), approximately 1,501,336 sq. ft. 2½-in. asphaltic concrete base; same amount 1½-in. Topeka or Warrenite wearing surface; same amount asphaltic concrete paving, including sand wearing surface, etc. Type B, 1,407,670 sq. ft. 2½-in. asphaltic concrete base; same amount Topeka or Warrenite wearing surface; also same amount asphalt concrete pavement, including sand wearing surface, together with excavation, etc.

Los Angeles, Cal.—Until about Aug. 21, by Board Public Works (Horace Ferris, Secy.), for following street work, grading, concrete base and bitulithic pavement, cement curbs, granite block gutters, cement sidewalks, 18-in. vitr. storm drain, sanitary sewers, manholes, etc., in Eleventh Street, San Pedro Dist., concrete base with broken stone and asphaltic cement binder course and asphalt surface wearing pavement, in five blocks of Fifty-eighth Street, Main Street and Towne Avenue. Homer Hamlin, City Engr.

Santa Barbara, Cal.—Until Aug. 4, by Board Supervisors (C. A. Hunt, Clk.), for grading and constructing 18,750 ft. of pavement on Los Olivos Street, Extension Road, also grading and constructing culverts on 4.18 miles of Harris Station, Lompoc Road, in Roads Dists. Nos. 4 and 5.

Vallejo, Cal.—Until about Aug. 15, A. E. Edgecombe, City Clerk for street improvements, advertised in Engineering Record. T. D. Kilkenny, City Engineer.

Vallejo, Cal.—Until Aug. 15, for paving in Northern Improvement Dist., Florida, Sacramento and Tennessee Streets, in all about 28,000 sq. yd. Topeka top on concrete foundation. Cost $140,000. W. Kelkenny, City Engr.

Ventura, Cal.—Until Aug. 8, by Board Supervisors (J. B. McCloskey, Clk.) for grading and constructing 4-in. concrete pavement, 16 ft. wide, involving approximately 17,500 cu. yd. excav., 46,300 lin. ft. shaping and rolling roadbed, 9200 cu. yd. "B" concrete in pavement, culverts, etc., on 8.77 miles Somis to Santa Clara River Road, Div. 7.

Globe, Ariz.—Until about Sept. 1, by County Commissioners, for 64,000 sq. yd. concrete pavement on Globe-Miami and Winkelman Hayden Highway, to cost $90,000. R. L. Bryant of Globe, Engineer; R. G. Thomas, County Engineer.

Phoenix, Ariz.—Until Sept. 20, for 12,200 yd. pavement. Robt. A. Craig, City Mgr.

Salt Lake City, Utah.—Reported desired until Aug. 20, for constructing concrete roads. Probable cost $38,000. S. Q. Cannon, City Engr.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Boston, Mass.**—Mayor has approved contract with Central Construction Company, 228 South Hampton Street, Roxbury, for sheet asphalt pavement in Bardwell Street, between South and Ballard streets, Dunster Road, between Centre and Pond streets, Halifax and other streets, at $51,500.

★**Albany, N. Y.**—Contracts awarded by Board of Contract and Supply for paving Central Avenue from Lark Street to Quail Street, to Cramond Construction Co., Albany, at $83,945, and Leedale, Barrows and Hampton streets, with asphalt to M. F. Dollard, Albany, at $14,576. (Bids opened July 17.)

★**Bayonne, N. J.**—Contracts for paving (bids opened July 11) awarded July 18 by Department of Public Affairs as follows: Avenue C from Fifty-fourth Street to Morris Canal, Contract 707 (lowest bid) Uvalde Asphalt Paving Company, 2 Green Street Jersey City, $11,469 (laid over until later for award). Fifth Street, between Avenue A and Broadway, Contract 807, awarded W. T. A. Crichfield, 2 Green Street, Jersey City, at $19,934. Eighth Street, from Avenue A to Broadway, Contract 808, also to same company, at $13,214. Twenty-second Street, from Broadway to Avenue I, to Cullifan & Machanska, Bayonne, at $60,663. Improvement of Twenty-ninth Street from Avenue E to Avenue A (lowest bid), Uvalde Asphalt Paving Company, Jersey City, at $23,600 (laid over until later date). William P. Lee, City Clerk.

★**Jersey City, N. J.**—Contract awarded by Board of Chosen Freeholders for paving Paterson Plank Road from Homestead to near Secaucus, to Nolan & Hornung, 711 Du Bois Street, West Hoboken, at $110,000. (Bids opened July 11.)

★**Beaver Falls, Pa.**—Contract awarded (bids opened July 10) by Carl S. Donaldson, Borough Engineer, for paving Seventh Avenue, to J. G. McGuire Co., New Brighton.

★**Bradford, Pa.**—Contract awarded M. Applegate & Son, Bradford, for paving Kendall Avenue, at $12,075 (bids opened July 17). B. G. Wise, City Engineer.

★**Millersburg, Pa.**—Contract for brick paving awarded G. W. Ensign, Inc., Harrisburg, $16,561. Other bidders: Srucker Brothers, Harrisburg, $16,578; Fiss & Christiano, Shamokin, $16,863, and Coryell Construction Co., Williamsport, $17,319.

Nanticoke, Pa.—Contract awarded Carndoc Rees, Nanticoke, for paving with Hastings asphalt blocks 5 x 12 x 2 in. deep on Washington Street, about 3130 sq. yd., at about $10,325.

Pennsylvania.—Following bids, opened July 19, by Frank B. Black, State Highway Commissioner, at Harrisburg, for constructing state roads:

Allegheny County, reconstructing 16,852 lin. ft. reinforced concrete pavement in South Fayette Township: Monongahela Construction Co., Incorporated, Pittsburgh, $71,428; R. B. Taylor, Bellefonte, $75,959; Ridge Bros. Co., Pittsburgh, $76,249, and Samuel Gamble Co., Carnegie, $76,892.

Washington County, 19,308 lin. ft. reinforced concrete pavement in Cecil and North Stratbane Townships: R. H. Cunningham & Sons, Turtle Creek, $102,748; Samuel Gamble Co., Carnegie, $91,811, and Parton Construction Co., Brownsville, $92,529.

Cambria County, 32,923 lin. ft. reinforced concrete pavement and vitrified block pavement in Jackson and East Taylor Townships: John L. Elder, Ebensburg, $146,542; Samuel Gamble Co., Carnegie, $182,279.

Forest County, 5,385 lin. ft. waterbound macadam road in Hickory Township: South Shore Construction Co., Erie, $11,527; W. C. Simpson, Punxsutawney, $12,184; Bruce Steel Co., Hollidaysburg, $12,563.

Chester County—Route 131, Section 8, 32,214 ft. long; following are four lowest bids for reinforced concrete construction: Souder Construction Co., Inc., Lancaster, $169,632; D. E. O'Connell & Son, Avondale, $110,999; Paul J. Snyder & Co., Philadelphia, $113,076, and Gillespie & Son, Oakview, $113,275.

Delaware County—State Aid application in Nether Providence Township, 4250 ft. brick block on cement concrete base: James E. Kelley, Darby, $25,101; Charles T. Eastburn Company, Yardley, $25,349; Field, Barker & Underwood, Philadelphia, $26,047, and Paul K. Snyder & Co., Philadelphia, $26,088.

★**Windber, Pa.**—Contract for approximately 5700 sq. yd. vitr. block pavement on concrete base (bids opened July 20) awarded Torquato Brothers, Windber, at $13,277. W. J. Vickroy, Borough Engineer, Windber.

★**York, Pa.**—Contract for 16,787 sq. yd. sheet asphalt (Trinidad Lake) pavement on Lake Charles, East Princess and West King Streets (bids opened July 14 by City Clerk) awarded General Supply & Construction Co., York, Pa. C. F. W. Wallow, City Engr. See "Proposed Work."

★**Frederick, Md.**—Contracts awarded by County Commissioners to M. J. Grove Lime Co., Lineklin, for 1.06 miles of Burkittsville-Knoxville Rd., at $12,261, and Monrovia-Hyattstown Road, at $16,366.

★**Maryland.**—Contracts awarded by State Road Commission (bids opened July 18) for constructing roads as follows:

★Contract No. BC-9A, Baltimore City: One section of Liberty Heights Avenue, from Earle Avenue to Calloway Avenue, about 1.34 miles of sheet asphalt, to P. Flanigan & Sons, Harford Road and B. & O. R. R., at $82,800.

★Contract No. D-17, Dorchester County: One section through Hurlock, .69 mile concrete, to Hope Construction Co., Denton, at $8,785.

★Contract No. F-18-A, Frederick County: Resurfacing with oil-bound macadam 3.96 miles of Emmitsburg Pike, to F. C. Cross, Equitable Bldg, Baltimore, at $46,-052.

★Contract No. P-15, Prince George County, 1.01 miles of concrete road through Upper Marlborough, to J. W. Martin, Annapolis, at $12,192.

★Contract No. M-10, Charles H. Hoyt, Evans Bldg., Washington, D. C., at $60,-569.

★**West Union, W. Va.**—Contract awarded by County Court for 7 miles of 14-ft. concrete road to Sisler & Morse, at approximately $13,500.

★**Tifton, Ga.**—Contract awarded by city for paving all business streets with concrete asphalt to Gulf Paving Co., Chattanooga, Tenn., at $45,000.

★**Miami, Fla.**—Contract for 60,000 sq. yd. of asphaltic concrete paving (bids opened July 10), awarded J. F. Morgan & Co., Attalla, Ala., at $121,031. B. H. Klyce, City Engineer.

★**Dothan, Ala.**—Contract for constructing 20 miles public roads awarded by Board of Revenue to H. L. Woffard & Co. of Dothan. A. C. Crawford, Probate Judge.

★**Hopkinsville, Ky.**—Contract for 60 miles of resurfacing and 25 miles of new macadam road in Christian County (bids opened July 18) awarded Montgomery Perkins & Company, San Antonio, Tex., at $208,278. Charles Folsom, Engineer, Road Commission, Christian County.

★**Akron, Ohio.**—Contract awarded McAlonan Brothers, Akron, for paving Mallison Street and to E. McShaffrey & Son, Akron, for paving Weber and Charlotte Streets. (Bids opened July 8 by Director Public Service.)

★**Defiance, Ohio.**—Contract awarded Spangler & Erman, Evansport, Ohio, for 3½ miles gravel roads (bids opened July 17), at $19,512. Rogers Daoust, County Aud.

★**Dunkirk, Ohio.**—Contract awarded by city for paving Main Street with asphalt to N. B. Streicher Co., Findlay, at $46,-132.

★**Kenton, Ohio.**—Contract awarded Brewer, Tomlinson & Brewer, Chillicothe, for paving Main and Shadely Streets in Village of Alfer, at $27,000.

★**Middletown, Ohio.**—Contract for paving Park Place and Sutphin, Harris, Monroe and McKinley Avenues awarded Bigler Brothers, Franklin, at about $26,000.

★**Mt. Gilead, Ohio.**—Contract for paving Cherry Street with waterbound macadam base, with brick tar filler, awarded George F. Wieland, Mt. Gilead, at $10,295 (bids opened July 19). B. D. Buxton, Village Clerk.

Ohio.—Following are lowest bids, opened July 20 by Clinton Cowen, State Highway Commissioner, Columbus, for constructing state-aid roads:

Champaign County, Urbana-West Jefferson Road, 1.25 miles water-bound macadam, J. C. McCann & Son, Columbus, $18,980.

Clermont County, Cincinnati-West Union Road, 1.05 miles water-bound macadam, Ellsworth A. Moker, Bethel, $9,990.

Erie County, Milan-Elyria Road, 1.35 miles bituminous macadam, Elyria Construction Co., Elyria, $15,206.

Fayette County, Springfield-Washington Road, 2 miles water-bound macadam, Selple & Wolf, Youngstown, $15,815.

Gallia County, Jackson-Gallipolis Road, 1.04 miles water-bound macadam, W. H. Martt, Gallipolis, $9,500.

Geauga County, Painesville-Warren Road, 0.91 mile reinforced concrete, Farrell Engineering & Construction Co., Cleveland, $10,850.

Geauga County, Chardon-Madison Road, 1.7 miles reinforced concrete and brick, Farrell Engineering & Construction Co., Cleveland, $20,250.

Guernsey County, Cambridge-Caldwell Road, 1.25 miles grading, John W. Butler, Cincinnati, $9,689.

Hancock County, Findlay-Kenton Road, 3 miles water-bound macadam, Latschaw & Stinchcomb, Fostoria, $26,383.

Lucas County, Toledo-Napoleon Road, 2 miles water-bound macadam, C. W. Ryan, Maumee, $18,950.

Ottawa County, Bono-Port Clinton Road, 4.01 miles water-bound macadam, Henry Bergmann, Geneva, $27,220.

Preble County, Eaton-Richmond Road, 1 mile surfaced-treated macadam, H. C. Foster & Sons, Richmond, Ind., $7,684.

Trumbull County, Warren-Meadville Road, 7.44 miles bituminous macadam, Selple & Wolf, Youngstown, $57,312.

Tuscarawas County, Canton-Canal Dover Road, 2.97 miles grading, John W. Butler, Cincinnati, $14,299.

Van Wert County, Van Wert-Spencerville Road, 2 miles water-bound macadam, A. J. Walter, Wapakoneta, $14,438.

Van Wert County, Van Wert-Ft. Wayne Road, 3 miles water-bound macadam, Sol Putnam, Van Wert, $23,890.

Cuyahoga County, Section B of Rocky River-Berea Road in West Park and Middleburg Townships, 2500 lin. ft. constructing ditches and repairing brick pavements, Long & Bowen, Cleveland, $12,-188.

Geauga County, Cleveland-Kent Road, 0.94 mile water-bound macadam, J. Buck, Chardon, $8,731.

Lorain County, Oberlin-Norwalk Road, 3.15 miles bituminous macadam, Elyria Construction Co., Elyria, $24,865.

Stark County, Canton-Canal Dover Road, 1.49 miles bituminous macadam, W. D. Kelley Co., Canton, $10,608.

★**Indianapolis, Ind.**—Contract for constructing gravel road in Center Township awarded by County Commissioners to C. M. Kirkpatrick of Indianapolis at $27,000.

★**Plainfield, Ind.**—Contract awarded by County Commissioners for constructing 4798 ft. brick road to George T. Miller, Lebanon, at $29,000.

★**South Bend, Ind.**—Contract awarded by A. Wolf, County Auditor (bids opened July 17) for constructing road in Union Township to H. L. Short, Lacrosse.

★**Fairfield, Ill.**—Contract for 19,478 sq. yd. vitr. brick paving on Portland cement concrete foundation in Central Paving District (bids opened July 17) awarded J. E. & B. S. Crane, Murphysboro, at $1.98 per square yard; total $46,961. A. J. Poorman, President Board Local Improvements.

★**Illinois.**—Contracts for State highway work awarded by State Highway Department, Springfield, as follows:

On July 12, to Pronger & Fletcher, Blue Island, for brick and concrete roads in Cook County, at $57,400; R. F. Conlon, Cuba City, Wis., for concrete and earth roads in Jo Daviess County, at $9,500; Illinois Hydraulic Stone & Construction Co., Elgin, for concrete road in Kane County, at $30,723; Henry P. Johnson, Sterling, for gravel road in Whiteside County, at $12,650.

★**Peoria, Ill.**—Contract awarded for paving from Farm Creek to center of East Peoria Village to Douglas A. Meyer, Peoria, at $36,000.

★**Kenosha, Wis.**—Contract awarded C. Petersen Construction Co., Kenosha, at $23,13¾, for 11,700 sq. yd. asphaltic concrete and 9700 lin. ft. concrete curb and gutter on Pomeroy Street. (Bids opened July 21.) B. C. Bornnen, City Engineer.

★**Milwaukee, Wis.**—Contract for bituminous concrete on Layton Boulevard awarded John S. O'Neill, 307 Pereles Bldg., Milwaukee, at $17,039 (bids opened July 13 by Bd. of Public Works).

West Allis, Wis.—Following bids opened July 15 by E. G. Orbet, City Engineer, for 5748 sq. yd. concrete pavement on Seventy-fifth Avenue, and 1334 cu. yd. excavation: Dean Construction Company of Milwaukee at $1.60 per sq. yd. and 75 cents per cu. yd.; Kroening Construction Company of Milwaukee, $1.49 per sq. yd. and 75 cents per cu. yd. respectively.

★**Emmetsburg, Iowa.**—Contract for about 21,000 sq. yd. of paving (bids opened July 17) awarded Zitterell & Sullivan, Webster City, at $50,850. Other bidders: Ford Paving Company, Cedar Rapids, $52,000, and William Horrabin, Iowa City, at $52,300. T. F. Rutlidge, City Clerk.

Minneapolis, Minn.—Following bids submitted to County Commissioners for paving extension of Crystal Lake Avenue through Robbinsdale to connect with Osseo Road: General Construction Co., Minneapolis, at $39,969 for bitulithic and $46,042 for creosoted wood block, and Schugun Bros., Minneapolis, at $25,900 for concrete.

Great Falls, Mont.—Following bids, opened by City Council for paving Fifth Avenue North from Park Drive to Ninth Street, (a) gravel bitulithic, (b) Montana Paving Co's type, (c) asphaltic concrete: S. Birch & Sons Construction Co., Great Falls, (a) $37,406, (b) $32,311, (c) $30,047; Fred Sauer, Great Falls, (a) $37,913; Montana Paving Co., (b) $31,000, (c) $30,056.

★**Missoula, Mont.**—Reported contract awarded by City Council for paving South Higgins Avenue with bitulithic to J. C. Maguire, Butte, at $33,331. (Bids opened July 18 by R. E. Kellogg, City Clerk.)

★**Fulton, Mo.**—Contract awarded (bids opened July 6) by city for 2000 sq. yd. bituminous macadam and 1450 lin. ft. concrete curbing, to C. T. Petry, Marshall. F. E. Baker, City Engineer.

★**Sulphur Springs, Tex.**—Contract awarded by County Commissioners for constructing road system in Precinct No. 1 to Cobb & Gregory, Houston. Bonds for this purpose were recently voted.

★**Everett, Wash.**—Reported contract awarded by County Commissioners for road improvements as follows: To P. J. McCormick, Seattle, Proposition No. 3, at $17,840; Ward & Templeton, Everett, Propositions Nos. 29 and 31, at $12,908 and $14,975 respectively.

★**Montesano, Wash.**—Contract awarded by County Commissioners for paving Permanent Highway No. 13 with asphalt with concrete base to Olympic Paving Co., Hoquiam, at $15,490. George D. Robertson, County Engineer.

★**Seattle, Wash.**—Contract awarded by Board of Public Works for paving Thirteenth Avenue to P. J. McHugh, Third Avenue, North and Mercer Street., at $15,527.

Low bid submitted to Board of Public Works for grading and constructing concrete walks on Thirty-ninth Avenue S., by George A. Banderet, Bellevue, at $22,222.

Following bids opened by Board of Public Works for paving Warren Avenue: P. J. McHugh, Third Avenue North and Mercer Street, at $32,083; A. J. Baumgartner, 711 Sixteenth Street, $34,672; Washington Paving Co., Smith Bldg., $34,-876; R. G. Stevenson, 1327 Ewing Street, Seattle, at $35,600.

★**Walla Walla, Wash.**—Reported contract awarded by County Commisioners for constructing 3 miles of Highway No. 11, west of Touchet to L. L. Lanning, Walla Walla, at $17,000. Grover Cookerly, County Engineer.

Astoria, Ore.—See "Miscellaneous."

★**Anaheim, Cal.**—Contract awarded Los Angeles Paving Co., Los Angeles, for 163,-000 sq. ft. on East Broadway (4½-in. concrete base and 1½-in. sheet asphalt surface), at 10.24 cts. per ft. (bids opened July 13 by O. E. Steward, City Engineer).

Lowest bid opened same time as above for paving on West Broadway about 209,-219 sq. ft. submitted by S. C. Contracting Co. of Los Angeles, at 10.68 cts. per ft. (not yet awarded).

★**California.**—Contracts for State highway work awarded by State Highway Department, Sacramento, as follows:

San Mateo County, from Beresford to Redwood City, about 4.2 miles, to J. A. Marshall, Berkeley, at $37,290.

Contra Costa County, from southerly county boundary to Richmond, about 2.5 miles, to Blanchard & Brown, San Francisco, at $33,257.

Ventura County, from Larkspur to Sausalito, about 5.6 miles, to Marin Rock Co., San Anselmo, at $25,610.

★**Los Angeles, Cal.**—Contract awarded by City Council for paving and improving Cassatt Street to J. Hein, Stimson Building, at $21,022.

Following are lowest bids, opened July 17 by Board of Supervisors, for constructing concrete and disintegrated granite pavement, culverts, etc., involving 14,571 cu. yd. excavation, 10,915 lin. ft. shaping roadbed, 3481 lbs. reinforced steel, 24,372 sq. ft. concrete pavement on Mesa Drive between Slauson Avenue and Los Angeles limits, Road District No. 95: A. L. McCray, 234 West Twenty-eighth Street, $11,380; P. A. Thomas, $12,997, and Fred Hoffman, Long Beach, $13,465.

★**Riverside, Cal.**—Contract awarded by City Council for constructing concrete pavement, cement sidewalks, concrete and iron catchbasins with vitrified pipe drains, and concrete and iron culverts on North Main Street, to Johnson-Shea Co., Riverside, at $35,495. Other bids: Rogers Bros. Co., Hibernian Bldg., Los Angeles, at $39,669; Highway Construction Co., Redlands, $40,027, and Shull Tucker Co., $46,758.

★**Sawtelle, Cal.**—Contract awarded by City Council for paving and improving Santa Monica Boulevard to George H. Oswald, 305 Johnson Building, Los Angeles, at $70,818.

★**Phoenix, Ariz.**—Contract for paving West Portland Street and North Fifth Avenue awarded California Arizona Construction Company, Phoenix, at $1.50 per square yard for bitulithic, about 6445 sq. yd. and 2978 ft. concrete combined curb and gutter at 92 cents per foot.

★**Salt Lake City, Utah.**—Contract awarded by City Commission for paving as follows: To P. J. Moran, 152 West Second Street, for sheet asphalt on portion of 13th East Street, at $33,030; Strange & Maguire Paving Co., 13 East and 9th S. Streets., for bituminous concrete on Virginia, Alta Streets and Second Avenue, at $15,745, and bitulithic paving on all streets in Federal Heights, at $60,099.

★**American Falls, Idaho.**—Reported contract awarded by City Council for laying about 12 miles of cement sidewalks and cross walks in Improvement Districts Nos. 8 and 9, to Sam A. Foster, American Falls, at $45,536. Other bids were: Charles Hellmer, Idaho Falls, $46,059; Frank Penett, Salt Lake City, Utah, $46,-780, and Charles H. Mull, Twin Falls, $48,059.

★**Moscow, Idaho.**—Contract awarded by City Council for paving North Main Street with concrete, about 8100 sq. yd., to Standard Asphalt Paving Co., Spokane, Wash., at $1.60 per sq. yd.

★**Woodstock, Ont.**—Contract for 12,000 sq. yd. of reinforced concrete paving on Riddle Street (bids opened June 9) awarded Brennan & Hollingworth, Hamilton, at $1.38½ per square yard. John Morrison, City Clerk.

RAILWAYS
Steam and Electric

PROPOSED WORK.

Marlboro, Mass.—The Boston & Western Street Ry. Co. plans to construct a line from Marlboro to Waltham, about 15 miles.

Rochester, N. Y.—See "Water Works and Sewerage."

Cape May, N. J.—The Cape May, Delaware Bay & Sewell's Point R. R. Co.'s $100,000 power plant at Cape May reported destroyed by fire.

Penn's Grove, N. J.—Plans being made by Penn's Grove Improvement Co. to construct a line from Penn's Grove to Woodstown and to Newfield, about 40 miles.

Williamsport, Pa.—The Electric Standard Railways Co., incorporated to construct and operate railways; capital $1,000,000. Among incorporators: George L. Campbell, Harry R. Noll, both of Williamsport.

Newport News, Va.—Reported Newport News & Washington Shore Line Ry. Company has been organized, with Frank Gannon, 2 Rector Street, New York, President, to construct a railroad to Washington City. Construction will commence this fall.

Winchester, Va.—Reported Baltimore & Ohio R. R. (F. L. Stuart, Chief Engineer, Baltimore, Md.) is planning to build a feeder from Winchester to Lost River Valley of West Virginia.

St. Cloud, Fla.—Central Florida Interurban Ry. Co. making preliminary survey and securing right of way for first section of proposed line from Hopkins to St. Cloud, about 50 miles. William Hall of St. Cloud, Secretary.

Clarksdale, Miss.—Reported City Railroad Commission (L. W. Mashburn, Clarksdale, Engineer) is having plans prepared for a line to be constructed from Clarksdale to Webb, also from Clarksdale to a point on Mississippi River, in all about 35 miles.

Cincinnati, Ohio.—Reported the Ohio Electric Ry. Co. considering relocating about 4 miles of tracks now on highway east of Columbus.

Cleveland, Ohio.—City Council has given permission to Cleveland Railway Company, Leader News Building, to extend car tracks on Pearl Road from West Twenty-fifth Street car barns to Ridge Road, a distance of 2 miles; cost $52,800.

Columbus, Ohio.—The City Council passed an ordinance granting permission to Columbus Railway, Power & Light Co. to construct a $300,000 power plant on Kimball Street north of Broad Street. Company will also build a retaining wall.

Youngstown, Ohio.—The Mahoning Valley Ry. Co. plans to construct a 3000-ft. extension of its North Avenue line.

Detroit, Mich.—Surveys being made by Detroit United Railway for construction of 2-mile extension from center to southeastern part of city.

Joliet, Ill.—The Chicago, Joliet Electric Ry. Co. will spend $20,000 for new rails, ties and special work on its North Collins Street line.

Ottawa, Ill.—Reported plans being made by La Salle County Electric R. R. Co. to revive project to construct a line from Ottawa to Mendota. W. C. Vittum of Ottawa is interested.

Mason City, Iowa.—The United Light & Railways Co. of Grand Rapids, Mich., will spend about $250,000 for improving property in Mason City, including laying new steel ties and heavy rails.

Kansas City, Kan.—The Kansas City Rys. Co. of Kansas City, Mo., will construct a double track line on Eighteenth Street, Kansas City, Kan.

Grass Range, Mont.—Reported Chicago, Milwaukee & St. Paul R. R. (C. F. Loweth, Chief Engineer, Chicago, Ill.) intends constructing an extension of its line from Grass Range, Mont., to Winnett, 20 miles.

Marlin, Tex.—The Marlin-Temple Interurban Co., incorporated to construct an interurban line between Marlin and Temple. Among incorporators: G. W. Glass, S. D. Hanna and E. W. Moore.

McKinney, Tex.—Reported the Greenville & Northwestern R. R. Co. considering completing construction of line and electrifying same.

Muskogee, Okla.—The Muskogee Traction Co. contemplates construction of power plant.

Salem, Ore.—Oregon Public Service Commission reports Southern Pacific Railway Co. (W. Hood, Ch. Engr., San Francisco, Cal.) will make extensive improvements on line of Corvallis & Eastern Ry. west from Corvallis to Yaquina Bay. About 20.6 miles of 80-lb. steel rails will be laid between Nortons and Russell.

Lindsay, Cal.—Minkler-Southern Ry. Co. securing right of way between Lindsay and Porterville, approximately 15 miles.

Los Angeles, Cal.—Industrial Terminal Ry. Co. (L. E. Hanchett, Pres., San Francisco) contemplates erecting a railway terminal and warehouses at Alison and Alameda Streets.

Elimination of grade crossing at intersection of Mission Road and the four track line of Pacific Electric Ry., and on Aliso Street, traversed by Pacific Electric Ry. where it is crossed by Atchison, Topeka & Santa Fe R. R., Southern Pacific Electric Ry. and San Pedro, Los Angeles & Salt Lake Ry. at Los Angeles River, both main highways between Los Angeles and Pasadena, is demanded by city of Pasadena in an action recently filed with State Railway Commission.

Martinez, Cal.—Contract about to be let by Martinez & Concord Interurban Ry Co. for grading proposed line from Martinez to Government Ranch, 6½ miles. Clifford McClellan of San Francisco interested.

Sacramento, Cal.—The Northern Electric Ry. Co. received from City Council a franchise to construct a line through Sacramento.

Prescott, Ariz.—Olgonkian Mining Company (George F. Shurtleff, Manager) planning constructing a narrow gage railroad from Bradshaw Mountain Railway to mining property 4½ miles distant.

Winnipeg, Man.—The City Council approved plan of Winnipeg Electric Ry. for a single track line on Levis Street. The double tracking of line on McGregor Street and a temporary track on Sergent Avenue from Arlington to Wall Streets being considered.

BIDS DESIRED.

New York, N. Y.—Until Aug. 10, by Public Service Commission for First Dist., 120 Broadway, for installation of tracks for a portion of Broadway-Fourth Avenue Rapid Transit Railroad between Fifty-ninth Street and Seventh Avenue, Manhattan, and Flatbush Avenue, extension at Prince Street, in Brooklyn, also on Canal Street connection between Canal Street and Broadway and Manhattan Approach to Manhattan Bridge. In all, contracts cover installation of tracks on 15 sections of subway work. All material excepting concrete and concreting material and a small amount of c. i. pipe to be furnished by City.

PRICES AND LETTINGS.

★Indicates award of contract.

★New York, N. Y.—Contract awarded by Public Service Commission for First District, 120 Broadway, to Degnon Contracting Co., 30 East Forty-second Street, at $9.600, for certain construction work at Manhattan Terminal of Brooklyn Bridge as preliminary to construction of Nassau Street Subway.

★Fairmont, W. Va.—Contract awarded to Keeley Bros. of Clarksburg for construction of Monongahela Valley Traction Co.'s line from O'Neil to Wolf Summit.

★Columbus, Ohio.—Cleveland, Cincinnati, Chicago & St. Louis R. R. has awarded contract to Walsh Construction Company, Davenport, Iowa for elimination of four grade crossings between First and Seventeenth Aves., involving about 180,000 cu. yd. embankment, and 10,000 cu. yd. concrete work. Four steel through girder bridges with solid floors will be constructed.

★San Francisco, Cal.—Contract awarded to United States Products Co. of San Francisco for furnishing and delivering track special work Contract No. 82 for Municipal R. R. of San Francisco.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Bristol, Conn.—New Departure Manufacturing Company, 269 North Main Street, will erect four-story brick and mill construction factory on Valley Street.

Albany, N. Y.—C. A. Simmons Machine Co., Albany, will erect a one-story, 125 x 131 ft., brick and steel factory.

Brooklyn, N. Y.—Mohegan Tube Company, Davis Street, plans erecting two-story, 100 x 250 ft., brick factory at Meseroie Street and Scott Avenues; estimated cost $300,000.

Buffalo, N. Y.—Kittinger Furniture Company, 15 Front Avenue, secured site on Elmwood and Hertel Avenues and will erect three-story fireproof factory to cost about $100,000.

Dunkirk, N. Y.—Plans completed by O. F. Hakes, 214 Dove Street, for an 80 x 100 ft. factory, to be erected for Empire Azel Company.

New York, N. Y.—Plans filed for erecting following buildings: 22-story fireproof brick and concrete factory at 351 West Forty-second Street for West 42d-43d Street Corporation, cost $600,000, Maynicke & Franke, Archts., 25 Madison Square; 12-story fireproof brick and concrete factory at West Thirty-sixth Street for 307 West 36th Street Corporation, cost $100,000, Maynicke & Franke, Archts., 25 Madison Square.

Schenectady, N. Y.—General Electric Co., River Road, intends erecting turbine manufacturing plant to cost $60,000.

Hoboken, N. J.—See "Reinforced Concrete."

Jersey City, N. J.—Lackawanna Terminal Stores Company, Fifteenth and Provost Streets, plans erecting several large warehouses for grain and seeds.

McKees Rocks, Pa.—A third unit is to be added to the Schoen Steel Wheel plant of Carnegie Steel Company at McKees Rocks.

Philadelphia, Pa.—See "Steel Bridge Work."

Reading, Pa.—Reported International Money Machine Co. of Terre Haute, Ind., will erect a $70,000 factory here.

Ridgeley, W. Va.—Reported Western Maryland Railway Company (H. R. Pratt, Ch. Engr., Baltimore, Md.) plans erecting extension to car shops here; cost about $150,000.

Panama City, Fla.—A. E. Turner Company of Pensacola reported interested in establishing a turpentine extracting plant here.

Hattiesburg, Miss.—Preliminary steps being taken to erect a $750,000 wood fiber plant here. George R. Wright, vice-president of Louisiana Fiber Board Company of Bogalusa, La., reported interested.

Dayton, Ohio.—Smith Engine Co., it is reported, will erect a $120,000 building. Schenck & Williams, Arcade Building, Cleveland, Archts.

Des Moines, Iowa.—Globe Machinery Co., 205 Court Avenue, intends erecting six-story factory to cost about $100,000.

St. Louis, Mo.—Becker-Moore Paint Co., 1219 Olive Street, will erect a three or five-story, 140 x 60 ft., addition to its plant at Second and Carroll Streets.

San Francisco, Cal.—American Ever Ready Works of the National Carbon Company, 755 Folsom Street, secured site at Eighth and Brannan Streets, and will erect a four-story and basement factory, to cost about $250,000.

Douglas, Ariz.—Douglas Traction & Light Co. (J. S. Douglas, President) plans constructing a $100,000 ice factory with a capacity of 100 tons of ice per day.

Sydney, N. S.—Sydney Foundry & Machine Works planning to erect foundry, shipbuilding plant and marine repair shops, to cost $75,000.

Doon, Ont.—Doon Fibre Mills, destroyed by fire, will be rebuilt and all new equipment installed. James Huber, owner.

Fergus, Ont.—Beattie Brothers, Fergus, planning erecting 400 x 72 ft. brick and concrete factory; cost $50,000.

London, Ont.—Hunt Milling Company considering erecting brick and concrete flour mill addition, to cost $50,000.

BIDS DESIRED.

Kathryn, N. D.—Until July 28, by Kathryn Farmers Mutual Elevator Co., at Cheyenne Valley Bank, for furnishing material and erecting a 50,000 bushel reinforced concrete grain elevator of the Brahtz perfection type, to include flour mill and power house, etc. J. H. A. Brahtz, Consulting Engr., Mankato, Minn.

PRICES AND LETTINGS.

★Indicates award of contract.

★New Brunswick, N. J. — Contract awarded by Ringwalt Linoleum Company to Fred Kilgus, Inc., 679 Broad Street, Newark, for erecting factory on Coastwise Avenue; cost $51,000.

★Philadelphia, Pa.—Acetylene Gas & Construction Company, 503 Chestnut Street, secured contract to erect $50,000 building for Everett Cummins.

★Contract reported awarded Lincoln H. Smith, 23 North Sixty-third Street, for erecting five-story factory at Monmouth and Janney Streets for Ferris Shoe Company. Charles E. Oelschlager, Archt., Harrison Building.

★Birmingham, Ala.—Reported the E. F. Hettrick Engineering Company, Empire Building, contractors for the 3 additional stories to the present 5-story warehouse for Birmingham Ice & Cold Storage Co., has let sub-contracts as follows: Cement, to Carolina Portland Cement Co., Standard brand; roofing, to George F. Wheelock Co.; stairways and iron work, to Chattanooga Iron Works; refrigerator windows, to Jamison Cold Storage Door Co., Hagerstown, Md.

★Cordova, Ala.—Contract awarded E. F. Hettrick Engineering Company, Empire Building, Birmingham, for additional work in connection with changes and alterations in main mill of the Indian Head Mills of Alabama.

★Youngstown, Ohio.—Contract awarded by American Sintering Company to Stone & Webster Engineering Corporation, 147 Milk Street, Boston, Mass., for erecting plant to cost $100,000.

Houston, Tex. — See "Steel Bridge Work."

★Oshawa, Ont.—John Stacey of Oshawa secured contract to erect $50,000 factory for Chevrolet Motor Company.

★Ha-Ha Bay, Que.—Contract awarded Raymond Concrete Pile Co., Ltd., New Birks Building, Montreal, Que., for erecting plant for Ha-Ha Sulphite Co. at Ha-Ha Bay. J. G. White Engineering Corporation, 43 Exchange Place, New York, N. Y., engineers.

★Winnipeg, Man.—Contract awarded Carter Halls Aldinger Company, 1010 Union Bank Building, for erecting warehouse for T. Eaton & Company; cost $150,000.

★Western Improvement Company of Minot, N. D., secured contract to erect grain elevator for Woodward Elevator Company; cost $50,000.

BUILDINGS Public and Private

PROPOSED WORK.

Northampton, Mass.—James Knox Taylor and Karl Scott Putnam of Northampton are associate architects for proposed three story and basement, 100 x 200 ft., brick, stone and fireproof city hall; estimated cost, $275,000.

Albany, N. Y.—Charles G. Ogden, 61 State Street, engaged to prepare plans and specifications for remodeling city hall.

Brooklyn, N. Y.—Plans and specifications being prepared by Starrett & Van Vleck, 8 West Fortieth Street, New York, for twenty-story, 57 x 100 ft., brick, granite and limestone bank and office building, to be erected at 32 Court Street for Court & Remsen Company, Inc.; cost approximately $500,000.

Lord & Hewlett, 345 Fifth Avenue, New York, are architects for proposed four-story Polytechnic Country School to be erected at Dyker Beach.

Buffalo, N. Y.—Board of Education has decided to spend $1,250,000 for school additions.

Dunkirk, N. Y.—Reported contract soon to be let for erecting $200,000 Passionist Preparatory College at Hemlock Grange.

New York, N. Y.—Plans filed for erecting following buildings: 21-story brick fireproof apartment house at 24 West Fifty-ninth Street for Alex. Smith Cochran, cost $950,000, A. J. Bodker, Archt., 62 West Forty-fifth Street; 6-story brick tenement house on 172d Street for James Bradley, cost $80,000, E. H. Janes, Archt., 124 West Forty-fifth Street; two 5-story brick tenements on Nagle Avenue for 302 Fifth Avenue Company, total cost $200,000, George P. Pelham, Inc., Archt., 30 East Forty-second Street; 4-story brick fireproof clubhouse at 47 East Sixtieth Street for Grolier Club of New York City, cost $50,000, Bertram G. Goodhue, Archt., 2 West Forty-seventh Street; 5-story brick and concrete fireproof private dwelling at 13 East Seventy-ninth Street for Thorn Newbold, cost $125,000, McKim, Mead & White, Archts., 101 Park Avenue; 12-story brick fireproof apartment hotel at 21 West Fifty-eighth Street for Alex. Smith Cochran, cost $500,000, A. J. Bodker, Archt., 62 West Forty-fifth Street; 12-story fireproof store and loft building at 46 West Twenty-ninth Street for 43 West Twenty-third Street Corporation, cost $165,000, Somerfeld & Steckler, Archts., 31 Union Square; 20-story brick fireproof store and office building at 109 East Fortieth Street for E. Flagg; cost $250,000, E. Flagg, Archt., 109 Broad Street; 21-story brick fireproof store and office building at Thirty-seventh Street and Broadway for Robert Hoe Estate, Inc., cost $1,000,000, E. Flagg and M. Flagg, Archts., 109 Broad Street; 12-story brick fireproof office building at 209 Sixth Avenue for Louisa M. Gerry, cost $300,000, Maynicke & Franke, Archts., 25 Madison Square North; 14-story brick fireproof studio building at West Fifty-ninth Street and Sixth Avenue for 105 West Fifty-fifth Street Company, Inc., cost $800,000, Schwartz & Gross, Archts., 347 Fifth Avenue; 5-story brick tenement house at 197th Street and Grand Concourse for John Schnakenberg, cost $60,000, Harry T. Howell, Archt., Third Avenue and 149th Street; 5 additional stories to 19-story brick fireproof office building at 1097 Broadway for Fifth Avenue Building Company, cost $225,000, Mayniche & Franke, Archts., 25 Madison Square North.

Plans being prepared by Electus D. Litchfield, 477 Fifth Avenue, for 12-story, 49 x 80 ft., brick, limestone, terra cotta and fireproof store and loft building to be erected at 76 Duane Street for 76-78 Duane Street Company; cost approximately $180,000.

Plans completed by Maynicke & Franke, 25 East Twenty-sixth Street, for twelve-story, 100 x 125 ft., brick, limestone and terra cotta store and loft building, to be erected at Sixth Avenue and Forty-first Street for Philip Lewisohn; estimated cost about $500,000.

Walter Haefeli, 245 West Fifty-fifth Street, is architect for thirteen-story apartment house to be erected at 244 West Seventy-second Street for Hasco Building Co.; cost about $800,000.

Onondaga Valley, N. Y.—A school costing about $150,000 is to be erected here. Address School Board, Syracuse.

Rensselaer, N. Y.—Contract soon to be let by Board of Education (Philip Powers, Chairman) for erecting 16-room, two-story and basement, 112 x 185 ft. grade school at Washington Avenue and Third Street. J. D. Shoemaker, Archt., 24 James Street, Albany.

Troy, N. Y.—Revised plans being prepared by Charles C. Grant, 37 East Twenty-eighth Street, New York, for 5-story brick Y. W. C. A. building to be erected at State and First Streets; cost $180,000.

Bradley Beach, N. J.—Plans being prepared by Mowbray & Uffinger, 56 Liberty St., New Pork, N. Y., for 4-story, 32 x 70 ft., brick and limestone, bank and apartment building to be erected for First National Bank (B. F. Monnell, President); cost $50,000.

Burlington, N. J.—Henry Baechlin, Charles W. Oakley and F. Y. Parsons of Paterson are associate architects for four-story brick, 82 x 238-ft. Masonic Home.

Englewood, N. J.—Council considering erecting new city hall. Address City Clerk.

Hasbrouck Heights, N. J.—Reported plans prepared for new station to be erected here for Erie Railroad (R. S. Parsons, Ch. Engr., New York, N. Y.), to replace building destroyed by fire.

Jersey City, N. J.—Board of Education plans erecting 20-room school on a site bounded by Grove, Erie, Bay and First Streets, 175 x 200 ft.

Newark, N. J.—Charles and Thomas Goldingay, 44 Tichenor Street, applied for permit to erect four-story brick tenement house at Orchard and Tichenor Streets; estimated cost $75,000.

Perth Amboy, N. J.—Plans completed for three-story, 50 x 100 ft., brick and limestone bank, store and office building to be erected at Smith and Maple Streets for Perth Amboy Savings Institution (Adrian Lyons, President); cost about $100,000.

Trenton, N. J.—Erection of an additional State Hospital for the Insane contemplated; appropriation $150,000.

Bellevue, Pa.—Ross Township contemplates erecting new high school. R. F. Moyer, Bellevue Terrace, R. F. D. 3, Secretary School Board.

Coudersport, Pa.—Steps being taken to rebuild high school, destroyed by fire. Address Board of Education.

Narberth, Pa.—Citizens voted $58,000 bonds to erect new school. Address Clerk School Board.

Philadelphia, Pa.—Improvements to city hall costing $100,000 contemplated. Address City Clerk.

Pittsburgh, Pa.—See "Steel Bridge Work."

Pittsburgh, Pa.—MacClure & Spahr, 320 Fourth Avenue, are architects for remodeling Laughlin residence on Woodland Road, Squirrel Hill; cost $50,000.

Pottsville, Pa.—Site purchased at Third and Center Streets for proposed $60,000 Masonic Temple.

Baltimore, Md. — Samuel Leibowitz, President of Spar Products Company, Columbia Avenue and Baltimore & Ohio R. R., secured site on Reisterstown Road and intends erecting a ten-story apartment house; probable cost $200,000.

Parker, Thomas & Rice, 1101 Union Trust Building, are architects for remodeling the interior of the Merchants-Mechanics National Bank, South and Water Streets; estimated cost $50,000.

Competitive plans soon to be asked for Baltimore Art Museum to be erected at Charles and Biddle Streets; cost about $50,000. Waddy Wood, 816 Connecticut Avenue N. W., Washington, D. C., is supervisor of the competition.

Baltimore, Md. — Plans prepared by Wyatt & Nolting, 1012 Keyser Building, for fourteen-story, limestone, brick and terra cotta hotel to be erected at Howard and Baltimore Streets for Baltimore Hotel Company (Harry Busick, New Howard Hotel, Secretary).

Plans being prepared for hotel to be erected at North Avenue and Charles Street for Chateau Hotel and Restaurant Company; cost about $100,000. Aaron Benesch, 2358 Entow Place, reported interested.

Valdosta, Ga.—Lower House of the General Assembly, Atlanta, reported to have granted South Georgia State Normal College $50,000 to erect a dormitory and administration building.

De Land, Fla.—School bonds for $60,000 sold. Address School Board.

Miami, Fla.—Y. M. C. Association (W. S. Frost, Secretary) considering plans for proposed $100,000 building.

Titusville, Fla.—Brevard County sold $50,000 school bonds. Address County Clerk.

New Orleans, La.—Esplanade Hotel Co. contemplates erecting seven-story hotel on Esplanade Avenue; probable cost $500,000. J. L. Onorato, 820 Common Street, may be able to give information.

Shreveport, La.—Plans being prepared for a sanitarium to be erected at cost of $80,000. Dr. T. P. Lloyd of Shreveport reported interested.

Chattanooga, Tenn.—Committees on Locations and Design have been appointed by Chattanooga Auditorium Advisory Committee for proposed public auditorium. John Stagmaier, General Chairman.

Covington, Ky.—Weber, Werner & Adkins, Mercantile Library Building, Cincinnati, Ohio, are architects for 3-story and basement high school to cost $175,000. Dr. A. A. Renshaw, President Board of Education.

Melbourne, Ky.—Sisters of Providence, care of Rev. Bishop D. Brossart, Madison Avenue, Covington, will erect an administration building and mother house, three stories. Howard McClorey, Gerke Building, Cincinnati, Ohio, Archt.

Akron, Ohio.—Contract will be let about Aug. 15 by Franz Warner, Archt., 767 Hippodrome Annex Building, Cleveland, for erecting one-story, 60 x 150 ft., and six-story, 55 x 180 ft., warehouse for Northern Ohio Traction & Light Co.; cost, $90,000.

Ashland, Ohio.—Erection of a $125,000 hotel contemplated. F. E. Myers of Ashland reported interested.

Cleveland, Ohio.—See "Steel Bridge Work."

Cleveland, Ohio.—See "Water Works and Sewerage."

Dayton, Ohio.—Plans being prepared for eight-story fireproof building to be erected at Fifth and Main Streets; cost $500,000. Germania Building Association, 430 East Fifth Street, reported interested.

Chicago, Ill. — See "Reinforced Concrete."

East St. Louis, Ill.—Coliseum Company (A. C. Einstein, President), has decided to spend $100,000 for remodeling the Coliseum.

Springfield, Ill.—School bonds for $100,000 will be sold Aug. 8, by Board Education School Dist. No. 186, Eleanor Matheny, Secy.

Platteville, Wis.—Citizens voted in favor of erecting high school, cost not to exceed $100,000.

Jesup, Iowa.—Citizens July 15 voted $85,000 bonds to erect school. H. E. Netcott, Architect, Independence; R. L. Bordner, Secretary School Board.

Monticello, Iowa.—Plans being prepared by F. E. Wetherell, Des Moines, for proposed three-story Memorial Hospital, to be erected by John McDonald Estate; cost $50,000.

Ottumwa, Iowa.—Election held July 18 for issue of $125,000 bonds to erect high school defeated. J. A. Wagner, Secretary School Board.

Duluth, Minn.—Bridgman-Russell Company, 16 West First Street, purchased site at Eleventh Avenue West and Michigan Street and proposes erecting a seven-story fireproof building.

Minneapolis, Minn.—Site being selected for proposed $500,000 Y. M. C. A. building.

Board of Education passed resolution asking City Council to issue $85,000 bonds for rebuilding Franklin School, destroyed by fire.

St. Paul, Minn.—Reimbold-Field Company, 711 Merchants Bank Building, purchased site on Summit and College Avenues and will erect two six-story fireproof apartment buildings; total cost about $100,000.

Sioux Falls, S. D.—A six or eight-story fireproof bank and office building is to be erected at Phillips Avenue and Ninth Street for Sioux Falls National Bank (C. E. McKinney, Pres.); probable cost $250,000.

Butte, Mont. — Reported Wasserman Laboratories of Spokane, Wash., planning erecting laboratory here, to cost $100,000.

Reported H. Ryan, Archt., Liberty Theater Building, Seattle, Wash, will let contract early in August for erecting four-story, 94 x 100 ft., brick, concrete and terra cotta moving picture and office buildings for Silver Bow Amusement Company; cost $100,000.

St. Louis, Mo.—Plans being considered for a 300-room hotel contemplated at Delmar and Union Boulevards; probable cost $500,000. Henry W. Lohman, Vice-president of James Stewart & Company, Bank of Commerce Building, reported interested.

Austin, Tex.—Architect soon to be selected to prepare plans for primary building for State Deaf & Dumb Institute; cost approximately $64,000.

Beaumont, Tex.—Citizens voted $300,000 school bonds. Address School Board.

Cleburne, Tex.—Erection of sixteen-room brick dormitory for Cleburne College contemplated.

Denison, Tex.—Citizens voted $60,000 school bonds. Address Clerk School Board.

Farwell, Tex.—Plans being prepared by C. Risser & Company of Amarillo for fireproof courthouse to be erected here at cost of $50,000.

Paris, Tex.—Citizens voted $60,000 bonds to erect school. Sanguinet & Staats, Archts., Fort Worth.

Tulsa, Okla.—Plans not yet prepared for the city hall. Bonds have been sold. Frank Newkirk, City Auditor.

Seattle, Wash.—Reported contract soon to be let for erecting four-story and basement, 59 x 130-ft., brick and mill construction apartment building at First Avenue and West Highland Drive, for E. A. Hartley & Company, Mutual Life Building; cost $65,000.

Plans prepared for proposed $100,000 edifice to be erected for Fourth Church of Christ (Scientist), at Eighth Avenue and Seneca Street.

Marshfield, Ore.—Reported Southern Pacific Railway Company (William Hood, Ch. Engr., San Francisco, Cal.), plans erecting $50,000 depot here.

Long Beach, Cal.—Election will probably be held to vote $50,000 bonds to erect hospital. Address City Clerk.

Merced, Cal.—Citizens voted $150,000 bonds for erecting a high school, but nothing further has been done about the erection. M. H. Robinson, Secretary Board Trustees, Union High School.

Riverside, Cal.—Tentative plans prepared for three-story store and lodge building to be erected for Odd Fellows; cost about $50,000. W. W. Phelps, Chairman Building Committee.

Dartmouth, N. S.—See "Foundations, Piers and Dams."

Toronto, Ont.—Plans prepared by A. A. Post, Brisbane Building, for convent buildings to be erected for St. Joseph's Novitiate; cost $500,000.

Dauphin, Man.—Plans being prepared by William Fingland, 255 Dromore Avenue, Winnipeg, for brick and stone telephone exchange to be erected for Dauphin Telephone Company, cost $50,000.

Red Deer, Alta.—Provincial Government is having plans prepared for Home for the Mentally Defective, to cost $300,000. Address Mr. Blakey, Architect, Parliament Building, Edmonton.

BIDS DESIRED.

Fort Williams, Me.—Until Aug. 17, for constructing one double set of non-commissioned officers' quarters. Address Constructing Quartermaster.

Portland, Me.—Until Aug. 17, by John Calvin Stevens and John Howard Stevens, Archts., 187 Middle Street, for constructing a brick well for elevator and separate bids same time and place for installation of new elevator at Maine General Hospital.

Walpole, Mass.—Until Aug. 1, by Trustees of Norfolk County Agricultural School (Ernest M. Gilman, Secy.), for erecting and completing an Agricultural School. William Chapman, Archt., 15 Ashburton Pl., Boston.

Dover, N. J.—Until Aug. 9, by Board Education, for erecting a fireproof high school. Separate bids for heating, plumbing, etc. John T. Simpson, Archt. and Engr., 620 Essex Building, Newark. Geo. W. Knight Co., Consulting Engrs., Fireman's Building, Newark.

Beaver, Pa.—Until Aug. 7, by Grace McCauley, Pres. Board Education, for erecting a 10-room school. Boyd & Stewart, Archts., Pittsburgh.

Philadelphia, Pa.—Until Aug. 1, by Bd. of Recreation, 587 City Hall, Philadelphia, for erecting a recreation building, etc., with plumbing and electrical work at Stenton Park, Sixteenth and Wingohocking Streets, Forty-second Ward, Philadelphia; also for constructing a removable wood floor over pool, in bath house, on Eighth Street. Philip H. Johnson, Archt., 1824-25 Land Title.

Rockdale, Pa.—Reported desired until Aug. 1, for erecting a two-story stone school. W. E. Hance, Archt., Wilmington, Del.

South Uniontown, Pa.—Until Aug. 4, by School Board (Isaac Brownsfield, Secy.), for erecting a fireproof brick building at South Uniontown. Harry W. Altman, Archt., 306 First National Bank Bldg., Uniontown.

Uniontown, Pa.—Until Aug. 1, by School Board (Isaac Brownfield, Secy.), for erecting a fireproof school. Harry W. Altman, Archt., 306 First National Bank Building, Uniontown.

Warrenton, Va.—Until Sept. 19, by Jas. A. Wetmore, Acting Superv. Archt., Treas. Dept., Washington, D. C., for erecting post office at Warrenton.

Madison, W. Va.—Until Aug. 16, by County Court (Elmer Nelson, Clk.), for erecting a courthouse. H. Rus. Warne, Archt., Charleston.

West Liberty, W. Va.—Until Aug. 23, by State Board Control (J. S. Lakin, Pres., Charleston), for furnishing material and erecting a dormitory of brick and wood, 56 x 181 ft.; two porches, 11 x 80 ft. and 8 x 37 ft. F. F. Faris, Archt., Wheeling.

Savannah, Ga.—Until Aug. 16, for erecting a municipal auditorium, 114 x 165 ft., with a seating capacity of 2900 people. Henrik Wallin, Archt., 23 Abecorn Street, Savannah.

Covington, Ky.—Reported desired until Aug. 17, by Officers of Booth Memorial Hospital, for additions. Probable cost, $100,000.

Middletown, Ohio.—Reported desired until Aug. 8, by Board Education, care A. Ashworthy, 147 N. Main St., for erecting a two-story and basement high school. Probable cost, $200,000.

Wellington, Ohio.—Until Aug. 1, by Bd. of Education (E. C. Cushing, Clerk), for erecting a two-story and basement high school to cost $55,000. Althouse & Jones, Mansfield, Archts.

Bloomington, Ind.—Until Aug. 7, by J. R. McDaniel, Trustee Bloomington Township, for erecting a school, also heating plant for same.

Velpen, Ind.—Until Aug. 5, by W. F. Risley, Trustees Marion Township, for erecting a brick school.

Hixon, Wis.—Until Aug. 15, by Dr. E. A. Petzke, Secy. School Board, for erecting a brick Township Free School. Olin H. Round, Archt., Oppenheim Bldg., St. Paul.

Nicollett, Minn.—Until Aug. 10, by G. L. Klitzke, Secy. Board Education, for erecting a two-story and basement school. Albert Schippel, Archt., Mankato. Separate bids for heating, plumbing, etc.

Omaha, Neb.—Reported desired until Aug. 7, by W. L. Steele, Archt., 502 United Bank Building, for erecting First Congregational Church. Probable cost $75,000.

Linton, N. D.—Until Aug. 4, by E. H. Smith, Clk., Winchester School Dist., No. 5, for erecting a two-story and basement unit to present school. Gilbert R. Horton, Archt., Citizens' National Bank Bldg., Jamestown.

Robinson, N. D.—Until Aug. 11, by C. J. Wicks, Clk. Lincoln School, Dist. No. 4, for erecting a brick school, Gilbert R. Horton, Archt. Citizens National Bank Bldg., Jamestown.

Joplin, Mo.—Until Aug. 2, by A. C. Michaelis, Archt., for erecting a five-story department store for the Dubuque Realty Co. Separate bids for heating, plumbing, etc.

Seattle, Wash.—Reported desired until Aug. 2, by Board Education, for erecting an addition to the Madrona School on East Spring Street of brick and concrete, 65 x 120 ft., two story and basement; probable cost $80,000.

Halifax, N. S.—Until Aug. 7, by F. P. Guetlius, Gen'l Mgr. Canadian Government Railways, Moncton, N. B., for erecting passenger station at Halifax.

Hamilton, Ont.—Until Aug. 7, for erecting apartment house on Tisdale Street. S. B. Coon & Son, Archts., Toronto.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Boston, Mass.—Following are three lowest bids opened July 21 by Schoolhouse Department for erecting addition to Hyde Park High School, Hyde Park District (each bidder submitted two bids): John Bowen, Dudley Street, Roxbury, $89,990 and $89,490; Joseph Slotnick, Chelsea, $91,923 and $88,990, and D. R. McKillop, Roxbury, $92,450 and $89,200.

★**Mt. Vernon, N. Y.**—Contract awarded John Utz, Bank Building, Bronxville, for erecting 2½-story, 60 x 80 ft., brick and stone residence at Lincoln Avenue and Esplanade for John F. Whalen, 34 West Eighteenth Street, New York; cost $70,000. Rocker & Vatet, Archts., 15 East Fortieth Street, New York.

★**Newburgh, N. Y.**—Robert W. McCready, Tuxedo Park, secured contract to erect 2½-story, 87 x 100 ft., brick and stucco residence for Frederick A. Delano; cost $100,000. Delano & Aldrich, Archts., 4 East Thirty-ninth Street, New York.

★**New Rochelle, N. Y.**—Contract awarded John McKeefrey, 1416 Broadway, New York, for erecting one-story, brick and stone moving-picture theater; cost $50,000. William Albert Swasey, Archt., 1328 Broadway, New York.

★**Lebanon, Pa.**—Contract for erecting two dormitory buildings at South Mountain Asylum for the Chronic Insane awarded Metzger & Fisher, Denckler Building, Philadelphia; appropriation available $150,000. One dormitory is to be completed and the other as far as funds will permit.

★**Philadelphia, Pa.**—Contract awarded Thomas Reilly, 1616 Thompson Street, for erecting three-story, 147 x 349-ft., brick and stone school at Amber and Cumberland Streets; cost $332,927.

★Contract for constructing two-story, 68 x 200-ft. granite, limestone and brick recreation buildings at Fifty-first Street and Chester Avenue (bids opened July 7) awarded Frank G. Stewart, 1619 Sansom Street, at $104,896. W. D. Champlin, Executive Secretary.

★**Uniontown, Pa.**—Contract for erecting addition to Central School awarded George M. Hall Company, of Homestead, at $92,212.

★**Fairmont, W. Va.**—Contract awarded George A. Fuller Company, Munsey Building, Washington, D. C., for erecting Fairmont Hotel; cost about $300,000.

★**Tampa, Fla.**—Contract awarded McGucken & Hyer of Tampa for erecting three-story and basement, 230 x 109 ft., brick apartment house on Lafayette Street bridge approach, at $89,200.

★**Monroe, La.**—Contract for erecting Masonic Temple awarded Burke Brothers of Hattiesburg, Miss.; cost $70,000.

★**Lexington, Ky.**—Contract for erecting high school awarded Combs Lumber Co., Lexington, at $55,468.

★**Bowling Green, Ohio.** — Contract awarded by Trustees Bowling Green State Normal College for erecting fireproof training school to Steinle Construction Company of Fremont, at $94,545. J. E. Shatzel, Secretary Board School Trustees, Bowling Green State Normal College.

★**New Berlin, Ill.**—Contract for erecting Township High School (bids opened July 5) awarded Joseph Lorschuder, Springfield. W. M. Pfeffer, Secretary School Board.

★**Shawano, Wis.**—Contract for erecting high school awarded Immel Construction Company, Fond du Lac, at $81,000.

★**Red Wing, Minn.**—Contracts for erecting high and grade school (bids opened July 12) awarded Madison Construction Company, Minneapolis, at $118,000 for buildings, and to J. P. Adamson Company, St. Paul, for heating, plumbing and ventilating, at $34,475. Andrew Lundgren, Clerk Board Education.

★**Greenwood, Ark.**—Contract for erecting court house awarded T. T. Reddick of Fort Smith, at $62,500.

★**Albuquerque, N. M.** — Contract for erecting chemistry building at University of Mexico awarded Campbell Brothers, Santa Fé (bids opened June 25). David R. Boyd, President Board of Trustees.

Vancouver, Wash.—Following are four lowest bids opened July 14 by Supervising Architect, Washington, D. C., for constructing U. S. Post Office, (a) sandstone, (b) limestone: Campbell Building Company, Salt Lake City, Utah, (a) $82,487, (b) $82,787; John Wallin, Tacoma, Wash., (a) $84,286, (b) $84,465; Sound Construction & Engineering Company, Seattle, Wash., (a) $88,360, (b) $88,663; Welch Brothers & Hannamann, Kalispell, Mont., (a) $91,547, (b) $91,847.

★**Wallace, Idaho.** — Contract awarded Washington Construction Company, Northern Bank Building, Seattle, Wash., for erecting two-story, 50 x 50 ft., fireproof building for First National Bank; cost $50,000.

★**Montreal, Que.**—Contract awarded Martineau & Prenouveau, 643 Berri Street, for erecting brick and stone school for Commissioners of St. Gregoire; cost $250,000. C. Bernier, Archt., 70 St. James Street.

★**Chippewa, Ont.**—Braas Brothers of Niagara Falls, N. Y., secured contract to erect residences for Norton Company; cost $60,000.

Copper Cliff, Ont.—Dickie Construction Company, Ryrie Building, Toronto, will erect for Canadian Copper Company 200 residences to cost $200,000.

★**York Mills, Ont.**—Contract awarded D. W. Mitchell Construction Company of Niagara Falls, N. Y., for erecting granite and concrete mausoleum for International Mausoleum Company, 20 King Street East, Toronto; cost $95,000.

★**Dauphin, Man.**—Contract for erecting brick and stone courthouse awarded Samuel Brown, 791 Preston Avenue, Winnipeg; cost $70,000.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Providence, R. I.—Plans being prepared for the concrete dam which is to be constructed at Burt Hill for the reservoir now under construction for the city. Dam will be 3400 ft. long and 80 ft. high.

Albany, N. Y.—State Canal Board has approved plans for Greenpoint Terminal, Brooklyn, estimated cost, $192,500, and for lighthouse range towers, and other aids to navigation in Lakes Oneida and Onondaga. Estimated cost, $63,937. Frank M. Williams, State Engineer, Albany.

Hackensack, N. J.—Fred Dunham, City Hall, Jersey City, engineer in charge, has been instructed by Hackensack City officials to draw plans and prepare estimates for the first of a number of piers on Hackensack River.

Weehawken, N. J.—The North Hudson Chamber of Commerce (George Limouze, 43 Columbia Terrace, Secy.) considering plans for dock along Hudson River.

Chester, Pa.—Chester Shipbuilding Co. to construct two shipways and a 40 x 200-ft. wharf.

Philadelphia, Pa.—Reported U. S. Engineers will extend Delaware Breakwater 6000 ft. and make other improvements if recommendation made by War Department to Congress is accepted.

Baltimore, Md.—H. Kent McCay, Harbor Engineer, City Hall, will reclaim about 10 acres of land at foot of McComas Street by building a bulkhead, using old timbers; cost about $30,000.

Charlotte, N. C.—The Western Carolina Power Co. plans constructing hydraulic power plant to develop 170,000 hp. on Catawba River near Morgantown.

Columbus, Ohio.—See "Railroads."

Beaumont, Tex.—An election will probably be held to vote bonds for completing the city's dock system. Estimated that about $45,000 will be necessary.

Marble Falls, Tex.—The National Hydro Electric Conservation Co. plans issue of $12,000,000 bonds for hydro electric development for 40,000 hp.

Seattle, Wash.—County Commissioners instructed County Engineer A. P. Denton to prepare plans and specifications for a dock, ferry slip and public market building, to be erected on Lakeside Avenue and Howard Street on Lake Union; cost $40,000. Byron Phelps, County Auditor.

San Diego, Cal.—Election will probably be held in September to vote bonds for constructing dams and pipe line. M. M. O'Shaughnessy, City Engineer of San Francisco, consulting engineer, engaged by city for reconstruction of Lower Otay Dam, recommended the construction of two arched gravity cyclopean concrete dams, one at Lower Otay, 750 ft. long at crest, 137 ft. high from stream bed to overflow section and 145 ft. to non-overflow section, 15 ft. wide at crest, 212 ft. long at spillway crest, volume of about 86,000 cu. yd. capacity of about 15,000,000,000 gal., and cost about $682,200; and one at Barrett 640 ft. long and 15 ft. wide at crest, 242 ft. spillway, 140 ft. from stream bed to spillway, 152 ft. to non-overflow section, 89,000 cu. yd., volume 6,000,000,075 gallons capacity, and cost $690,400. About $250,000 bonds for constructing pipe line from Lower Otay to the Bonita Wye will probably be included. Address F. M. Lockwood, Mgr. of Operations, for further information.

Dartmouth, N. S.—Plans being prepared by B. A. Johnson, Barrington Street, Halifax, for wharves and office buildings to be erected for Compagnie Francais des Telagraphique, Montreal, Que.

Sherbrooke, Que.—Contract soon to be let for constructing a concrete dam at municipal hydroelectric plant. Address Town Clerk.

Port Dover, Ont.—Reported Department of Public Works is considering constructing new docks and harbor improvements to cost $250,000.

BIDS DESIRED.

Guilderland, N. Y.—Until July 31, by Water Board, Watervliet, for grading and riprapping certain parts of Cherry Valley and Osborne's Corners Roads in town of Guilderland, and reconstructing two culverts and building bridge abutments and raising a wooden bridge, to consist of approximately 13,000 cu. yd. embankment, 2000 yd. riprapping, 3400 lin. ft. guard rail, etc. Solomon, Norcross & Keis, Engrs., Watervliet.

Wheeling, W. Va.—Until Aug. 14, at Office U. S. Engineer, Wheeling, for furnishing and delivering gate operating machinery at Dams Nos. 16 and 17, Ohio River, advertised in Engineering Record.

Gulfport, Miss.—Until Aug. 7, by Board County Supervisors for constructing a protection breakwater with necessary earth work along sea coast of Harrison County. Bids desired on following classes of construction: Reinforced concrete, creosoted piling and earth fill or sloping beach. J. F. Galloway, County Engr., Gulfport.

Cleveland, Ohio.—Reported desired until Aug. 7, by Frank G. Hogan, Director Public Schools, for constructing retaining wall 200 ft. long, around Dawing School on Dawing Avenue.

Tiffin, Ohio.—Until Aug. 1, by William Heller, Director Public Service, for constructing an ornamental concrete wall 190 ft. long.

Mukilteo, Wash.—Reported desired until Aug. 4, by Lighthouse Inspector, Portland, Ore., for extending and repairing sea wall and constructing small wharf at Mukilteo Light Station.

Portland, Ore.—Until Aug. 7, by Lighthouse Inspector, Portland, for extending and repairing the seawall and constructing small wharf at Mukiltec Light Station.

PRICES AND LETTINGS.

★*Indicates award of contract.*

New London, Conn.—Only bid opened July 17 by Special Commission on Municipal Wharf (Alton T. Miner, Chairman), for ferry slip and municipal wharf submitted by T. A. Scott Co., Inc., New London, at $33,900.

★**Bridgewater, N. C.**—Contract for constructing three dams here for Southern Power Co. adwarded jointly to Rinehart & Dennis Co. of Charlottesville, Va., and Hardaway Contracting Co., Columbus, Ga. Cost reported at about $2,000,000. Work consists of 4,500,000 yd. excav., 50,000 yd. concrete, 40,000 yd. tunnel excav. and 100,000 yd. of riprap.

★**Jacksonville, Fla.**—Contract for constructing superstructure of downtown docks awarded by city to C. T. Dawkins, Jacksonville, at $20,540.

★**Sarasota, Fla.** — Contract for constructing reinforced concrete recreation pier (bids opened July 10) awarded conditional on result of election to Luten Bridge Co., York, Pa., at $17,000. Robert C. Bruce, Commissioner Public Works.

★**Medina, Ohio.**—Contract awarded (bids opened July 15) for furnishing material and constructing a reinforced concrete dam to Clement Co., Medina. F. E. Clark, City Clerk.

★**Galveston, Tex.**—Contract awarded M. C. Bowden, Galveston, for constructing a reinforced concrete pile bulkhead on Boulevard from Broadway to east line of Twenty-second Street, a distance of 7100 ft. (bids opened July 17 by John M. Murch, County Auditor), at $37,713.

★**Venice, Cal.**—Contract awarded Braun, Bryant & Austin, 1680 S. Fourth Street, Santa Monica, for constructing a reinforced concrete bulkhead with concrete walks and concrete ornamental lamp posts on portion of Ocean Front Walk and certain avenues, at $125,000.

★**Vancouver, B. C.**—Reported Canadian Northern Ry. Co. has awarded contract to Pacific Dredging Co., of Vancouver, for filling, etc., at the head of False Creek, requiring about 2,500,000 yd. of material and a seawall.

TUNNELS AND SUBWAYS

PROPOSED WORK.

Malden, Mass. — Reported Boston & Maine R. R. (A. B. Corthell, Ch. Engr., Boston), intends constructing a subway under tracks at Malden Station, costing $11,000.

Mount Lebanon, Pa.—David Yost, C. W. Scheck and E. W. Beach, all of Mount Lebanon, have applied to State Commission at Harrisburg for incorporation of People's Tunnel Company for the purpose of constructing a general traffic tunnel from South Aide to South Hills.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

York, S. C.—Contract soon to be let by J. S. Brice, attorney, York, for ditching in Turkey Creek, cost about $60,000. Suitable for floating dipper dredge, 850,000 cu. yd. excavated. W. D. Alexander, engineer, Charlotte, N. C.

Alexandria, La.—Reported surveys are soon to be made on the proposed Alexandria to Chatlains Lake levee and for the completion of the drainage survey from Three Prong Lake to Bayou Des Glaizes, in Red River, Atchafalaya and Bayou Boeuf Levee District. Address State Board of Engineers, New Orleans Court Building, New Orleans, La.

Chattanooga, Tenn.—Knight & Quayle, Consulting Engineers, Chattanooga, retained by local real estate interests to study and report on flood prevention and land drainage in connection with Tennessee River and Chattanooga Creek.

Monroe, Mich.—Jury has decided in favor of deepening and widening Macon drain in Dundee Township; cost $50,000. Greater part of work to be done by dredge. Address Clerk Dundee Township, Macon.

Muscatine, Iowa.—Surveys being made by Elliott & Harman Engineering Company, Peoria, for repair and reconstruction of about 23 miles of levee along Mississippi River in vicinity of Muscatine. Three different districts are involved and the plans and specifications will probably be completed in about two weeks. A large portion of the work is suitable for making hydraulic fill, other portions for drag excavators, and a small portion suitable for team work. Further information may be obtained from the engineers.

Kaufman, Tex.—Election to be held to vote $45,000 bonds for raising levees on Trinity River from 10 to 14 ft. Address County Clerk.

Texas.—Applications have been filed with State Board of Water Engineers, Austin, for the construction of two impounding water reservoirs, one on Brown's Creek, a tributary of the Colorado River, in Mills County, with a capacity of 300,000,000 gal. of water, and it is proposed to divert 1000 ft. of water from this creek for this purpose; and also a petition to construct an impounding reservoir on Kill Dugan Creek, a tributary of Brazos River, in Nolan County, with a capacity of 290,450,000 gal. of water, and to divert 1000 acre feet of water annually for this purpose. Application has also been filed by Charles A. Dailey, San Angeles, to construct an impounding reservoir on Oak Creek, a tributary of Colorado River, with a capacity of 11,584,960 cu. ft. of water, for purpose of irrigating 200 acres of land in Runnels County.

Visalia, Cal.—The $283,000 Alpaugh Irrigation District bonds recently voted have been declared legal by Visalia Court.

BIDS DESIRED.

Boston, Mass.—Until Aug. 1, by Board Harbor and Land Commissioners (Wm. S. McNairy, Chmn.), for dredging in Cotuit Harbor, and East Bay Barnstable, in Popponnesset Bay, Barnstable and Mashpee, and in Herring River, Harwich, approximately 67,000 cu. yd., and at Lake Anthony, Oak Bluffs, 16,000 cu. yd.

New York, N. Y.—Until July 31, by R. A. C. Smith, Commissioner of Docks, for Contract No. 1524, for dredging at West 209th Street, Harlem River; Contract 1510, dredging and removing rock at foot of Ninetieth Street, East River; and Contract No. 1534, extending Pier No. 47, near foot of Perry Street, North River, all in Manhattan Borough. Total security $18,608.

Clarksdale, Miss.—Until Aug. 9, by Commissioners Harris Bayou Drainage Dist., at office of Maynard & Fitzgerald, Attorneys, about 15,000 cu. yd. excav., bottoming out a dredge ditch which had sloughed in; 12,000 cu. yd. will be guaranteed to successful bidder. A. L. Babney, Engr., 81 Porter Building, Memphis, Tenn.

Baton Rouge, La.—Until Aug. 1, by Board State Engineers, New Orleans Court Building, New Orleans, for constructing levee work in East Carroll Parish, Mississippi River, as follows: Atherton and Wilton Levee Riverside enlargement, approximately 500,000 cu. yd. Frank M. Kerr, Ch. State Engr., Baton Rouge.

Rayville, La.—Until Aug. 10, by Board Comrs. of Tensas Levee Dist., at office of State Engrs., New Orleans Court Building, New Orleans, for constructing levees in Oakland as follows: O'Possum Fork to Lucca Levee, Desha County, approximately 60,000 cu. yd.; in Chicot County—Gaines Landing Levee, 20,000 cu. yd.; Carmichael Levee, 50,000 cu. yd.; Hardwood Point Levee, 225,000 cu. yd.; Willow Lake Levee, 20,000 cu. yd.; all Riverside enlargement.

Tallulah, La.—Until Aug. 1, by Board Commissioners Fifth Louisiana Levee Dist., at office of State Engrs., New Orleans Court Building, for constructing levee work on the Mississippi River, right bank; Donna Vista levee, Hicks Slough levee, Hollybrook and a number of other levees, in all about 1,112,000 cu. yd.

Paxton, Ill.—Until Aug. 5, by Commissioners Lyman Township, Drainage Dist. No. 1, for cleaning and improving main ditch of district; length, approximately 42,000 ft., 58,312 cu. yd.

Ft. Madison, Iowa.—Until Aug. 15, by A. P. Myer, County Auditor, for constructing levees and open ditches in Green Bay Levee and Drainage District No. 2, Green Bay Township, Lee County, advertised in Engineering Record. Engineers, Perkins Engineering Company, 38 S. Dearborn Street, Chicago, Ill.

Mason City, Iowa.—Reported desired until Aug. 9, for excavation work for $250,000 school. J. H. Felt & Co., Architects, 800 Grand Avenue Temple, Kansas City, Mo.

Fergus Falls, Minn.—Until Aug. 4, by William Lincoln, Co. Aud., for constructing Ditch No. 56. Engineer's estimate, 25,305 cu. yd. Also another ditch to consist of 24,400 ft. 8 to 18 in. cement tile, also two steel culverts. Cost $14,719.

Owatonna, Minn.—Until Aug. 5, by M. J. Parcher, Co. Aud., for constructing County Ditch No. 4, to include 16,739 ft. 12 to 24 in. tile, concrete manholes, 3000 cu. yd. excav., etc. Geo. A. Ralph, Room 16, Fulton Block, St. Paul, Engr.

Jamestown, N. D.—Until Aug. 15, by J. C. Jensen, Co. Aud., for constructing Judicial Ditch No. 11, to consist of 175,350

PRICES AND LETTINGS.

★*Indicates award of contract.*

Boston, Mass.—Following are three lowest bids opened July 24 by Metropolitan Water & Sewerage Board for improvements on Beaver Dam Brook, in Natick, Sherborn and Framingham: Framingham Contracting Company, Framingham, $49,732; Dennis F. Crowley, East Milton, $50,437, and Michael Meehan, Jamaica Plains, $56,350.

★**Nevada, Iowa.**—Following are bids opened July 22 by County Commissioners for constructing about 18 miles of drains: Blakemore & Scott, Colo, Iowa, $50,317 (awarded contract); Cole Brothers, Ames, $52,000; Mathison & Son, Nevada, $54,000, and Birkland & Littell, Eagle Grove, $57,589. F. E. King, County Auditor.

★Contracts awarded by Board of Supervisors as follows for constructing the Milford Township drainage ditch No. 69: Labor, to Mathison & Son, of Nevada, at $11,997, and for material, to Macomb Pipe & Tile Company, Macomb, Ill., at $27,000.

★**Breckenridge, Minn.**—Contract awarded (bids opened July 14) for constructing Ditch No. 1-B to National Dredging Co., Alexandria, at about $10,830. P. E. Truax, County Auditor.

★**St. Cloud, Minn.**—Contract for constructing Ditch No. 37 and branches (bids opened July 21) awarded Potter Dredging Company, Grand Rapids, Wis., at 11.2 cts. per cubic yard. Work includes 94,305 cu. yd. subdrain ditch and 5 branches, a total of about 181,548 cu. yd., together with 5 reinforced concrete culverts.

★**Walker, Minn.**—Contract awarded for constructing County Ditches Nos. 2 and 7 to E. E. Griffith, Backus, at 16 cents cubic yard. A. W. Moulster, Pine River, Engineer; A. D. Bacon, County Auditor.

★**Malta, Mont.**—Contract awarded by U. S. Reclamation Service to James O'Connor, Malta, for Schedule 1, extension of Bowdoin Canal system, first unit laterals and wasteway ditches, Milk River Irrigation Project, Mont., involving 130,000 cu. yd. excav. and 1000 cu. yd. overhaul, at $21,743, and for Schedule 2, to Security Bridge Co., Minneapolis, Minn., at $7,847 (bids opened June 27).

St. Ignatius, Mont.—Lowest bid for constructing canal structures on Flathead Project, (opened July 18), submitted by Earl D. Covell, Ronan, at $38,092. E. F. Tabor, Project Manager, U. S. Reclamation Service.

★**Baker, Ore.**—Evans-Almirall Co. 1 Dominick Street, New York, awarded contract for work, dam, gates and outlet pipe, etc., at Balm Creek Reservoir of Thief Valley Irrigation Project to J. A. Hoskins of Baker, for $11,000.

★**Hermiston, Ore.**—Contract awarded by U. S. Reclamation Service to Newport Land & Construction Co., Hermiston, Ore., for enlargement of the storage feed canal, Umatilla Project, Ore., at $32,254; work consists of widening about 20 miles of canal and excavation of about 168,000 cu. yd. material and placing about 370 cu. yd. concrete (bids opened June 15).

Payson, Utah. — Contract awarded Reynolds Ely Construction Co., Springfield, Utah, for constructing Division 10, laterals, High Line Canal, Strawberry Valley Project, Utah, at $130,516. Work involves 70,000 cu. yd. canal excavation, 11,000 cu. yd. rolled embankment, 5500 cu. yd. excav. for structures, 1500 cu. yd. reinforced concrete and 700,000 sq. ft. canal lining (bids opened July 15 by U. S. Reclamation Service, Provo).

MISCELLANEOUS

PROPOSED WORK.

Water Power—Oswego, N. Y.—Citizens voted July 17 in favor of issuing $345,000 bonds, to be used to develop city's water power at west end of dam No. 6, in Oswego River. Address Secretary Water Service Commission.

Station—Pensacola, Fla.—Bill has passed U. S. Senate appropriating $420,000 to rebuild aeronautical station which was destroyed by storm recently.

Incinerators—Cleveland, Ohio.—Director of Public Service requested to advise council of advisability of providing incinerators for disposal of refuse and rubbish.

Pipe Line—Tulsa, Okla.—Reported Sinclair Oil & Refining Corporation (Henry F. Sinclair, president) will construct an 8-in. pipe line from Oklahoma fields to Chicago, and erect 2 refineries, one at Chicago and the other at some point on Mississippi River. The pipe line will be about 800 miles long, and with refineries will cost about $10,000,000.

BIDS DESIRED.

Street Signs—New York, N. Y.—Until July 31, by Douglas Matthewson, Pres. Boro. Bronx, for furnishing, assembling and erecting 535 malleable c.-i. street sign frames, Type A, and 1485 malleable c.-i. street sign frames, including brackets, Type B, each frame to contain two enamel street signs at various locations in Bronx Borough. Security $3,500.

Also same time as aboxe, by Board of Plumbers (Jas. M. Morrow, Chmn.), for 3000 metal signs.

Cement—Jacksonville, Fla.—Until Aug. 4, by Board Bond Trustees (W. M. Bostwick, Chmn.), for approximately 4000 sacks of cement, etc., for electric light department.

Conduits—Jacksonville, Fla.—Until Aug. 4, by Board Bond Trustees (W. M. Bostwick, Chmn.), for furnishing and delivering f. o. b. cars Jacksonville 10,000 ft. 3½-in. fiber conduit, including collars.

Traveling Cranes—New Orleans, La.—Until Sept. 13, by Water Board (F. S. Shields, Secy.), for furnishing and erecting two traveling cranes of a capacity of 15 tons each in the drainage pumping station.

Power Equipment for Hetch Hetchy Water Supply Project—San Francisco, Cal.—Until Aug. 9 by Board of Public Works for hydraulic machinery and equipment for Lower Cherry River power development and also for electric generators and exciters for installation of temporary power plant, for use of the Hetch Hetchy water supply project. It is proposed to develop power by diverting water from Cherry River leading through a canal to a point near Early Intake and dropping it through a temporary power plant with 330-ft. fall into Tuolumne River. See "Proposed Work."

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Transmission Line—Alcester, S. D.**—Contract awarded Adelbert Hubbard Electric Company, St. Paul, Minn., for constructing a transmission line and distribution system. (Bids opened July 19.)

Wharf Machinery—Beaumont, Tex.—Southwestern General Electric Company is reported to have submitted a bid at $14,500 for installing machinery in the sheds of the first unit of the concrete wharves, or $11,500 for two bridges in the loading apparatus. Engineer of the Dock and Wharves Commission has bid under consideration.

★**Wooden Viaduct—Astoria, Ore.**—Contract awarded by City for constructing wooden viaduct and sand fill and paving with bitulithic on Commercial Street from Tenth to Seventeenth Streets, to Western Paving Co., Astoria, at $51,980, for viaduct complete, and $10,302 for paving. Olaf Anderson, City Auditor.

Proposals

For Proposals Advertised See Pages 48, 49, 50 and 51

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.		See Eng. Record.
Jul. 31.	New York, N. Y.	Jul. 29
Aug. 1.	South Charleston, Ohio. Adv. Jul. 15.	Jul. 15
Aug. 1.	Ridgfield Park, N. J. Adv. Jul. 15.	Jul. 15
Aug. 1.	Dixon, Ill.	Jul. 22
Aug. 1.	Toronto, Ont.	Jul. 22
Aug. 1.	East Hartford, Conn.	Jul. 22
Aug. 1.	Killdeer, N. D.	Jul. 29
Aug. 1.	Doland, S. D. Adv. Jul. 29.	Jul. 29
Aug. 1.	Hanford, Cal.	Jul. 29
Aug. 1.	Coffeeville, Miss.	Jul. 29
Aug. 1.	Oakmont, Pa.	Jul. 29
Aug. 1.	Boston, Mass.	Jul. 29
Aug. 1.	Glenview, Ill.	Jul. 29
Aug. 2.	Hoboken, N. J. Adv. Jul. 15 to 29.	Jul. 15
Aug. 2.	Dixon, Neb.	Jul. 22
Aug. 2.	Sweetwater, Tex.	Jul. 29
Aug. 2.	Boston, Mass.	Jul. 29
Aug. 3	Miami, Fla.	Jul. 1
Aug. 3.	Riverton, Wyo. 2 Proposals Adv. Jul. 22, 29.	Jul. 29
Aug. 3.	Thiells, N. Y.	Jul. 22
Aug. 3.	Alden, Iowa	Jul. 29
Aug. 3.	Philadelphia, Pa.	Jul. 29
Aug. 3.	New York, N. Y.	Jul. 29
Aug. 4.	Lake City, Minn.	Jul. 29
Aug. 5.	Lethbridge, Alta. Adv. Jul. 22.	Jul. 22
Aug. 5.	East Tawas, Mich. Adv. July 29.	Jul. 29
Aug. 5.	Delaware, Ohio.	Jul. 29
Aug. 7.	Cleveland Heights, P. O. Warrensville, Ohio	Jul. 22
Aug. 7.	Panama	Jul. 22
Aug. 7.	Fort Benton, Mont.	Jul. 22
Aug. 7.	Athens, Pa.	Jul. 22
Aug. 7.	Mitchell, S. D.	Jul. 29
Aug. 7.	Hartford, Conn. Adv. Jul. 29.	Jul. 29
Aug. 7.	Macon, Miss.	Jul. 29
Aug. 7.	Highwood, Mont.	Jul. 29
Aug. 7.	St. Paul, Minn.	Jul. 29
Aug. 7.	Grand Forks, N. D.	Jul. 29
Aug. 7.	Eldon, Iowa. Adv. Jul. 29.	Jul. 29
Aug. 8.	Oxford, N. Y. Adv. Jul. 22, 29.	Jul. 22
Aug. 8.	Matheson, Ont.	Jul. 29
Aug. 8.	Lexington, Ky.	Jul. 29
Aug. 8.	Mable, Minn.	Jul. 29
Aug. 8.	Elmhurst, Ill. Adv. July 29.	Jul. 29
Aug. 8.	Sheperdstown, W. Va.	Jul. 29
Aug. 9.	Sheridan, Mont. Adv. Jul. 15 to 29.	Jul. 15
Aug. 10.	Red Creek, N. Y. Adv. Jul. 15.	Jul. 15
Aug. 10.	Coshocton, Ohio	Jul. 22
Aug. 10.	Atlantic City, N. J. Adv. Jul. 29.	Jul. 29
Aug. 10.	Ft Madison, Iowa	Jul. 29
Aug. 10.	Coshocton, Ohio	Jul. 29
Aug. 12.	Hoboken, N. J.	Jul. 22
Aug. 12.	New Bremen, Ohio	Jul. 29
Aug. 12.	Medina, Ohio. Adv. July 29.	Jul. 29
Aug. 14.	Ravenna, Ohio	Jul. 22
Aug. 15.	Kennedy, Tex.	Jul. 22
Aug. 15.	Savannah, Ga. Adv. Jul. 22, 29.	Jul. 22
Aug. 15.	Irvington, N. Y. Adv. Jul. 29.	Jul. 29
Aug. 15.	Richmond, Va.	Jul. 29
Aug. 15.	Chino, Cal.	Jul. 29
Aug. 15.	East New Market, Md. Adv. July 29.	Jul. 29
Aug. 15.	Assiniboia, Sask. Adv. July 29.	Jul. 29
Aug. 16.	Winnebago, Wis.	Jul. 22
Aug. 16.	Fargo, N. D. Adv. Jul. 22, 29.	Jul. 22
Aug. 16.	Greenville, Ohio	Jul. 29
Aug. 17.	Colby, Wis.	Jul. 29
Aug. 18.	Kaukauna, Wis.	Jul. 29
Aug. 31.	Boston, Mass.	Jul. 29

STEEL BRIDGE WORK.

Jul. 29.	Louisville, Ky. Adv. Jul. 8 to 22.	Jul. 8
Jul. 31.	Takoma Park, D. C. Adv. Jul. 15.	Jul. 22
Jul. 31.	Washington, D. C.	Jul. 22
Aug. 1.	Pascagoula, Miss	Jun. 24
Aug. 1.	Hamilton, Ohio	Jul. 29
Aug. 2.	Gunnison, Col.	Jul. 15
Aug. 2.	Mount Holly, N. J.	Jul. 29
Aug. 3.	Crookston, Minn.	Jul. 22
Aug. 3.	Council Bluffs, Iowa	Jul. 29
Aug. 4.	Newman, Ga.	Jul. 8
Aug. 4.	Hamlin, W. Va.	Jul. 29
Aug. 5.	Parkersburg, W. Va.	Jul. 29
Aug. 7.	Klamath Agency, Ore. Adv. Jul. 15 to 29.	Jul. 15
Aug. 7.	Tulsa, Okla.	Jul. 15
Aug. 7.	Pascagoula, Miss.	Jul. 22
Aug. 7.	Warren, Ohio	Jul. 29
Aug. 8.	La Moure, N. D.	Jul. 8
Aug. 8.	Petersburg, Ind.	Jul. 22
Aug. 8.	Ellendale, N. D.	Jul. 22
Aug. 9.	Bakersfield, Cal.	Jul. 29
Aug. 9.	La Moure, N. D.	Jul. 29
Aug. 10.	Bennington, N. Y.	Jul. 29
Aug. 10.	Red Lodge, Mont.	Jul. 29
Aug. 12.	Miles City, Mont. Adv. Jul. 22.	Jul. 22
Aug. 14.	Dayton, Ohio	Jul. 22
Aug. 14.	Hellin, Ala.	Jul. 22
Aug. 14.	Lisbon, Ohio	Jul. 22
Aug. 14.	Edwardsville, Ala.	Jul. 29
Aug. 15.	Petersburg, Va. Adv. Jul. 8, 15.	Jul. 8
Aug. 17.	Ray, Ariz.	Jul. 22
Aug. 19.	Dakota City, Neb.	Jul. 29
Aug. 21.	Selma, Ala.	Jul. 29

REINFORCED CONCRETE.

Jul. 31.	Illinois	Jul. 15
Jul. 31.	Ward Springs, Minn.	Jul. 22
Aug. 1.	Mahnomen, Minn.	Jul. 29
Aug. 2.	New Orleans, La.	Jul. 15
Aug. 2.	Illinois	Jul. 22
Aug. 2.	Santa Ana, Cal.	Jul. 29
Aug. 3.	Dayton, Ohio	Jul. 15
Aug. 4.	Ann Arbor, Mich.	Jul. 22
Aug. 4.	Cincinnati, Ohio	Jul. 29
Aug. 4.	Santa Barbara, Cal.	Jul. 29
Aug. 4.	Los Angeles, Cal.	Jul. 29
Aug. 5.	Marysville, Tenn.	Jul. 29
Aug. 5.	Philadelphia, Pa.	Jul. 29
Aug. 7.	Colfax, Wash.	Jul. 15
Aug. 7.	Salem, N. J.	Jul. 29
Aug. 8.	Marlinton, W. Va.	Jul. 29
Aug. 8.	Seagrave, Ont.	Jul. 29
Aug. 9.	Oswego, Kan.	Jul. 29
Aug. 10.	Washington, D. C. Adv. Jul. 22, 29.	Jul. 22.
Aug. 11.	Uniontown, Pa.	Jul. 29
Aug. 11.	Gainesville, Ga.	Jul. 29
Aug. 12.	Portageville, N. Y. Adv. July 29.	Jul. 29
Aug. 15.	Minneapolis, Minn.	Jul. 22
Aug. 15.	Washington, D. C.	Jul. 29
Aug. 15.	New Richland, Minn.	Jul. 29
Aug. 15.	Woonsocket, R. I. Adv. Jul. 29.	Jul. 29
Aug. 16.	Buckhannon, W. Va.	Jul. 29

ROADS AND PAVING.

Jul. 31.	Corinth, Miss. Adv. Jul. 15 to 29.	Jul. 15
Jul. 31.	Norwood, Ohio	Jul. 22
Jul. 31.	Mt. Holly, N. J.	Jul. 22
Jul. 31.	Helena, Mont.	Jul. 22
Aug. 1.	Guntersville, Ala.	Jul. 1
Aug. 1.	Gary, Ind.	Jul. 1
Aug. 1.	Shaker Heights, Ohio	Jul. 8
Aug. 1.	Helena, Ark.	Jul. 8
Aug. 1.	Evergreen, Ala.	Jul. 15
Aug. 1.	Jersey City, N. J.	Jul. 22
Aug. 1.	Barbourville, Ky. Adv. Jul. 22, 29.	Jul. 22
Aug. 1.	Dillonville, Ohio	Jul. 22
Aug. 1.	Billings, Mont.	Jul. 22
Aug. 1.	Lock Haven, Pa.	Jul. 22
Aug. 1.	Tiffin, Ohio.	Jul. 22
Aug. 1.	Princeton, Ky.	Jul. 22
Aug. 1.	Bound Brook, N. J. Adv. Jul. 22.	Jul. 22
Aug. 1.	Montclair, N. J. Adv. Jul. 22, 29.	Jul. 22
Aug. 1.	New Brunswick, N. J.	Jul. 29
Aug. 1.	Du Bois, Pa.	Jul. 29
Aug. 1.	Albany, Mo.	Jul. 29
Aug. 1.	Granite Falls, Ill.	Jul. 29
Aug. 1.	Trenton, N. J.	Jul. 29
Aug. 1.	Shelton, Wash.	Jul. 29
Aug. 1.	Centerville, Md.	Jul. 29
Aug. 1.	Reading, Mass.	Jul. 29
Aug. 1.	Hartford, Ky.	Jul. 29
Aug. 2.	Jersey City, N. J.	Jul. 22
Aug. 2.	Asheville, Ala.	Jul. 22
Aug. 2.	Clarkesburg, W. Va.	Jul. 22
Aug. 2.	Illinois	Jul. 29
Aug. 2.	Brooklyn, N. Y.	Jul. 29
Aug. 2.	Baltimore, Md.	Jul. 29
Aug. 2.	Irvington, N. J.	Jul. 29
Aug. 3.	Fairmont, W. Va. Adv. Jul. 15 to 29.	Jul. 15
Aug. 3.	Indiana	Jul. 22
Aug. 3.	Fort Clinton, Ohio	Jul. 29
Aug. 3.	Glendale, Cal.	Jul. 29
Aug. 4.	South Uniontown, Pa.	Jul. 29
Aug. 4.	Monroe, Wis.	Jul. 29
Aug. 4.	Santa Barbara, Cal.	Jul. 29
Aug. 5.	Indiana	Jul. 22
Aug. 5.	Magnolia, Miss.	Jul. 22
Aug. 7.	Cleveland Heights (P. O. Warrensville), Ohio	Jul. 8
Aug. 7.	Baltimore, Md.	Jul. 8
Aug. 7.	Lewiston, Idaho	Jul. 15
Aug. 7.	Albuquerque, N. M.	Jul. 15
Aug. 7.	Indiana	Jul. 15
Aug. 7.	Burlington, Wash.	Jul. 22
Aug. 7.	Macon, Miss.	Jul. 22
Aug. 7.	Smyrna, Fla.	Jul. 22
Aug. 7.	Albany, N. Y. Adv. Jul. 22, 29.	Jul. 22
Aug. 7.	Washington	Jul. 22
Aug. 7.	Lakeland, Fla.	Jul. 22
Aug. 7.	De Land, Fla.	Jul. 22
Aug. 7.	Ravenna, Ohio	Jul. 22
Aug. 7.	New Orleans, La.	Jul. 22
Aug. 7.	Indiana	Jul. 22
Aug. 7.	Stoughton, Wis.	Jul. 29
Aug. 7.	Guttenberg, N. J.	Jul. 29
Aug. 7.	Beach Haven, N. J.	Jul. 29
Aug. 7.	Hanford, Cal.	Jul. 29
Aug. 7.	St. Paul, Minn.	Jul. 29
Aug. 7.	Grenada, Miss.	Jul. 29
Aug. 7.	Sedalia, Mo.	Jul. 29
Aug. 7.	Morristown, N. J. Adv. Jul. 29.	Jul. 29
Aug. 7.	St. John, Mich. Adv. Jul. 29.	Jul. 29
Aug. 8.	Republic, Wash.	Jul. 15
Aug. 8.	West New York, N. J.	Jul. 22
Aug. 8.	Greenfield, Ohio	Jul. 22
Aug. 8.	Indiana	Jul. 22
Aug. 8.	Clinton, Iowa Adv. Jul. 29.	Jul. 29
Aug. 8.	Rockville, Md. Adv. Jul. 29.	Jul. 29
Aug. 8.	Frankfort, Ky.	Jul. 29
Aug. 8.	Plataka, Fla.	Jul. 29
Aug. 8.	Maryland Adv. Jul. 29.	Jul. 29
Aug. 8.	Fort Clinton, Ohio	Jul. 29
Aug. 8.	Bakersfield, Cal.	Jul. 29
Aug. 8.	Ventura, Cal.	Jul. 29
Aug. 8.	Bedford, Ky.	Jul. 29
Aug. 9.	Indiana	Jul. 22
Aug. 9.	Indiana	Jul. 15
Aug. 9.	Martinsville, W. Va. Adv. Jul. 15, 29.	Jul. 15
Aug. 9.	Hamlin, W. Va.	Jul. 29
Aug. 10.	Elkins, W. Va.	Jul. 15
Aug. 10.	Waterville, Wash.	Jul. 22
Aug. 10.	Indiana	Jul. 22
Aug. 10.	Fulton, Mo.	Jul. 29
Aug. 10.	Sandusky, Ohio	Jul. 29
Aug. 10.	Pine Bluff, Ark.	Jul. 29
Aug. 10.	Helena, Ark.	Jul. 29
Aug. 14.	Birmingham, Ala. Adv. Jul. 15, 22.	Jul. 8
Aug. 14.	Perrysburg, Ohio	Jul. 8
Aug. 14.	Camden, Ala.	Jul. 22
Aug. 14.	Albany, N. Y. Adv. Jul. 29.	Jul. 29
Aug. 14.	West Allis, Wis.	Jul. 29
Aug. 14.	Morristown, N. J. Adv. Jul. 29.	Jul. 29
Aug. 15.	Lebanon, Ohio	Jul. 29
Aug. 15.	Keyser, W. Va.	Jul. 29
Aug. 15.	Vallejo, Cal.	Jul. 29
Aug. 15.	Vallejo, Cal. Adv. Jul. 29.	Jul. 29
Aug. 16.	Bay Minette, Ala.	Jul. 22
Aug. 16.	Albany, N. Y. Adv. Jul. 29.	Jul. 29
Aug. 16.	Paterson, N. J.	Jul. 29
Aug. 18.	Albany, N. Y. Adv. Jul. 29.	Jul. 29
Aug. 18.	Butler, Pa.	Jul. 29
Aug. 20.	Salt Lake City, Utah	Jul. 29
Aug. 21.	Colfax, Wash.	Jul. 29
Aug. 21.	Los Angeles, Cal.	Jul. 29
Sept. 1.	Globe, Ariz.	Jul. 29
Sep. 11.	Birmingham, Ala. Adv. Jul. 29.	Jul. 29
———	Ocean City, N. J. Adv. Jul. 15.	Jul. 15

RAILROADS.

Aug. 10.	New York, N. Y.	Jul. 29

INDUSTRIAL PLANTS AND WAREHOUSES.

Jul. 28.	Kathryn, N. D.	Jul. 29

BUILDINGS.
Public and Private.

Aug. 1.	Irwin, Pa.	Jul. 1
Aug. 1.	Newburyport, Mass.	Jun. 24
Aug. 1.	Alton, Ill.	Jul. 8
Aug. 1.	Asheville, N. C.	Jul. 8
Aug. 1.	New Britain, Conn.	Jul. 15
Aug. 1.	Coshocton, Ohio	Jul. 15
Aug. 1.	St. Charles, Ill.	Jul. 15
Aug. 1.	Carroll, Iowa	Jul. 22
Aug. 1.	Johnstown, Pa.	Jul. 22
Aug. 1.	Yorkville, Ohio	Jul. 22
Aug. 1.	Philadelphia, Pa.	Jul. 22
Aug. 1.	Akron, Ohio	Jul. 22
Aug. 1.	Wellington, Ohio	Jul. 29
Aug. 1.	Uniontown, Pa.	Jul. 29
Aug. 1.	Walpole, Mass.	Jul. 29
Aug. 1.	Rockdale, Pa.	Jul. 29
Aug. 1.	Philadelphia, Pa.	Jul. 29
Aug. 2.	New Orleans, La.	Jun. 24
Aug. 2.	Shreveport, La.	Jul. 22
Aug. 2.	Wellington, Ohio	Jul. 22
Aug. 2.	Streator, Ill.	Jul. 22
Aug. 2.	Joplin, Mo.	Jul. 29
Aug. 2.	Seattle, Wash.	Jul. 29
Aug. 3.	Athens, Ohio	Jul. 15
Aug. 3.	Bryan, Ohio	Jul. 2
Aug. 4.	Linton, N. D.	Jul. 2
Aug. 5.	Velpen, Ind.	Jul. 2
Aug. 7.	Portland, Ore. Adv. Jun. 10, 17.	Jun. 1
Aug. 7.	Tulsa, Okla.	Jul. 1
Aug. 7.	Sumter, S. C.	Jul. 2
Aug. 7.	Hamilton, Ont.	Jul. 2
Aug. 7.	Beaver, Pa.	Jul. 2
Aug. 7.	Omaha, Neb.	Jul. 2
Aug. 7.	Halifax, N. S.	Jul. 2
Aug. 7.	Bloomington, Ind.	Jul. 2
Aug. 8.	Lakewood, Ohio. Adv. Jul. 15.	Jul. 1
Aug. 8.	Calgary, Alta.	Jul. 2
Aug. 8.	Eau Claire, Wis.	Jul. 2
Aug. 9.	Dover, N. J.	Jul. 2
Aug. 10.	Fort Wayne, Ind.	Jul. 1
Aug. 10.	Sumter, S. C.	Jul. 2
Aug. 10.	Nicollett, Minn.	Jul. 2
Aug. 11.	Burlington, N. C. Adv. Jul. 8, 15.	Jul. 8
Aug. 11.	Seattle, Wash.	Jul. 2
Aug. 11.	Frederickton, Ohio	Jul. 2
Aug. 11.	Robinson, N. D.	Jul. 2
Aug. 12.	Front Royal, Va. Adv. Jul. 22, 29.	Jul. 2
Aug. 14.	Cumberland, Iowa	Jul. 2
Aug. 14.	Jackson, Mich.	Jul. 2
Aug. 15.	Charleston, W. Va.	Jul. 2
Aug. 15.	Hixton, Wis.	Jul. 2
Aug. 15.	Tekamah, Neb.	Jul. 2
Aug. 16.	Newark, Ohio. Adv. Jul. 15.	Jul. 1
Aug. 16.	Charleston, W. Va.	Jul. 2
Aug. 16.	Savannah, Ga.	Jul. 2
Aug. 16.	Madison, W. Va.	Jul. 2
Aug. 17.	Ridgewood, N. J.	Jul. 2
Aug. 17.	Fort William, Ont.	Jul. 2
Aug. 17.	Portland, Me.	Jul. 2
Aug. 17.	Covington, Ky.	Jul. 2
Aug. 21.	Winnipeg, Man.	Jul. 2
Aug. 21.	Buffalo, N. Y. Adv. Jul. 22, 29.	Jul. 2
Aug. 23.	West Liberty, W. Va.	Jul. 2
Aug. 25.	Ashland, Ohio Adv. Jul. 22, 29.	Jul. 2
Aug. 28.	Nashville, Tenn.	Jul. 8
Sep. 19.	Warrenton, Va.	Jul. 2
———.	Reidsville, N. C. Adv. Jun. 17.	Jun. 1

FOUNDATIONS, PIERS AND DAMS.

Aug. 1.	Tiffin, Ohio	Jul. 2
Aug. 4.	Mukilteo, Wash.	Jul. 2
Aug. 5.	Bay St. Louis, Miss.	Jul. 1
Aug. 7.	Portland, Ore.	Jul. 2
Aug. 7.	Gulfport, Miss.	Jul. 2
Aug. 8.	New Orleans, La.	Jul. 2
Aug. 11.	Cape Girardeau, Mo. Adv. Jul. 15 to 29.	Jul. 1
Aug. 11.	Norwich, Conn. Adv. Jul. 15.	Jul. 1
Aug. 14.	Wheeling, W. Va. Adv. Jul. 29.	Jul. 2

EXCAVATION, DREDGING AND DRAINAGE.

Jul. 31.	New York, N. Y.	Jul. 29
Aug. 1.	Trenton, N. J. Adv. Jul. 15 to 29.	Jul. 15
Aug. 1.	Carlsbad, N. M.	Jul. 22
Aug. 1.	Curtis, Neb.	Jul. 22
Aug. 1.	Monroe, Ga.	Jul. 22
Aug. 1.	Rock Island, Ill.	Jul. 22
Aug. 1.	Tallulah, La.	Jul. 29
Aug. 1.	Baton Rouge, La.	Jul. 29
Aug. 1.	Boston, Mass.	Jul. 29
Aug. 2.	Morris, Minn.	Jul. 22
Aug. 4.	Fergus Falls, Minn.	Jul. 29
Aug. 5.	Paxton, Ill.	Jul. 29
Aug. 5.	Owatonna, Minn.	Jul. 29
Aug. 9.	Clarksdale, Miss.	Jul. 29
Aug. 9.	Mason City, Iowa	Jul. 29
Aug. 10.	Lancaster, Ohio	Jul. 15
Aug. 10.	Rayville, La.	Jul. 29
Aug. 14.	Malta, Mont. Adv. Jul. 15.	Jul. 15
Aug. 14.	Donna, Tex.	Jul. 22
Aug. 15.	Buffalo, N. Y. Adv. Jul. 22, 29.	Jul. 22
Aug. 15.	Jamestown, N. D.	Jul. 29
Aug. 15.	Fort Madison, Iowa	Jul. 29
Aug. 16.	Powell, Wyo.	Jul. 22
Aug. 18.	Washington, D. C. Adv. Jul. 15.	Jul. 15
Aug. 26.	Riverside, Cal.	Jul. 22
———.	Yemassee, S. C. Adv. Jun. 24.	Jun. 24

MISCELLANEOUS.

Jul. 31.	Signs, New York, N. Y.	Jul. 29
Aug. 1.	Electric Equipment, Albany, Ill. Adv. Jul. 22.	Jul. 22
Aug. 2.	Garage Incinerator, Outremont, Que.	Jul. 22
Aug. 2.	Garbage Disposal, Des Moines, Iowa Adv. Jul. 8, 15 and 22.	Jul. 8
Aug. 3.	Limestone and Brick, Fairmont, W. Va. Adv. Jul. 15 to 29.	Jul. 15
Aug. 4.	Motor Sweeper, Jacksonville, Fla. Adv. Jul. 22.	Jul. 22
Aug. 4.	Cement, Jacksonville, Fla.	Jul. 29
Aug. 4.	Conduits, Jacksonville, Fla.	Jul. 29
Aug. 9.	Limestone and Brick, New Martinsville, W. Va. Adv. Jul. 15 to 29.	Jul. 15
Aug. 12.	Dredge—Vallejo, Cal.	Jul. 15
Aug. 23.	Purchase of Locomotives, Panama Adv. Jul. 1.	Jun. 24
Aug. 23.	Engine—Panama Adv. Jul. 15.	Jul. 15
Sep. 13.	Traveling Cranes, New Orleans, La.	Jul. 29

Slight Changes in Prices of Construction Materials as Busy Season Advances

New Uses for Steel in Warfare Take Up Mill Capacity as Flood of Orders from Domestic Firms and Neutral Countries Is Held Back by Continued Strength of Steel Market—Labor Shortage Grows

ALTHOUGH the crest in steel prices has apparently been reached and passed, it is becoming more and more evident that any decline which is to follow will be very gradual. Indeed, structural material is the only feature of the steel market that is apt to show any softening in price during the remainder of the year. While orders for structural steel have dropped this summer to little more than half of the country's fabricating capacity, it is evident that the fabricators are not yet worried over the condition of their order books. Bids were recently received for 6900 tons of railroad bridge work to be erected in a Southern state over a period of several months which developed the extraordinary range of $35 per ton in the price, erected, between the lowest and highest tenders.

Several factors are responsible for this indifference to new business. It is reported that the allied nations are attempting to buy 85,000 tons of structural material for trench construction, to be delivered over a period of ten months; that rails are being used in large quantities for the same purpose, and that rails for transportation lines are in such urgent demand in Europe that the Candian Pacific has recently torn up 300 miles of siding to send the rails abroad. Many bids for steel products have been asked by domestic firms and neutral countries, none of which has yet resulted in business because of present prices. These inquiries represent a tremendous demand waiting for the first drop in prices. Moreover, it is argued that some of this business cannot be withheld much longer, and will have to come into the market in any event. Orders for steel products from the belligerent nations continue, according to the *Iron Age*, to be limited only by the capacity of the American plants equipped to fill them. It is noticeable that foreign governments are now buying 6, 9 and 12-in. shells almost entirely. These shells require more steel than the smaller sizes which made up most of the orders placed last year. The steel market is still further strengthened by the fact that there are still large contracts for shells outstanding for which the steel has not yet been secured.

With regard to prices for construction material in general, no important changes either up or down have taken place during the month, though there have been local fluctuations in several items. As those who were in close touch with the situation realized last spring, the labor supply is proving to be a more important factor in construction work than the market for materials. Evidences of an increasing labor shortage are seen on every hand. Contractors in the Ohio river valley are beginning to advertise for men in towns where other firms have large contracts under way. Tired of bringing up negro labor from the South only to have it desert to industrial plants, a large Eastern railroad system is importing Mexican labor from the Southwest. It is understood that a large automobile company is having difficulty in supplying drivers for motor trucks which it is furnishing the United States government. The percentage on construction work of the laborers that are foreign, in the sense that they do not speak English or are not naturalized, is said to have greatly decreased. One large company, more than half of whose common labor has always been of this class, now has less than thirty such men on a contract employing almost 300 laborers.

Although the amount of new securities issued during July showed a further decline to $136,000,000, this figure is greater than that for any July since 1905. Industrial financing in this country has been especially heavy during the past seven months, amounting to almost triple that for the same period of 1915. Railroad financing has been much heavier than last year, and at the same time $440,000,000 has been invested in direct loans to foreign governments during the same period. The total of financing during the past seven months has scarcely been exceeded by any similar period, and amounts to a drain of nearly $2,000,000,000 on the capital resources of the country without taking into account the value of foreign-held American securities unloaded here. It is not surprising in view of these facts that interest rates have stiffened, and it is thought that they will continue to do so. At the same time, the banking system of the country is in a very strong position, and it is nowhere expected that there will be the least difficulty in financing the annual crop movement.

Iron and Steel

Steel Products.—The market for some steel products has stiffened during the month, and for others it has softened. In some sizes in which there has been little demand on the warehouse stock, the warehouse prices are actually below mill prices, while in other sizes warehouse stocks are exhausted and mill prices are higher. Galvanized products declined during the month, and though they rallied recently, prices are still below quotations prevailing on July 1. Prices of certain steel products, per 100 lb., f.o.b. the points named, are given below:

	Immediate Delivery	Future Delivery	Warehouse
Pittsburgh:			
Structural material	$3.00	$2.50	$3.75
Plates	4.00	2.75	....
Steel bars	2.75	2.50	3.25
Iron bars	2.75	2.50	3.25
Rivets	....	4.00	....
New York:			
Structural material	3.17	2.67	3.25
Plates	4.17	2.92	4.00
Steel bars	3.17	2.77	3.25
Iron bars	2.67	2.67	3.25
Chicago:			
Structural material	3.19	2.69	3.10
Plates	3.44	3.09	3.50
Steel bars	3.19	2.69	3.10
Iron bars	....	2.35	3.10
Rivets	....	4.00	3.75

Sheets.—Galvanized sheets, No. 28 gage, show a considerable decline from last month, while black sheets of the same gage are very strong at the prices quoted last month. Price per 100 lb., f.o.b. the points named, are as follows:

	Black	Galvanized
Pittsburgh	$2.90	$4.35
Chicago	3.10	4.59

Cast-Iron Pipe.—The market for cast-iron pipe declined slightly during the month at Chicago, but remained steady on the Atlantic coast. Prices per ton are as follows:

	Class A and Gas Pipe	Class B and Heavier
New York	$31.50	$30.50
Chicago	31.50	30.50

Wrought Pipe.—Black steel pipe has advanced $6 per ton, while galvanized pipe, both iron and steel, has declined considerably. The prices given below are per ton in carload lots, f.o.b. Pittsburgh, for 2½ to 6-in. lap-welded pipe:

	Black	Galvanized
Steel pipe	$70.00	$83.00
Iron pipe	86.00	116.00

Concrete Materials

Cement.—Cement prices remain practically unchanged. Those quoted below are per barrel, in large lots, to contractors, without containers, f.o.b. the points named:

Boston	$1.52	Memphis	$1.74
New York	1.32	Duluth	1.66
Pittsburgh	1.41	St. Paul	1.73
Cleveland	1.54	Cedar Rapids	1.65
Cincinnati	1.69	Kansas City	1.52
Detroit	1.55	Denver	2.07
Chicago	1.47	Phoenix	2.85
Atlanta	1.64	Seattle	2.10
Jacksonville	1.60	Los Angeles	2.00
New Orleans	1.75		

Sand.—Price, washed and screened, in large lots, to contractors, per cubic yard, f.o.b. points named:

Boston	$0.70	Kansas City	$0.90
New York	0.50	Denver	0.85
Cincinnati	*0.70	Phoenix	1.00
Chicago	1.05	Seattle	0.40
New Orleans	1.00	Los Angeles	0.30
St. Paul	1.00		

*Price per ton.

Gravel and Crushed Rock.—Prices in large lots to contractors, per cubic yard, f.o.b. points named:

	Gravel		Crushed Rock	
	1½-in.	¾-in.	1½-in.	¾-in.
Boston	$0.75	$0.90	$0.85	$0.90
New York	0.90	1.00	1.00	1.25
Cincinnati	*0.70	*0.70	*0.85	*0.85
Chicago	1.05	1.05	0.85	0.85
New Orleans	1.40	1.70	2.00	2.00
St. Paul	1.00	1.00	†1.45	†1.45
Kansas City	2.00	2.00	1.00	1.00
Denver	1.25	1.25	1.60	1.60
Phoenix	1.50	2.00	1.75	1.75
Seattle	0.40	0.40	1.00	1.15
Los Angeles	0.85	0.85	0.90	1.00

*Price per ton.
†Price delivered.

Brick and Paving Materials

Brick.—Price per 1000, wholesale, f.o.b. the points named:

	Common	Paving
Boston	$10.75	.....
New York	7.50	$24.00
Cincinnati	8.60	21.00
Chicago	7.00	.....
New Orleans	7.00	27.00
St. Paul	8.00	25.00
Kansas City	7.00	20.00
Denver	7.00	15.00
Phoenix	8.00	.....
Seattle	6.25	30.50
Los Angeles	6.50	.....

Granite and Wood Paving Blocks.—Price in large lots per square yard to contractors, f.o.b. the points named:

	Standard Stone Block	4-In. Wood Block
New York	$2.15	$2.00
Cincinnati	*70.00	*30.00
New Orleans	1.35	1.70
St. Paul	1.80	1.50
Kansas City	2.00	1.50
Denver	....	1.86
Seattle	....	1.35

*Price per 1000.

Asphalt.—Price per ton, wholesale, f.o.b. points named:

Cincinnati	$20.50	Kansas City	$19.75
St. Paul	15.00	Seattle	12.00
New Orleans	20.00	Los Angeles	10.00

Lumber

Yellow Pine.—Wholesale prices per 1000 ft. b.m., f.o.b. cities named:

	1 x 10 Rough	2 x 10 D & M	8 x 8 20	12 x 12 20
Boston	.....	$27.00	.....	.....
New York	$22.50	22.00	$30.00	$35.00
Chicago	22.00	21.00	23.00	25.00
New Orleans	26.00	26.00	22.00	25.00
St. Paul	31.00	26.00	30.00	35.50
Kansas City	25.15	21.00	25.00	27.50

Fir.—Wholesale prices per 1000 ft. b.m., f.o.b. points named:

	1 x 10 Rough	2 x 10 D & M	8 x 8 20	12 x 12 20
Chicago	.....	.....	$30.25	$30.25
St. Paul	$26.00	$24.50	25.00	35.00
Kansas City	26.50	.....	27.00	27.50
Denver	.....	.....	28.50	31.00
Phoenix	38.00	38.00	34.00	34.00
Seattle	16.00	16.00	16.00	16.00
Los Angeles	.....	22.50	20.50	20.50

Spruce and Hemlock.—Prices, wholesale, per 1000 ft. b.m., f.o.b. points named:

	Hemlock		Spruce
	1 x 10 Rough	8 x 8 20	8 x 8 20
Boston	.....	$22.00	$26.00
New York	.....	*27.00	†36.00
Chicago	$20.00	21.00	.....
St. Paul	25.00	22.00	32.00
Kansas City	26.50	27.00	.....
Seattle	16.00	16.00	16.00
Los Angeles	19.50	.....	.....

*Small dimension.
†3 x 12.

Sewer Pipe and Tile

Sewer Pipe.—Prices in large lots to contractors, cents per linear foot, f.o.b. points named:

	3-in.	5-in.	8-in.	12-in.	24-in.	36-in.
Boston	*70	*70	*70	*70	*70	*50
New York	7¼	11 3/5	16	29	94¼	294
Cincinnati	5½	8 4/5	12 1/10	22	91	..
Chicago	6¼	10	13¾	30	113¾	350
New Orleans	3 2/3	5¾	10 4/5	20 4/5	78	340
St. Paul	5½	8¼	13¾	24¾	87	..
Kansas City	4⅛	..	13½	22½	93¾	240
Denver	*50	*50	*50	*50	*50	*50
Phoenix	8	12½	25	40	140	350
Seattle	7½	12½	22½	41¼	175	..
Los Angeles	5¼	8¾	15	26¼	100	..

*Per cent discount from list price.

Hollow Building Tile.—Price per 1000 in large lots to contractors, f.o.b. the points named:

	4 x 12 x 12	8 x 12 x 12	12 x 12 x 12
Boston	$63.00	$115.00	$155.00
New York	47.50	63.00	.....
Cincinnati	48.40	90.75	124.00
Chicago	52.00	97.50	135.00
New Orleans	65.00	110.00	140.00
St. Paul	46.00	76.00	110.00
Kansas City	47.00	90.00	126.00
*Denver	*50	*50	*50
Phoenix	90.00	180.00	.....
Seattle	50.00	90.00	160.00
Los Angeles	40.00	75.00	.....

*Per cent discount from list price.

Miscellaneous

Oil.—Price per barrel of 50 gal., to contractors, delivered or f.o.b., according to local custom at points named:

	Fuel	Black	Red Engine	Steam Cyl.	Gasoline
Boston	$4.64	$7.00	$9.50	$9.00	$12.00
New York	2.37	7.00	12.50	17.50	12.00
Cincinnati	3.88	4.75	7.50	14.00	11.50
Chicago	2.00	4.40	9.50	16.50	9.25
New Orleans	1.30	5.50	10.50	16.50	9.75
St. Paul	....	7.00	11.50	17.50	9.75
Kansas City	5.45	4.10	9.85	16.35	8.90
Denver	5.25	8.00	15.75	22.00	12.00
Phoenix	1.70	9.00	11.50	20.00	12.25
Seattle	2.90	5.00	10.00	19.00	9.75
Los Angeles	1.00	6.50	9.25	19.00	9.00

Manila Rope.—Price per pound, full coils, ¾, 1 and 1½-in., local delivery at the points named:

Boston	$0.1825	Kansas City	$0.2175
New York	0.19	Denver	0.21
Cincinnati	0.20	Phoenix	0.23
Chicago	0.185	Seattle	0.19
New Orleans	0.19	Los Angeles	0.22
St. Paul	0.195		

Dynamite.—Price in cents per pound to contractors, delivered at the points named:

	20 per cent low freezing	40 per cent gelatine	60 per cent gelatine	80 per cent gelatine
New York	..	24	32	..
Chicago	13½	20¾	26¾	36¾
Cincinnati	14¾	17¾	21	..
New Orleans	16¼	19¼	22¼	..
St. Paul	15	18	21	..
Kansas City	15	22¾	30¾	38¼
*Denver	11¾	14¾	17¾	..
Phoenix	..	24	..	..
Seattle	11½	18¾	24¾	34¾

* Carload lots.

Lead.—The price of lead has continued to fall, and recently reached $6.35 per 100 lb., spot at New York, for 25-ton lots, and $6.10 at East St. Louis.

Copper.—Copper remained steady during the month, and the market improved somewhat recently. Sales have been reported for the last part of the current year at prices ranging from 27 to 27½ cents per pound at New York.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Southbridge, Mass.—Extension of water system to Ft. Sumter Dist. and Sandersdale contemplated. Address City Clerk.

Corning, N. Y.—City Council has been petitioned to call an election to vote on constructing a reservoir system for the city's water supply. Address City Clerk.

Mt. Morris, N. Y.—Election to be held Aug. 15 to vote on laying about 2⅓ miles 10-in. pipe and installing a pipe line crossing Genesee River between Perry and Mt. Morris; cost $24,000. C. C. Hopkins, Engineer, Rochester; George L. Bailey, Village Clerk.

Watervliet, N. Y.—The Joint Committee of Trustees of Fairview and St. Colman's Homes considering securing water system for two institutions; plans prepared; cost about $18,000.

Jersey City, N. J.—Revised plans approved by City Commissioners July 25 for proposed new pipe line, to cost $1,000,000. Henry Byrne, Commissioner in Charge; Charles Van Keuren, Ch. Engr. Water Dept.

Newark, N. J.—Construction of a sewage disposal plant to replace sewer system at Overbrook Hospital being considered by Bd. of Chosen Freeholders. Plans and specifications for Clark Process Cor. of Newark will be received and referred to State Bd. of Health for approval; probable cost $30,000.

Morris R. Sherrerd of Newark, Chief Engineer of the North Jersey Water Commission, will complete survey for Wanaque watershed development about Sept. 15.

Perth Amboy, N. J.—Council will construct a 15-in. sanitary sewer in State Streets. Wilbur LaRoe, City Clerk.

Ridgefield, N. J.—Reported Day & Zimmerman, Philadelphia, Pa., completed revised plans for a sewage disposal plant, to cost $100,000.

Riverton, N. J.—Constructing sewage disposal plant under consideration. Fred P. Hemphill, Borough Clerk.

Toms River, N. J.—Township Committee has received a report from D. C. Vosburg, Camden, estimating cost of constructing sewage disposal plant at $43,000.

West Hoboken, N. J.—Joint Sewer Board of Weehawken and West Hoboken has directed Thomas Harmon, Township Engineer, to prepare plans for the proposed joint sewer for the two towns.

Erie, Pa.—Chester & Fleming, Pittsburgh, preparing plans for a 48-in. riveted steel discharge main from City Pumping Station to distributing system.

Johnsonburg, Pa.—The Johnsonburg Water Company intends constructing a filtration plant.

Johnstown, Pa.—Plans being prepared by Clark P. Collins for a sewage disposal plant to be constructed in Johnstown.

The Conemaugh & Franklin Water Co. contemplates spending $100,000 for improvements to plant. Dan R. Schnabel said to be interested.

Kittanning, Pa.—Construction of a sewage disposal plant is under consideration. Wade Mast, Borough Engineer.

Media, Pa.—The city sold $70,000 waterworks bonds. Address City Clerk.

Media, Pa.—Water plant bonds for $70,000 have been sold. Address City Clerk.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Mt. Pleasant, Pa.—J. Arthur Brown, Loraine, engaged to prepare plans for a filtration plant for Mt. Pleasant Water Company.

Philadelphia, Pa.—See "Railroads."

Morris, Ohio.—Citizens voted $10,000 bonds for waterworks. Address City Clerk.

Upper Darby, Pa.—Plans being prepared for joint sewer system and disposal plant to be constructed by Upper Darby Township Commissioners for different boroughs in the district.

Charleston, S. C.—The Mayor is in favor of granting a water franchise.

Dublin, Ga.—At election July 24 citizens voted $30,000 bonds for filter plant. M. J. Guyton, City Engineer.

Crowley, La.—Board of Aldermen authorized sale of $40,000 municipal waterworks and electric light plant bonds. Address City Clerk.

Jonesboro, Tenn.—R. S. Dyer, Johnson City, is making a survey for water works.

Knoxville, Tenn.—Election will probably be held Sept. 9 to vote $225,000 bonds for waterworks improvements, including $125,000 for installation of new 15,000,00-gal. pump and $75,000 for extending system.

Akron, Ohio.—Improvements to waterworks being considered. A bond issue of $150,000 being considered. Address City Clerk.

Bucyrus, Ohio.—Council adopted resolution recommending city purchase water works plant and issue $245,000 bonds for said purpose.

Canton, Ohio.—City Engineer submitted to Council plans for 4¼ miles of storm sewers in southwest end of city; cost, $76,056.

Clifton, Ohio.—The construction of municipal water works for Clifton Heights is under consideration. Public Service Commissioner may be able to give information.

Dover, Ohio.—The city sold $80,000 waterworks improvement bonds.

East Palestine, Ohio.—Recommendations have been submitted to Council that a new central water works station be erected on Ruthwell site to cost about $150,000.

Hamilton, Ohio.—Sewer bonds for $21,143 will be sold Aug. 29, by Ernest E. Erb, City Auditor.

Mansfield, Ohio.—Water bonds for $27,000 will be sold Aug. 15 by Hoyt John, City Aud.

Mount Gilead, Ohio.—Plans submitted to State Board of Health for sewer system and disposal plant have been approved. Address City Engineer.

Port Clinton, Ohio.—The City Council voted to reconstruct sewers on Monroe Street and West Market Space and Washington Street.

Sebring, Ohio.—Council has accepted plans for an extension to the trunk line sewer on Twentieth Street. Address City Clerk.

St. Marys, Ohio.—Water and light bonds for $60,000 will be sold Aug. 23 by city. Fred. H. Froehlich, Engineer, Second Natl. Bank Bldg., Toledo.

St. Mary's, Ohio.—Council passed ordinance to issue $45,000 bonds to rehabilitate municipal water works.

Wooster, Ohio.—Max Bloomberg, Service Director, securing estimates from engineers on cost of constructing water works. It is proposed to pump water from three wells.

Fort Branch, Ind.—State Board of Health has recommended to the city the construction of a sanitary sewer system.

Lebanon, Ind.—Reported contract soon to be let for boilers and machinery for the water works pumping station. W. C. Ridgway, Water Works Superintendent.

Shelbyville, Ind.—Council is reported considering improvements to the water works.

Highland Park, Mich.—Plans about completed and contract will soon be let for constructing a reinforced concrete reservoir as an addition to water supply. Reservoir to be rectangular in shape, approximately 1300 ft. long by 300 ft. wide and will be built on practically level ground with a good clay foundation bed, thus enabling the same wall section to be used throughout the entire perimeter. Reservoir will store water to depth of 15 ft. and will hold approximately 40,000,000 gal. of water. Bonds for this improvement have been voted as well as for a filtration plant of 10,000,000 gal. daily capacity, which is to be contracted for later. Hoard & Decker, Ann Arbor, Mich., Consulting Engineers; L. C. Whitsit, Village Construction Engineer, will be in direct charge of work.

Ladd, Ill.—Election soon to be held to verify appropriations made by Council for sinking new wells and for pumping machinery. Henry Dwyer, Village Clerk.

Newton, Ill.—City Council considering rebuilding the waterworks and electric light plant.

Peru, Ill.—City contemplates constructing a third reservoir and making changes to waterworks. William Wagner, City Clerk.

Utica, Ill.—The City Board voted to construct connected system water mains, valves, valve boxes, hydrants and hydrant connections, requiring 21 four-inch double gate valves and boxes, 7 six-inch double-mounted gate valve boxes, 2 eight-inch double-mounted gate valve boxes, 44 2½-inch standard double-nozzle fire hydrants, 10,930 lin. ft. 4-in. c. i. pipe, 6108 lin ft. 6-in. c. i. pipe, 2570 lin ft. c. i. pipe, and 1100 cu. yd. excavating; cost about $22,991.

Kilbourne, Wis.—Sewer system to be extended. A. W. Luettgerod, City Clerk.

Marshfield, Wis.—Joseph P. Schwada of the College of Engineering, University of Wisconsin, Madison, is reported to have prepared plans for a sewage disposal plant.

Marengo, Iowa.—Reported sewer system costing $58,000 to be installed. Address City Clerk.

Volga City, Iowa.—Election to be held Aug. 21 to vote $14,000 bonds for water works. Address City Clerk.

West Point, Iowa.—Citizens voted in favor of constructing water works. Address City Clerk.

Albert Lea, Minn.—Contract soon to be let for constructing the north side sewer to cost $12,153. Address City Clerk.

Hutchinson, Kan.—W. A. Knerr, Commissioner of Public Utilities announces that water mains will be extended about 1 mile.

Hardin, Mont.—Bonds for sewer system, which citizens recently voted, will be sold Aug. 28 by F. Lipp, Town Clerk; Gerharz-Jacqueth Engineering Co., Great Falls.

Carthage, Mo.—City Council accepted plans and specifications for a storm sewer 2300 ft. long, 40 to 44 in., to be constructed on Tenth Street and Garrison Avenue; cost, $9,478.

Amarillo, Tex.—Contract about to be let by city for extension to sewerage system. Address City Clerk.

Sweetwater, Tex.—It is proposed to lay about 8600 ft. 18-in. pipe and construct a disposal plant of 250,000 gal. daily capacity. John A. Ficht, City Engineer. Bonds for $50,000 to be sold Aug. 2.

Little Rock, Ark.—Theo. Hartman, Little Rock, has prepared plans for a sewer system for residential district of Pulaski Heights requiring about 66,200 ft. of pipe. Henry Levinson, City Engineer.

Walnut Ridge, Ark.—Commissioners of Walnut Ridge Improvement District (W. E. N. Beloate, Chmn.), having surveys made for a sewer system and water works.

Beaumont, Tex.—Election will probably be held Aug. 17 to vote $25,000 bonds for constructing water and sewer mains. Address City Clerk.

Port Lavaca, Tex.—Waterworks improvements contemplated. A. A. Ames, City Clerk.

Vernon, Tex.—See "Paving and Roads."

Cordell, Okla.—The Benham Engineering Co. of Oklahoma City engaged to prepare plans and supervise construction of proposed system of sanitary main and lateral sewers. Election probably be held to vote $25,000 bonds for main sewers; total cost of work about $60,000.

Hydro, Okla.—Council petitioned to install water works. Address City Clerk.

Ringling, Okla.—Ordinance passed by Council authorizing issue of $30,000 bonds for improving sewerage system.

Wetumka, Okla.—Improvements to waterworks, costing $16,000, contemplated. Address City Clerk.

Colorado Springs, Colo.—Improvements to water system being considered; probable cost $187,000. Address City Engineer.

Blaine, Wash.—Citizens at recent election voted in favor of City Council taking steps to install municipal water works. J. C. Hills, City Engineer; E. E. Bruner, City Clerk.

Seattle, Wash.—Plans and specifications for water mains in West Waterbury, cost $15,000; Tenth Avenue Northeast, cost $42,000, and Thirty-fourth Avenue, cost $54,000, have been approved by Board Public Works (C. B. Bagley, Secretary).

Vancouver, Wash.—North Coast Power Co., it is reported, intends making improvements to local water system, including installation of 23,700 ft. water mains, 11,600 ft. to be 8 in., laying 18 in. gravity pipe and replacing 100,000 gal. tank with a 75-ft. tower.

Bandon, Ore.—Reported Council plans installing water works, including reservoir to cost $40,000.

Eugene, Ore.—City Engineer reported to have filed with City Council plans and specifications for reconstructing the sewer system in Fourteenth Avenue from Mill to Alder Streets; probable cost, $15,000.

Roseburg, Ore.—L. G. Hicks, City Engineer, authorized by Council to prepare plans for a sewer in the Terrace Park Addition. Contract soon to be let.

Calexico, Cal.—Hiram W. Blaisdell, engaged by city to prepare plans and specifications and supervised construction of a sand vacuum filter and for plant improvements. Capacity to be 1,000,000 gals. per day.

Fresno, Cal.—City has sold $11,408 bonds for sewer improvements.

Martinez, Cal.—City Council considering constructing a sewer system and extensions to waterworks.

San Francisco, Cal.—Specifications completed for a sanitary and storm sewer 2 miles long to cost $125,000. Address City Clerk.

London, Ont.—Water Commissioner E. V. Buchanan, General Manager, will drill test wells and extend the present system at a cost of $75,000.

Windsor, Ont.—Edward Bryan, City Engineer, appointed Chairman Bd. of Engineers, who will prepare plans for a joint water and sewage system for Windsor, Walkerville, Ford City, Sandwich, Ojibway and Sandwich West. Complete plans will be placed with Essex Border Utilities Commission so rate payers will vote on proposition in January.

York Township, Ont.—Plans to be prepared by F. Barber, 57 Adelaide Street East, Toronto, for water works system.

BIDS DESIRED.

Boston, Mass.—By Edward F. Murphy, Commissioner Public Works, for following: Until Aug. 7 for sewerage works in Commonwealth Avenue, Brighton; concrete and pipe sewers and draining in Fruit, Blossom and North Grove Streets, City proper; Aug. 8, pipe sewers and drains in Gordon Avenue, Hyde Park; sewerage works in New England Avenue and Bernard Street, Dorchester; Aug. 9, concrete and pipe sewers and drains in Albany Street, City proper; Aug. 11, pipe sewers and drains in Dorchester Avenue, Dorchester.

Shirley, Mass.—Until Aug. 8 by Trustees Massachusetts Training School, State House, Boston, for a standpipe either of concrete or steel, water pumps, motors, water pipe installation at the Industrial School for Boys at Shirley. Richard D. Kimball Co., Engrs., 6 Beacon Street, Boston.

Stamford, Conn.—Until Aug. 14 by City Clerk for stormwater drainage system for Drye Section. Advertised in Engineering Record. Paul Nash, City Engineer.

Central Islip, N. Y.—Until Aug. 8 by State Hospital Commission, Capitol, Albany, for artesian wells for additional water supply at South Colony Power Plant, Central Islip State Hospital, Central Islip. Advertised in Engineering Record. Lewis F. Pilcher, Archt., Capitol, Albany.

Schenectady, N. Y.—See "Paving and Roads."

Hoboken, N. J.—Until Aug. 16 (extension of date) by Board City Commissioners for constructing sewers and appurtenances in proposed Seventh, Eleventh and Fifteenth Street Sewer Systems, advertised in Engineering Record. Daniel A. Haggerty, City Clerk.

Pitman, N. J.—Until Aug. 21 by Borough Council for constructing a sewerage system and disposal works, advertised in Engineering Record. Remington & Vosbury, Engineers, Camden.

Braddock, Pa.—Until Aug. 7 by L. L. Todd, Secy. of Borough, for furnishing material and installing water works, to consist of Proposition 1, two 2500-gal. per minute motor driven plunger pumps to pump against a head of 365 ft.; Proposition No. 2, two 2500-gal per minute motor driven centrifugal pumps to pump against a head of 365 ft.; Proposition No. 3, one 25-gal per minute motor driven plunger pump to pump against a head of 365 ft.; Proposition No. 4, a 250-gal per minute centrifugal pump to pump against a head of 25 ft. Contractors to provide foundations and all piping, remove and take as salvage the two old pumps from proposed location for new pumps; also same time and place for furnishing material and repairing the influent pipe and receiving well; also for crane for cleaning well at water works of Borough.

Wilmington, Del.—Until Sept. 6 by Board of Water Commissioners, Sixteenth and Fremont Streets, for two 9,000,000-gal. and one 12,000,000-gal. steam turbine driven centrifugal pumps, advertised in Engineering Record.

Shreveport, La.—Until Aug. 10 for constructing two pumping stations for sewage disposal. Address John B. Hawley, Consulting Engr., Shreveport.

Louisville, Ky.—Until Aug. 9 by Board Public Works (Roger G. McGrath, Secy.) for constructing sewers in Bank, Hill, Charles and other streets.

Canton, Ohio.—Until Aug. 14 by W. C. Schick, Clerk County Commissioners, for furnishing and laying No. 2 vitr. sewer pipe, etc., for draining part of the Canton-Massillon Road in Perry Township, a distance of about 4050 ft.

Dover, Ohio.—Until Aug. 16 by Philip W. Hill, Director Public Service, for approximately 9200 lin. ft. 12-in. and 1640 lin. ft. 14-in. c.-i. water line, 600 lin. ft. c.-i. or w.-i. pipe beneath Tuscarawas River and Ohio Canal; one 2,000,000-gal. or two 1,000,000-gal. water works pump, and furnishing one 1,500,000-gal. standpipe, advertised in Engineering Record.

Medina, Ohio.—Until Aug. 19 (change of date) by Board Public Affairs (F. E. Clark, Clerk), for constructing a mechanical water filtration and pumping plant and appurtenances, advertised in Engineering Record. F. L. Rollins, Superintendent Waterworks.

Ravenna, Ohio.—Until Aug. 18 by W. H. Linton, Director Public Service, for Contracts 1, 2 and 3 for improvements to water works, three proposals advertised in Engineering Record. R. Winthrop Platt, Consulting Engineer, Hippodrome Building, Cleveland.

Rocky River, Ohio.—Until Aug. 15 by Frank Mitchell, Village Clerk, for 8-in. water main, in North Ridge Road, and 4-in. in Smith Court.

Toledo, Ohio.—Until Aug. 14 by Board County Commissioners for constructing main sanitary sewer No. 28, in Lucas County Main Sewer District No. 4, advertised in Engineering Record.

Owendale, Mich.—Until Aug. 7, by R. O. Soldan, Village Clerk, for constructing waterworks system. A. Murdoch, Engr., 706 Free Press Bldg., Detroit.

Ashton, Ill.—Until Aug. 8, by Board Local Improvements, for constructing a system of sanitary sewers approximately 21,740 lin. ft. 8, 10 and 12-in. vitr. tile and a sewage disposal plant, settling tank, etc., advertised in Engineering Record. Marr, Green & Co., Engrs., 17 N. La Salle Street, Chicago.

Bourbonnais, Ill.—Until Aug. 7, by Board Local Improvements (Eli Marcotte, Clk.) for approximately 13,835 lin. ft. 8, 10 and 12-in. vitr. tile pipe sewers. Marr, Green & Co., Engrs., 17 N. La Salle Street, Chicago.

Glencoe, Ill.—Reported desired until Aug. 8 by Fred L. Homes, Village Clk., for constructing sanitary sewers at Adams, Prairie and Kreiger Avenues.

Great Lakes, Ill.—Until Aug. 26 by Bureau Yards and Docks, Navy Dept., Washington, D. C., for two 500,000-gal. rapid sand filter units at the Naval Training Station, Great Lakes.

Toledo, Ill.—Until Aug. 7, by Board Local Improvement, John K. Hughes, Mayor, for deep well pump, motor-driven pump, steam-driven centrifugal pump, 3 miles water mains, steel stand pipe, etc. C. L. James, Engr., Broadway Street, Mattoon.

Clintonville, Wis.—Reported desired until Aug. 25 for laying water mains in Menaha, Lincoln Avenue, Grover and Mendota Streets. Julius Spearbreaker, Secy. Water and Light Commission.

Anthon, Iowa.—Until Aug. 24 by Town Clerk for 10,770 ft. 8-in. and 2815 ft. 10-in. sewer manholes, septic tank, filter beds, syphons, etc., advertised in Engineering Record.

Oelwein, Iowa.—Until Aug. 14 by G. H. Bishop, City Engineer, for 7700 ft. 6 to 15-in. sewer.

Albert Lea, Minn.—Reported desired until Aug. 8, by C. Dudley, City Clk., for about 5556 lin. ft. 6 to 10-in. vitr. pipe sewers.

Spooner, Minn.—Until Aug. 15, by A. M. Robertson, Village Clk., for drilling a well 1000 ft. or less, 8 in. in diam. all materials furnished by contractor.

Thief River Falls, Minn.—Reported desired until Aug. 8, for 5000 ft. 8 to 12-in. sewers, sewage wells and pumps. A. H. Fasel, City Clk.

Osborne, Kan.—Until Aug. 11, by City Council, for furnishing 58.25 tons 4, 6 and 8-in. ci.-i. pipe, No. 2039 specials, together with hydrants, valves, etc., furnishing and erecting one 80,000-gal. tank, 100 ft. to balcony tower, for same. E. T. Archer & Co., Consulting Engr., 514 New England Bldg., Kansas City, Mo.

Rogers, Neb.—Until Aug. 14 by H. M. Peters, Village Clerk, for furnishing material and constructing water works, including brick pumping station, steel tank of 20,000 gal. capacity, on three panel steel tower 90 ft. hign, and 4150 ft. 4 and 6-in., Class B, c.-i. pipe, gate valves, hydrants, etc. Fairbanks, Morse & Co., Engineers, Omaha.

Glasgow, Mont.—Until Aug. 9, by Board County Commissioners (W. B. Shoemaker, Clk.), for constructing electric light plant and water works, water works to consist of reinforced concrete reservoir, 13,700 ft. 8 and 4-in. wood stave pipe, 4125 ft. c.-i. pipe, hydrants, valves, etc. H. H. Alvis, Consulting Engr., Malta.

Lovell, Wyo.—Until Aug. 21 by Joseph Godfrey, City Clerk, for constructing water works; all material will be purchased by city, including 7800 ft. 10 and 1272 ft. 8-in. c.-i. pipe, 6 fire hydrants, 100,000-gal. steel tank and tower 100 ft. to balcony, etc., will be required. Daniel T. Cotner, City Engineer.

Kansas City, Mo.—Until Aug. 8 by Board Public Works (W. H. Benham, Secy.) for constructing sewer and complete sewage disposal plant at the Kansas City Tuberculosis Hospital near Leeds.

Fairfax, Okla.—Until Aug. 12 by Board of Trustees for constructing sewerage system in sewerage District No. 4.

Los Angeles, Cal.—Until Aug. 14 by County Board Supervisors (A. M. McPherrin, Clk.) for constructing water works in Water Works Dist. No. 2, to consist of furnishing and laying 21,700 lin. ft. 4 and 6-in. pipe, with valves, tees, etc., installing 200 gal. per minute electric driven pumping plant, drilling a well, and installing a 50,000-gal. tank and tower. Probable cost $15,000.

Drummondville, Que.—Until Aug. 15 by W. A. Moison, Town Clerk, for constructing a mechanical gravity filter system with a capacity of 500,000 gal. per 24 hours. Separate bids for a filtration plant of same capacity but without machinery is also desired.

Panama.—Until Aug. 18, by Maj. Earl I. Brown, General Purchasing Officer the Panama Canal, Washington, D. C., for Cir. No. 1068, for steel castings, c.-i. pipe and fittings, etc.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Boston, Mass.**—Contract for furnishing 10, 12, 16, 30 and 36-in. water valves awarded Coffing Valve Company, Peponset, Boston, and for 36 and 48-in. check valves, at a total cost of $9,315; to Ludlow Valve Manufacturing Company, Troy, N. Y., for 10, 20 and 30-in. check valves at $1,527 (bids opened July 24 by Metropolitan Water & Sewerage Board, Boston).

Lowest bid opened by Edward F. Murphy, Commissioner Public Works, July 18 for laying high-pressure water pipes in various streets of city submitted by Coleman Bros. of Chelsea at $11,614.

★**Batavia, N. Y.**—Contract for constructing wash tank and machinery foundations for pumping station and filter plant awarded Warsaw Construction Co., Warsaw, N. Y. Chester & Fleming, Engineers, Pittsburgh, Pa.

Long Island City, L. I., N. Y.—Following are totals of four lowest bids opened July 24 by Maurice E. Connolly, President Queens Borough, for constructing sewers:

In Birch, Fulton and Spruce Streets: Frank L. Paino, 57 Bay 47th Street, Brooklyn, $23,124; John C. Schrade, $27,826; Joseph Kelly, Brooklyn, $29,617, and Summit Engineering & Contracting Co., $29,981.

Atlantic, Herald and Napier Avenues and Fulton Street: Frank L. Paino, Brooklyn, $26,384; Harry Britton, $26,858; A. G. Cencato, $31,208, and Green Contracting Co., $35,680.

Following are unit figures of Joseph Kelly, Brooklyn, the lowest bid opened same time and place as above for constructing sewers in Rust and James Streets and Flushing and Collins Avenues, Second Ward: 1975 lin. ft. 7-ft. reinforced concrete, $20; 8 manholes complete, $70; 126 6-in. spurs, 24-in. long, on concrete sewer, 1 ct.; 125 ft. of risers for house connections, $2; 8 inlets (new type) complete, $75; 200 lin. ft. 10-in. vitr. pipe for basin connections, $.001; one drop chamber at James and Rust Streets, $1,700; one drop chamber on James between Rust and Broad Streets, $1,400; one junction chamber at James Street and Flushing Avenue, $1,100; one junction chamber at Flushing and Collins Avenues, $1,800; one drop chamber at Collins Avenue and Hemlock Place, $1,500; one drop chamber at Collins and Hebbard Avenues, $1,900; one drop chamber at Collins and Mount Olivet Avenues, $1,600; 1300 cu. yd. excav. for sewer embankment, $1; 5000 cu. yd. displaced material, $.001; 17,600 lin. ft. of tiles, $.001; 50 M ft. timber for foundation, 1 ct.; 10 M ft. timber for bracing and sheet piling, 1 ct.; 4000 lb. structural steel, including bolts, spikes, etc., $.001; 4000 lb. of reinforcing steel, exclusive of steel shown on plan, $ 001; 700 cu. yd. Class A concrete, $.001; 2200 lin. ft. wooden fence, 30 cts.; total, $54,062. Next three bidders: Richard Carvel, $55,289; Frank L. Paino, $66,875; Peace Brothers, $75,345.

Frank L. Paino, 67 Bay Forty-seventh Street, Brooklyn, submitted lowest bid for constructing sewer in Maure Avenue from Atlantic Avenue to Wisner Place (bids opened July 24 by Borough President), at $10,466.

★**Skillman, N. J.**—Contract for material for extending water and sewer systems, fire hydrants and repairs to disposal plant (bids opened July 24) awarded by Bd. of Mgrs. N. J. State Village for Epileptics to J. F. Shanley Co., Newark, at $42,460.

★**Johnstown, Pa.**—Contract for sanitary sewers awarded James M. Cook, Johnstown, at $28,254.

★**Johnsonburg, Pa.**—Contract for constructing sewage disposal plant awarded to Harry K. Koons, Johnsonburg.

★**Richwood, W. Va.**—Contract for constructing sewerage system costing about $40,000 awarded Puccy & Flora, Clarksburg.

★**Wilkinsburg, Pa.**—Contract awarded Pittsburgh Filter Manufacturing Co., Pittsburgh, Pa., for the filter plant for Pennsylvania Water Co., to have a capacity of 6,000,000 gal. per day. Chester & Fleming, Engineer, Pittsburgh.

★**Gainesville, Fla.**—Contract for constructing sewer system awarded Michler & Flynn, Chattanooga, Tenn., at $12,495.

★**Shreveport, La.**—Contracts in connection with the water and sewer systems awarded by City Commissioners as follows (bids opened July 25): Laying sewers in South and West Districts, to Hamilton Brothers, Cleburn, Tex., at $101,600; force main to Moore & McCain, Shreveport, at $12,234; furnishing pipe for force main to Hammond Byrd of Vicksburg, Miss., at $23,968, and for furnishing lead, to United Lead Company, 111 Broadway, New York, N. Y., at $2,044.

★**Alliance, Ohio.**—Henderson Construction Co., Youngstown, secured contract to construct sewer system and Imhoff disposal plant.

★**Lima, Ohio.**—Contract reported awarded J. P. Clow & Co. for 10,000 ft. of 6-in. and 8-in. mains and 90 valves and couplings, at $8,200.

★**Ann Arbor, Mich.**—Contracts for constructing sewers in seven streets, including Jefferson and Madison Streets (bids opened July 19 by Bd. Pub. Works) awarded Hochrein Co., 211 South Fourth Avenue, at $10,844. Manley Osgood, City Engineer.

★**Peotone, Ill.**—Contract awarded T. H. Inglehart, Chicago, for 9686 lin. ft. water pipe and 703 ft. sewer pipe at $8,815. P. M. Collins, President Board Local Improvements.

★**Wilmington, Ill.**—Following are four lowest bids opened July 18 by Bd. Local Improvements (W. H. Carter, Clerk) for constructing underground sewers: Monohan Bros., 19 S. La Salle Street, Chicago, $61,743 (awarded contract); Robert Shannon, Joliet, $61,804; the Embankment Co., Joliet, $64,425, and Curtis & Tindell, Joliet, $70,870.

★**Mt. Pleasant, Iowa.**—Contract for constructing 11,000 ft. 6 to 15-in. sewers and two sewage disposal plants (bids opened July 18) awarded by W. D. Worthington, City Clerk, to K. A. Bergdahl, Mt. Pleasant, at $23,300. M. G. Hale, Engr., Centerville.

★**Waterloo, Iowa.**—Contract awarded Moore-Sieg Construction Company, Waterloo, for constructing vitr. sewers, to cost $25,951.

★**Corsicana, Tex.**—Contract for extension of sewer system awarded to E. M. Scheflow of Elgin, Ill., at $7,984.

★**Dallas, Tex.**—Contract for furnishing 250 tons of c.-i. water pipe awarded by City Commissioners to American C. I. Pipe Co., Birmingham, Ala., at $9,504.

★**Seattle, Wash.**—Contract awarded by Board Public Works for laying mains in Lake Union Tunnel at Seventh Avenue awarded L. R. Ellis, Central Building, at $40,937. L. B. Youngs, Superintendent Water.

★**Canby, Ore.**—Contract for furnishing pipe for the water works awarded Crane & Company, Portland, at $10,000. The Council rejected bids for constructon of the plant and will build same by day labor under supervision of S. A. Cobb, the Consulting Engineer, Oregon City.

★**La Grande, Ore.**—Reported City Council awarded contract for constructing a sewer system to George Gordon, 116 Eleventh Street, Portland, at $15,567.

★**Pasadena, Cal.**—Contract awarded U. S. C. I. Pipe & Foundry Company, San Francisco, for furnishing water pipe (bids opened July 18) at $11,968.

★**Seligman, Ariz.**—Contract awarded Occidental Construction Company, 2643 Andrew Street, Los Angeles, Cal., for constructing a reservoir near here involving approximately 43,000 cu. yd. excav., 2600 cu. yd. rubble masonry core wall in dam and spillway, and a dam 850 ft. long and 35 ft. high for Atchison, Topeka & Santa Fé R. R.; cost $80,000. Sharp & Fellows Contracting Company, Central Building, Los Angeles, has contracts for other work on this railway including 8-in. reinforced concrete lining for reservoir.

★**St. Leonard de Port Maurice, Que.**—J. A. Bray, 6419 St. Denis Street, Montreal, awarded contract for constructing waterworks; cost $65,000.

STEEL BRIDGE WORK

PROPOSED WORK.

Boston, Mass.—See "Paving and Roads."

Connecticut.—All bids opened July 26 by Charles J. Bennet, State Highway Commissioner, Hartford, for two-span through truss highway bridge over Farmington River, in Windsor Township, rejected. Lowest bid $26,000.

Newark, N. J.—Joint Bridge Committee of Essex and Hudson County Freeholders rejected only bid received for repairing Lincoln Highway Bridge. See Prices and Lettings.

Columbia, Pa.—Pennsylvania Railroad (Alex. C. Shand, Ch. Engr., Philadelphia) considering constructing bridge about a mile long across Susquehanna River between Columbia and Wrightsville.

Philadelphia, Pa.—See "Railroads."

York, Pa.—The County bridge over Muddy Creek at Castle Finn reported recently destroyed by flood. Address County Clerk.

Riverside, Md.—Baltimore & Potomac R. R. Co. is taking steps to construct railway bridge from Riverside, Md., to Metomkin Point, Va. William L. Marbury, 700 Maryland Trust Bldg., Baltimore, is interested.

Wilmington, Del.—Hoffman & Company, Globe Theater Building, Philadelphia, Pa., are architects for 12-story, 75 x 210 ft., limestone, steel, granite, terra cotta office building to be erected at Ninth and Market Streets for Delaware Trust Company.

Moundsville, W. Va.—Reported United Zinc Smelting Corporation (F. J. Eckenfels, Ch. Engr.), Mercantile Trust Building, will erect a plant for smelting and chemical manufacturing to consist of office building, 350 x 250 ft., main building and chemical and tile factories of steel, brick and concrete construction; probable cost $1,500,000.

Landrum, N. C.—About 25 bridges either partially or wholly destroyed by flood; loss $200,000; all to be repaired or rebuilt. M. T. Waldrop, Chairman Commissioners, Polk County, R. F. D. No. 4.

Griffin, Ga.—Southern Ry. (B. Herman, Ch. Engr., M. of W. and Structures, Washington, D. C.) is taking steps to construct a bridge at the intersection of Taylor Street.

Cleveland, Ohio. — See "Reinforced Concrete."

Hamilton, Ohio.—County Commissioners will issue $43,000 bonds for constructing three county bridges and repairing Soldiers, Sailors and Pioneers Monument. Address County Clerk.

Crawfordsville, Ark.—Drainage District No. 2 will construct one 100-ft. steel bridge and 23 wooden bridges from 30 to 70 ft. long. L. S. Sweoston, Crawfordsville, Secretary of District.

Marion, Ark.—Contract will soon be let by County for constructing temporary viaduct from new Harahan bridge to St. Francis levee, about 2¾ miles. Estimated cost $85,000. H. G. Ferree, Memphis, Tenn., Engineer; J. B. Thompson, County Judge.

Spokane, Wash.—See "Reinforced Concrete."

Tumalo, Ore.—County Commissioners at Prineville plan constructing steel bridge at Tumalo to replace structure wrecked recently. H. A. Kelley, County Engineer.

Moscow, Idaho.—Reported Council has instructed Harvey Smith, City Engineer, to prepare plans and specifications for a septic tank.

Puerta Plata, Santo Domingo.—Contract for superstructure of reinforced concrete wharf soon to be let. Steel truss and column construction with steel sash. About 350 tons of reinforcing steel required. A. J. Collett, Director General of Public Works, Puerta Plata, prepared plans and will have charge of work. See "Prices and Lettings," "Reinforced Concrete."

Arrecibo, Porto Rico.—See "Reinforced Concrete."

BIDS DESIRED.

New York, N. Y.—See "Piers, Dams and Foundations."

Betzwood, Pa.—Until Aug. 17, by William D. Heebner, County Comptroller, Norristown, for reconstructing the flood system and alterations in highway bridge crossing Schuylkill River between Betzwood and Port Kennedy, advertised in Engineering Record.

Scottdale, Pa.—Until Aug. 7, by F. M. Newcomer, Borough Secretary, for constructing and erecting in the Borough Lockup four steel jail cells.

Chatom, Ala.—Until Aug. 28, by County Commissioners, for constructing a bridge of steel or wood over Poll Bayou at Calvert. Wallace P. Pruitt, Judge of Probate.

Franklin, Ky.—See "Reinforced Concrete."

Henderson, Ky.—Until Aug. 11, by S. A. Young, County Judge, for furnishing, f. o. b. Henderson, corrugated metal culverts. S. H. Kimmel, County Road Engineer, Henderson.

Williamsburg, Ky.—Until Aug. 15, by Fiscal Court, at the Court House, Williamsburg, for constructing on Williamsburg-Saxton Road, following bridges: 118-ft. steel span with two 60-ft. approach spans on old railroad piers and abutments at Station 4111 plus 00; 150-ft. steel span and two 60-ft. approach spans and 2 concrete abutments and piers at Station 499 plus 25, and 150-ft. steel span and two 60-ft. approach spans and 2 piers and abutments at Station 345 plus 25. Bids on superstructure and substructure to be submitted separately, also for 4 short-span beam bridges. Plans may be obtained at the office of George G. Fetter Company, Louisville, Ky.

Akron, Ohio.—Reported desired until Aug. 7, by County (Hugh G. High, Clk.), for constructing bridge over canal on West Exchange Street. Probable cost, about $50,000.

Hamilton, O.—See "Reinforced Concrete."

Dalhart, Tex.—Reported desired until Aug. 14, by T. S. Miller, County Judge, for constructing a 150-ft. steel bridge over Pueree Draw near Texline.

Montague, Tex.—Reported desired until Aug. 14, by County Commissioners, for constructing steel bridge over Sandy Creek 8 miles south of Bowie, and 50-ft. span, 25 and 45-ft. approaches.

Waterville, Wash.—Until Aug. 10, by County Commissioners, for constructing a bridge. Robert F. Foster, County Engineer, Waterville.

California.—Until Aug. 21, by State Highway Commission, Forum Bldg., Sacramento, for constructing a steel bridge, 162-ft. spans, with timber trestle and earth-fill approaches, across Ynez River, in Santa Barbara County.

Los Angeles, Cal.—Until Aug. 8, by Department Public Service (James P. Vroman, Secy.), Knickerbocker Bldg., for furnishing fireproof rolling doors for 6-story warehouse.

San Bernardino, Cal.—Until Aug. 28, by Board of Supervisors (L. R. Patty, Clk.), for constructing two steel riveted low truss highway bridges across the Santa Ana River known as the Orange Street bridge and the Tippecanoe Bridge.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Salem, Mass.**—Contract for rebuilding Essex Bridge, between Salem and Beverly (bids opened July 31), awarded by County Commissioners to Holbrook, Cabot & Rollins Corporation, 6 Beacon Street, Boston, at $171,367.

Connecticut.—See "Proposed Work."

Newark, N. J.—Lowest bids opened by Joint Bridge Committee of Essex and Hudson County Freeholders for repairing Jackson Street bridge submitted by Joseph Befumo & Co., Newark, at $9,497. Only bid submitted for repairing Lincoln Highway Bridge by Smith Co., at $41,864. See Proposed Work.

Philadelphia, Pa. — See "Reinforced Concrete."

Anderson, Ind.—Lowest bids submitted recently to County Commissioners for constructing two iron bridges across Fall Creek near Ovid by Burke Construction Co., New Castle, for bridge north of Ovid at $7,349, and by Elkhart Bridge Co., Elkhart, for bridge east of Ovid, at $9,720.

★**Riverside, Cal.**—Contract awarded by Board of County Supervisors to Mercereau Bridge & Construction Co., Pacific Electric Bldg., at $9,500, for reconstructing Santa Clara River bridge, West Riverside, involving wrecking of two 100-ft. spans of steel Pratt bridge, sand blasting the steel, constructing new abutments and piers, re-erecting spans and constructing four 40-ft. King trusses with approaches on new site of Arlington-Pedley Road across the same river.

Sherbrooke, Que. — See "Industrial Plants and Warehouses."

★**Regina, Sask.**—Parsons Construction Company, 1708 Scarth Street, secured contract for erecting steel and tile bank building for Royal Bank; cost $60,000.

Bayamon, Porto Rico.—See "Reinforced Concrete."

Ponce, Porto Rico.—See "Foundations, Piers and Dams."

REINFORCED CONCRETE

PROPOSED WORK.

East Providence, R. I.—Ellis & Hauck, Westminster Street, Providence, are architects for oil plant to be erected here for Mexican Petroleum Corporation to consist of 6 tanks 114 ft. each; 1 tank 94 ft. and a 32 x 64-ft. pump house, all concrete construction.

Macon, Ga.—Central of Georgia Ry. (C. K. Lawrence, Ch. Engr., Savannah) will construct a concrete bridge over its tracks on Second Street.

Cleveland, Ohio.—Electric Controller Co., 2698 East Seventy-ninth Street, proposes erecting five-story, 91 x 169 ft., steel and reinforced concrete factory addition; cost about $150,000.

Marion, Ohio.—Thies & Thies, Davies Building, Dayton, are architects and engineers for proposed seven-story, 65 x 132 ft., fireproof, reinforced concrete, brick and stone hotel to be erected at 224 West Center Street for Fireproof Hotel Company.

Rock Island, Ill.—Reported Tri-City Railway Company (J. F. Porter, President, Davenport, Iowa) will soon let contract for erecting one and two-story, 160 x 300 ft., brick and reinforced concrete shop here; estimated cost about $80,000.

Seattle, Wash.—City Lighting Department (J. D. Ross, Superintendent) plans constructing two reinforced concrete substations to cost $75,000, one to be erected at Stoneway, Fremont, at present city plant, and the other at Bullard, near Twenty-second Avenue and Vernon Place. Daniel Huntington, City Architect.

Tekoa, Wash.—Reported County Commissioners at Colfax plan constructing concrete bridge near Tekoa. John M. McCaw, county Engr.

Portland, Ore.—John V. Bennes, Chamber of Commerce Building, is architect for five-story reinforced concrete building to be erected on Broadway for Anthon Huth of Tacoma, Wash., and leased to Liebes & Company (J. P. Plagemann, Manager), Portland; cost about $120,000.

Santa Barbara, Cal.—Plans being prepared by Mayberry & Parker, Engineers, 472 Pacific Electric Building, Los Angeles, for three-story reinforced concrete building for Prince Hopkins School, to be first unit and cost about $50,000. J. Corbley Poole, Archt., Santa Barbara, will have charge of erection.

Arrecibo, Porto Rico.—Recently Insular Bridge, over Arrecibo River, 90 meter concrete pier, structural steel beam and reinforced concrete slab bridge was destroyed by flood. The Department of Interior will select a new site and choose most adaptable design for new structure to be started immediately. Estimated cost, $100,000.

Penuelas, Porto Rico.—Porto Rico Tobacco Company (Mr. Torrualla, Manager, Ponce) intends erecting reinforced concrete factory here; probable cost about $75,000.

San Juan, Porto Rico.—West India Oil Company, general office 26 Broadway, New York, N. Y., proposes erecting reinforced concrete buildings here, to cost about $70,000.

Santo Domingo City, Santo Domingo.—Sketches and preliminary plans prepared by A. Nechodoma, San Juan, Porto Rico, for three-story, 50 x 138-ft., reinforced concrete tobacco factory to be erected here for Compania Anonnia Tabacalera; cost, $100,000.

BIDS DESIRED.

Bellingham, Mass.—Until Aug. 8 by Town Clerk for constructing a reinforced concrete bridge on Maple Street, North Bellingham. A. Schuber Clapp, Engineer, Franklin.

McConnellsburg, Pa.—Until Aug. 21, by Joint Board County Commissioners Huntington and Fulton Counties, at Commissioners' Office, Huntington (A. A. Wible, Clk.), and at Commissioners' Office McConnellsburg (W. C. Davis, Clk.), for constructing concrete bridge over Sidling Hill Creek, near village of Dublin Mills, between Huntington and Fulton Counties.

Buckhannon, W. Va.—Until Aug. 17, by County Clerk, for constructing four reinforced concrete bridges. For plans and specifications write to State Road Bureau, Morgantown, W. Va.

Wheeling, W. Va.—Reported desired until Aug. 7, by Geo. W. Steenrod, County Road Engr., for constructing several concrete bridges and new concrete superstructure on several bridges.

Raleigh, N. C.—Until Aug. 7, by R. B. Seawell, Comr. Public Works, for constructing a concrete viaduct, approximately 645 ft. long with earth fill approaches 220 ft. long, including 220,000 lb. reinforcing steel in place, 1720 sq. yd. brick paving on same and 2580 ft. hand rail, etc. J. H. Sawyer, City Clk.

Franklin, Ky.—Until Aug. 11 by County Commissioners for constructing concrete and steel bridge over Red River, 8 miles from Franklin, to cost $8,500. O. Haydon, Jr., County Engineer.

Akron, Ohio.—Until Aug. 10 by County Commissioners for improving Aurora Pond Road, consisting of constructing bridges and culverts and grading roadway 3.48 miles long. Estimated cost $8,525.

Hamilton, Ohio.—Until Aug. 23, by County Commissioners (W. W. Crawford, Clk.), for constructing a bridge over Seven Mile Creek on Frazee Road, at Hubbard Farm, in Section 3, Milford Township. Bids asked on both concrete and steel construction, in accordance with plans for substructure and superstructure. F. M. Hammerle, County Surveyor.

Jefferson, Ohio.—Until Aug. 7 by Board County Commissioners (B. E. Brainard, Clk.) for constructing reinforced concrete abutments for bridge over Coffee Creek, near Institute in Austinburg Township.

Duluth, Minn.—Reported desired until Aug. 7, by O. Halden, Co. Aud., for constructing steel or reinforced concrete bridges in various townships.

Hastings, Minn.—Until Aug. 15, by Board County Commissioners for road and bridge work as follows: Grading 2 miles of road in Eureka Township, about 6350 lin. ft. turnpiking, 3770 cu. yds. excav., etc., and constructing a number of reinforced concrete culverts, and a one 22 ft. beam span bridge with reinforced concrete abutments and floor across Chub Creek in Waterford Township and a 20 ft. beam span bridge with reinforced concrete abutments and floors across Chub Creek in Greenvale Township. C. L Methven, County Supt. of Highways.

Kingman, Kan.—Reported desired until Aug. 8, by W. E. Hart, County Clk., for constructing a 36-ft. reinforced concrete bridge on Sand Creek, 40-ft. reinforced concrete bridge on Smoot Creek, and an 80-ft. pile bridge, also across Smoot Creek.

Topeka, Kan.—Reported desired until Aug. 18, by O. K. Swayze, County Clk., for two stone or concrete abutments on pile foundation and furnishing and erecting 12 panel 130-ft. span, Baltimore truss bridge, 16 ft. clear roadway, concrete floor, etc. Walter J. Arnold, County Engr.

Jamestown, N. D.—Until Aug. 15, for constructing an 80-ft. reinforced concrete bridge over James River at Second St. West. Andrew Blewett, County Aud.

Hamilton, Mont.—Reported desired until Aug. 8, for constructing concrete bridge girder type across one Horse Creek and span bridges across Bitters Root Creek.

Seattle. Wash.—Reported desired until Aug. 8 by F. P. Kendall, American Can Co., Front and Fourteenth Streets, for erecting a can manufacturing plant on Clay and Cedar Streets, facing Railroad Avenue and Elliott Street, 4 stories and basement, 239 x 120 ft., of reinforced concrete throughout. Bids desired on the following alternatives: "A," completion of factory building; "B," completion of warehouse; "C," substituting composition floors for cement finish; "D," for cement floor finish by monolithic instead of 1-in. finish; "E," specified in connection with bridge; "F," for substitution of asbestos protected metal for all galvanized iron specified. Probable cost $250,000. Bids may also be addressed to American Can Co., 120 Broadway, New York City, care of N. M. Loney, Engr.

South Bend, Wash.—Reported desired until Aug. 22 by W. E. Lovering, County Clk., for constructing 40-ft. Luten design reinforced concrete bridge over Fern Creek near Globe, and a 75-ft. Luten span over Fork Creek near Lebam; also same time for grading, draining and placing 4800 ft. waterbound macadam on the Columbia North Bank Highway, near Chincook, and 1000 ft. of Chincook Depot Road, and 6000 ft. of North Cove Extension Road.

Dallas, Ore.—Until Aug. 17 by Asa B. Robinson, Jr., County Clerk, for constructing a concrete bridge.

Regina, Sask.—Until Aug. 7 by H. S. Carpenter, Acting Chairman Board of Highway Commissioners, for following bridges: Group 1 (a) two reinforced concrete abutments for bridge over Pipestone Creek near Mayfield, (b) a reinforced concrete arch bridge over the Whitesand River near Yorkton; Group 2 (a) two reinforced concrete abutments for bridge over Beaver Creek near Kenaston; Group 3, two reinforced concrete bridge abutments for a bridge over Moose Jaw Creek near Milestone, (b) two reinforced concrete bridge abutments for a bridge over Moose Jaw Creek south of Pitman, (c) two reinforced concrete bridge abutments for bridge over Wood River northeast of Gravelbourg.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Clifton, N. Y.** — Contract awarded American Concrete Steel Co., Newark, N. J., for erecting seven-story, reinforced concrete factory for Louis De Jonge Co.; cost $500,000.

★**Athens, Pa.**—Contract awarded by Board of Grounds and Buildings at Harrisburg, to Whitaker & Diehl, Harrisburg, for state bridge at Athens; they bid $82,048 for bridge and $22,966 for concrete approaches.

★**Philadelphia, Pa.**—Contract awarded by Bureau of Surveys for constructing steel and concrete bridge on line of Godfrey Avenue for the tracks of the P. & R. Railway at Fern Rock to Richard Walsh & Son, 60 Sixth Avenue, Philadelphia, at $114,360.

★**Wilson, Pa.**—Contract for concrete retaining wall to extend from North Clairton to Wilson, along river bank for Carnegie Steel Company, awarded E. M. Wichert Company, Pittsburgh, at about $1,500,000.

★**Cocoa, Fla.**—Contract awarded Florida-Schub Concrete Construction Company of Jacksonville, for erecting reinforced concrete high school. Citizens recently voted $50,000 bonds.

★**Bloomington, Ill.** — Following bids opened by Board of Local Improvements for constructing retaining walls or approaches for the West Locust Street C. & A. viaduct: I. D. Lain, Bloomington, $13,980 (awarded contract); George Bansau, Bloomington, $14,680; Berenz & Son, Bloomington, $16,000, and Cleary & White Co., Chicago, $16,341.

★**Colorado Springs, Col.** — Contract awarded Sharp & Fellows Contracting Co., 500 Central Building, Los Angeles, Cal., for erecting reinforced concrete hotel and restaurant building for Atchison, Topeka & Santa Fé Ry. Co., at about $250,000.

★**Portland, Ore.** — Contract awarded Palmer & Ellison Construction Company, Henry Bldg., for constructing reinforced concrete retaining wall and arch bridge on Base Line extension at $7,021.

Los Angeles, Cal.—Following are four lowest bids opened July 24 by Board of Supervisors for erecting five-story and basement, 80 x 100 ft., reinforced concrete and brick service building at the County Hospital: Los Angeles Planing Mill Co., 1812 Industrial Street, $54,715; Leonardt & Peck, H. W. Hellman Building, $57,130; Alta Planing Mill Co., 830 McGarry Street, $58,703; F. O. Engstrum Co., Fifth and Seaton Streets, $59,895. Engineer, J. Schulz, Wright and Callender Building.

★**Dominion City, Ont.**—Contract for constructing reinforced concrete arch and culvert at Dominion Bay (bids opened July 10) awarded H. Sigurdson, Winnipeg, Man. John R. Wetty, Secretary-Treasurer.

★**Bayamon, Porto Rico.** — Contract awarded by Department of Interior of Porto Rico for constructing one 50-meter structural steel beam and reinforced concrete slab bridge over Bayamon River to Benitez Rexach, San Juan, at $19,000.

Puerta Plata, Santo Domingo.—Leonard Construction Co., 17 Battery Place, New York, N. Y., submitted lowest bid for constructing substructure and floor of reinforced concrete wharf. Reinforced concrete piles, and beam and slab constructed floor. See "Proposed Work."

ROADS AND PAVING

PROPOSED WORK.

Boston, Mass.—Commissioner of Public Works will construct concrete surfaces on Beacon Street, at $35,000, Parkton Road, $10,500 and Charles Street, Dorchester, $6,300.

Mayor is in favor of making Commonwealth Avenue a double roadway between Massachusetts Avenue and Charlesgate West, over the Back Bay Fens, and plans spending from $25,000 to $100,000 for the work.

Somerville, Mass.—City will pave Union Square at a cost of $25,000. Address City Clerk.

Bayonne, N. J.—Plans completed by Walter L. Clarkson, City Engineer, for repairing Dodge, First, Twenty-eighth and Fifty-second Streets. Address City Clerk.

All bids received July 25 by City Commissioners for paving Twenty-ninth Street rejected. Lowest bid submitted, $2.04 per sq. yd. for 10-year guarantee and $2 per sq. yd. for 5-year guarantee.

West Hoboken, N. J.—Contract will soon be let by Board of Council for repaving Savoye, Hudson Ave., Charles, West and Cliff Streets. Address City Clerk.

Board of Council plans repaving Spring Street and Summit Avenue. Address City Clerk.

Woodbridge, N. J.—Town Council will construct curbs and gutters on Fifth Street. Address Town Clerk.

Plans will be prepared for improving and laying sidewalks on Woodbridge Avenue. Address Town Clerk.

Cresson, Pa.—City Commissioners sold $25,000 paving bonds. Address City Clerk.

Meadville, Pa.—Contract will be let in January, 1917, for 60,000 sq. yd. paving, probably brick, on Highland Avenue, Willow, Linden and other streets. Bids on other materials will also be considered. About 40,000 lin. ft. concrete curbing included. Probable cost, $175,000. B. F. Miller, Jr., City Engineer; F. C. Kiebort, City Clerk.

New Castle, Pa.—County Commissioners plan improving 6 miles of highway between New Castle and New Wilmington. The paving will be concrete. Address County Clerk.

Pennsylvania.—All bids opened July 19 by State Highway Commission, Harrisburg, for following state roads rejected: Sections 4 of Route 52, Jackson and East Taylor Township, Cambria County; Section 1, Route 108, South Fayette Township, Allegheny County, and Section 2 of Route 108, Cecil and North Strabane Townships, Washington County. No action yet taken on State Aid Application 407 in Nether Providence Township, Delaware County, as bid exceeded appropriation.

Philadelphia, Pa.—William Penn Highway Association meeting at Bellevue Stratford decided to construct the Penn Highway from Norristown to city hall, Philadelphia.

Williamsport, Pa.—Reported City Commissioners are considering $50,000 bond issue for resurfacing and other street improvements. Address George K. Harris, Supt. Pub. Impvt.

Moundsville, W. Va.—County Commissioners plan paving road through the Narrows between Moundsville and Wheeling. Address County Clerk. (Not Cresson, Pa., as stated in previous issue.)

Jacksonville, Fla.—City Council authorized paving Adams, Hogan and Forsyth streets. Address City Clerk.

Ocala, Fla.—Election will probably be held Aug. 7 in this county to vote $900,000 road bonds. Address County Clerk.

Perry, Fla.—Citizens voted $600,000 good road bonds. Address County Clerk.

Birmingham, Ala. — City Commission adopted ordinance for paving Clairmont Avenue from Highland Avenue to Mountain Terrace Station with sheet asphalt. Estimated cost, $45,000. Julian Kendrick, City Engineer.

Columbus, Miss.—Bond issues 1 and 2, $50,000 and $40,000 available for construction of link of Jackson Highway. Address Road Commissioner.

Greenwood, Miss.—Citizens voted $20,000 bonds for paving West Washington Street. Address City Clerk.

Monroe, La.—James W. Billingsley, Interstate Bank Bldg., New Orleans, will plan and supervise construction of roads in Road Districts No. 1 and 2 in eastern section of county.

Pleasant Hill, La.—Citizens voted $30,000 bonds for constructing section of Jefferson Highway between De Soto Parish line and Natchitoches line in Sabine Parish. Address President of Police Jury.

London, Ohio.—Paving bonds for $31,000 will be sold Aug. 18 by J. W. Byers, Village Clk.

Sandusky, Ohio.—Paving bonds for $26,000 will be sold Aug. 19 by County Commissioners Frank R. Smith, Co. Aud.

County Commissioners sold $50,325 highway improvement bonds. Address County Clerk.

Steubenville, Ohio.—City Council passed ordinance authorizing issuing $11,500 street improvement bonds. Address City Clerk.

Galesburg, Ill.—City Council plans paving North Seminary Street; estimated cost $23,152. Address City Clerk.

Paris, Ill.—City Council passed ordinance authorizing paving of Edgar Street with brick; estimated cost $20,000.

Pontiac, Ill.—City Council adopted ordinance for paving North Locust and East Elmwood Streets with monolithic; engineer's estimate $22,792. Address City Clerk.

Ellsworth, Wis.—Reported County Commissioners will spend $50,000 for constructing and repairing roads. O. J. Hohle, County Clerk.

Manitowoc, Wis. — Reported County Commissioners will construct about 10 miles of macadam roads. Address A. J. Auton, County Clerk.

St. Paul, Minn.—City Council will improve Mounds Boulevard. The paving will be concrete; estimated cost of work is $51,054. Address City Clerk.

Independence, Kan.—Contract will be let about Sept. 1 for constructing 6000 yd. brick paving; estimated cost $11,000. G. E. Weaver, City Engineer.

Nebraska City, Neb.—Citizens voted $30,000 paving bonds. Address City Clerk.

Helena, Mont.—Reported City Council plans paving Broadway from Main to Jackson Streets. A. E. Cummings, Commissioner.

Dallas, Tex.—Board of City Commissioners granted petition for paving Gaston Avenue, from Fitzhugh to Carrol Street, with bitulithic. Address Clerk of Board.

Stephenville, Tex.—City Council voted to spend $10,000 for street improvements. Address City Clerk.

Taylor, Tex.—It is proposed to pave on Vance, Tenth, Davis and other streets, in all about 75,000 sq. yd., with asphaltic concrete, including combination curb and gutter. W. E. Dozier, City Manager and Engineer.

Vernon, Tex.—Citizens voted $54,000 bonds for street improvements, water and sewer system extensions and school building. Address City Council.

Bartlesville, Okla.—County Commissioners considering constructing 42 miles of permanent highway from the south to the north of county with macadam or concrete. R. K. Hughes, Engineer, Tulsa.

Tulsa, Okla.—County Commissioners will soon let contract for constructing 14 miles macadam or other pavement. Address County Clerk.

Camas, Wash.—Contract will soon be let for paving 20 blocks. Estimated cost, $15,000. F. B. Barnes, City Clerk.

Everett, Wash.—Hans Mumm Jr., City Engineer, will prepare plans for paving Baker Avenue and Thirty-fourth Street, and for cement sidewalks on Hewitt Avenue, N., Louis Lesh, City Clerk.

North Yakima, Wash.—Reported County Commissioners will soon let contract for constructing 1 mile of road near Mabton. O. E. Brashears, County Engineer.

Seattle, Wash.—Reported County Commissioners passed resolution appropriating $14,000 for Bond Proposition No. 23, for improvement of Rainier Avenue. Address A. P. Denton, County Engineer.

Spokane, Wash.—All bids opened by County Commissioners for constructing 1 mile highway at Valley Ford rejected. Lowest bid submitted $9,467. J. W. Strack, County Engineer.

City Council plans improving Olive Street by filling and hardsurfacing. Estimated cost, $35,800. Address City Clerk.

City Council passed ordinance for improving Main Avenue from Division to Monroe Streets. Address City Clerk.

Reported County Commissioners will construct 3½ miles of pavement at Fairfield, extending along Rock Creek southeast. Address County Clerk.

Walla Walla, Wash—Reported County Commissioners passed resolutions for macadamizing Permanent Highway No. 13 from city limits northerly. Plans will be prepared by Grove Cookerly, County Engineer.

Coquille City, Ore.—Reported County Commissioners will spend $63,000 on grading and graveling township line road leading from Bandon to Curry County line. C. S. McCulloch, County Engineer.

Salem, Ore.—Reported City Council passed resolutions for paving 12 blocks in business districts. Contract will soon be let. Address City Clerk.

Sandy, Ore.—Reported contract will soon be let by City Council for paving Center Street from Park Avenue to Revenue Road. Address City Council.

Hemet, Cal.—Contract will be let about last of August by Board of Trustees for constructing concrete pavement and cement curbs on portions Carmilita Street and Florida Avenue. Address C. M. Dieterich, City Clerk.

Santa Barbara, Cal.—Election will probably be held to vote road bonds for improving and constructing county highways. Address County Clerk.

Visalia, Cal.—Contract will soon be awarded by City Trustees for constructing approximately 170,000 sq. yd. concrete and asphaltic pavement. Address City Clerk.

BIDS DESIRED.

Boston, Mass.—Until Aug. 14 by Edward F. Murphy, Commissioner Public Works, for granite block pavement and wood block pavement on portions of 18 streets, including Group I, Batterymarch, Beach, Canal, Clinton, Cross, Devonshire, Albany Streets, Columbia Road and Dorchester Avenue, cost about $400,000, and Group 2, including two portions of Albany Street, Columbia Road and Dorchester Avenue (mentioned in Group I), cost $200,000.

Greenwich, Conn.—Until Aug. 15 by Highway Commission for about 3,000 sq. yd. of reinforced concrete pavement, advertised in Engineering Record.

Rensselaer, N. Y.—Until Aug. 15, by Leroy Greenalch, City Engineer, for brick paving, etc. Advertised in Engineering Record.

Schenectady, N. Y.—Until Aug. 16 by Board of Contract and Supply (Fred J. Bayes, Secretary) for 13,000 sq. yd. stone-filled asphaltic pavement, also for approximately 500 lin. ft. c.-i. pipe and 2000 ft. vitr. pipe, advertised in Engineering Record.

Bloomfield, N. J.—Until Aug. 7, for 6900 sq. yd. asphalt bound Telford pavement. Raymond F. Davis, Town Clerk.

Hackettstown, N. J.—Until Aug. 8, by Board of Freeholders, Belvidere, for oiling 23 miles of roads in Warren County. F. W. Salmon, County Engineer, Netcong.

Montclair, N. J.—Until August 15 by Henry Ware Jones, Acting Town Clerk, for paving, curbing Bellevue Avenue a total distance of 3,000 ft., advertised in Engineering Record.

Mt. Holly, N. J.—Until Sept. 6 by Board Chosen Freeholders (Harry Hawkins, Jr., Clk.) for improvement of The Mile Hollow Yardville Road, in Bordentown Township, about 16,747 sq. yd. macadam pavement, advertised in Engineering Record.

Newark, N. J.—Until Aug. 9 (readvertisement), by Joint Bridge Committee of the Counties of Essex and Hudson, at Court House, Newark, for repairs to Lincoln Highway Bridge over Hackensack River, Hudson to Essex Counties, including repaving draw span and part of two fixed spans, ten new buckle plates and resetting apron. Richard Mattia, Chmn. Essex County Committee.

Until Aug. 10 by M. R. Sherrerd, Chief Engineer Board Street and Water Commissioners for grading Avenue R from Lincoln Highway to Peddie Street, including bridges, advertised in Engineering Record.

Embreeville, Pa.—Until Aug. 15, by Board of Supervisors of Newlin Township, Chester County, at Embreeville, for improving a public road a distance of about 8545 lin. ft., including crushed stone or slag pavement, 14 ft. wide. John E. Young, Secretary.

Georgetown, Del.—Until August 12 at Road Office, Georgetown, for constructing Sections 5 and 6 of the Colman Du Pont Road, advertised in Engineering Record.

Center, Ala.—Until Aug. 26, by County Commissioners, for constructing public roads from Center to County line by way of Blue Pond. To include concrete drains, bridges and necessary drain pipes. J. L. Savadge, Judge of Probate.

Pascagoula, Miss.—Reported desired until Aug. 7, by County Supervisors, for constructing 3 miles of road.

New Orleans, La.—Until Aug. 14, by Highway Department, of Board State Engineers, Room 104, New Orleans Court Bldg., for surfacing the Coushatta-Shreveport Highway, Red River Parish, a distance of about 8 to 10 miles. Frank M. Kerr, Ch. State Engr. W. E. Atkinson, State Highway Engr.

Erwin, Tenn.—Until Aug. 10, by J. W. Taylor, Town Secy., for constructing approximately 26 miles of highway.

Covington, Ky.—Until Aug. 10, by John B. Dillion, Clk. County Court, for constructing waterbound macadam bituminous and glutrin road: Section 1, waterbound macadam, shaping 22,646 sq. yd. 3776 cu. yd. stone (loose), 25,480 lin. ft. ditching, bituminous (asphalt or tarvia glutrin). Sections 2, 3 and 4, 61,602 sq. yd. shaping, 8779 cu. yd. stone, 101,333 gal. asphalt or tarvia, 61,602 gal. glutrin, 6636 lin. ft. ditching. Also until Aug. 15, same place, for improving Independence and Falmouth Road, in Kenton County, approximately 8 miles long and consisting of 65,704 sq. yd. scarifying and shaping roadway, 65,704 sq. yd. surfacing, 84,480 lin. ft. ditching, etc.

Deshler, Ohio.—Until Aug. 9, by R. W. Hoskinson, Clerk, for paving Elm Street and Keyser Avenue, at a cost of $30,000, with brick on concrete foundation, including curbing, etc. G. Champe, Engineer, 610 The Nasby, Toledo.

London, Ohio.—Until Aug. 25, by J. W. Byers, City Clerk, for grading and paving South Main Street with vitr. paving, brick asphalt block or creosoted wonod blick.

Marietta, Ohio.—Until Aug. 8, by W. E. Baker, Dir. Pub. Service, for improving Putman Avenue, Hunter Street and Prospect Avenue by excavating, grading, etc., and paving with brick blocks.

New Philadelphia, Ohio.—Until Aug. 7, by R. H. Nussedorfer, Co., Aud., for constructing part of Canal-Dover-Carrolton Highway No. 376 in Warren Township.

Indiana.—By County Commissioners for constructing county roads as follows:

Aug. 8:

Mt. Vernon, constructing 11,956 ft. gravel road in Black Township. Jos. R. Haines, Co. Aud.

Aug. 9:

Hartford City, for constructing a road in Blackford, Wells County line. J. L. McGreath, Co. Aud.

Columbia City, for constructing roads in Jefferson Township. James A. McLaughlin, Co. Aud.

Aug. 19:

Muncie, constructing crushed stone road in Center Township.

Sept. 1:

Ft. Wayne, constructing macadam roads in Jackson, Wayne and Monroe Townships. Will Johnson, Co. Aud.

Illinois.—Until Aug. 9, by State Highway Commission, Springfield, for constructing roads as follows:

Martinsville, Clark County, Section C, 4375 ft. concrete. Engineer's estimate $8,293.

Litchfield, Montgomery County, Section D, 23,925 ft. earth. Engineer's estimate $6,679.

Peoria, Ill.—Until Aug. 7, by Board Local Improvements (Sherman W. Eckley, Pres.), for paving portions of Lincoln Avenue, Elm Street, South Perry Avenue and Fulton Street, in all about 7840 sq. yd. vitr. block, 8025 sq. yd. brick pavement, on concrete foundation, with receiving basins, etc.

West Allis, Wis.—Until Aug. 14, by E. G. Orbert, City Engineer, for paving Beloit Road, 6478 sq. yd. reinforced concrete pavement and 6576 sq. yd. plain concrete and 7698 cu. yd. excav.

Galveston, Tex.—Until Aug. 10 by Board City Commissioners for paving and appurtenances along Avenue O, in all about 21,000 sq. yd. pavement, 1000 lin. ft. concrete bulkhead, etc. A. T. Dickey, City Engr.

Hayti, Mo.—Until Aug. 7, by city, for constructing parts of four streets, in all about 6000 sq. yd., with Dunn wire-cut lug brick on concrete base with concrete curbs, etc. Blair Boyle, City Engr.; A. V. Eachus, City Clk.

Independence, Mo.—Reported desired until Aug. 10, by E. M. Stayton, County Engr., for paving Swope Park Hickman Mills Road, including 6393 yds. concrete paving, 12,000 yds. overhaul, etc.

Kansas City, Mo.—Until Aug. 9, by Board of Public Works (W. H. Benham, Sec'y.) for furnishing material and constructing artificial stone sidewalks on Jackson and Fairmont Avenues, paving with sheet asphalt portions of Troost Avenue, asphaltic concrete on Agmes Avenue.

Until Aug. 9, by Park Commissioners (T. C. Harrington, Sec'y.), for constructing bituminous macadam pavement on Swope Parkway, together with curbing and guttering.

Helena, Ark.—Until Aug. 7, by Commissioner Road Improvement Dist. No. 1 (J. C. Meyers, Secy.), at office of Walter E. Winn, Engineer, 516 Solomon Bldg., Helena, for furnishing material and improving Little Rock Public Road from south line of city of Helena to Lambs Crossing, by grading, draining and paving with concrete and macadam shoulders.

Clarksville, Tex.—Reported desired until Aug. 25, by City Clerk, for paving with concrete on Walnut, Main, Broadway and College Avenue. Probable cost, about $90,000.

Seattle, Wash.—Until Aug. 7, by Board Public Works (C. B. Bagley, Secy.), for grading, paving, etc., on Fourteenth Avenue, south from East Marginal Way, to Dallas Avenue. A. H. Dimock, City Engr.

South Bend, Wash.—See "Reinforced concrete."

Washington.—Reported desired until Aug. 7, by James Allen, State Highway Commissioner, Olympia, for clearing, grading and draining 33 miles of National Park Highway from Bear River westerly in Pacific County.

Carlton, Ore.—Until Aug. 10, by City Clerk, for paving business district.

Los Angeles, Cal.—Until Aug. 21 by Board Road Supervisors (A. M. McPherrin, Clerk) for constructing Section D of Mint Canyon Road, about 10.63 miles 5 in. concrete base 20 ft. wide. Engineer's estimate (a) contractor furnishing labor and materials for 94,725 cu. yd. excav., 56,158 lin. ft. shaping roadbed, 11,123 lb. reinforced steel, 22,000 ft. guard fence and county furnishing materials for 336 cu. yd. concrete, and headwalls 124,793 sq. yd. pavement, requiring about 23,231 bbl. cement, 261 tons hydrated lime, 1486 bbl. oil, 12,716 tons sand, 20,760 tons crushed rock and 2559 tons screenings $125,494; (b) if contractor furnishes sand, rock and screenings $132,885.

Globe, Ariz.—Until Aug. 14, by Board Supervisors, for constructing 6 miles concrete pavement, 5 miles on the Globe-Miami Road and 1 mile on the Winkleman-Hayden Road. R. G. Thomas, Engr. Gila County Highway Commission.

Saskatoon, Sask.—Until Aug. 7, by H. S. Carpenter, Acting Chmn. Board Highway Commissioners, Regina, for paving concrete traffic bridge over Saskatchewan River, at Twenty-fifth Street, in the city of Saskatchewan. In conjunction with this work this Board, at Regina, will receive separate bids for (a) laying street car tracks upon bridge, (b) extra cost per yd. for track allowance, including supply and placing sandstone or granite headers, (c) erecting trolley standards for car lines.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Boston, Mass.**—Contract for 150,000 gal. of asphaltic road oil (bids opened July 22) awarded Standard Oil Company, 50 Congress Street, at 6.9 cts. per gal.; total $10,350.

★**Haverhill, Mass.**—Contract reported awarded Warren Brothers for paving with bitulithc on Winter and White Streets, at a cost of about $33,000. L. C. Lawton, City Engineer.

★**Connecticut.**—Following bids opened July 26 by Charles J. Bennett, State Highway Commissioner, Hartford, for State work:

Town of Middletown, 1910 lin. ft. reinforced concrete, (a) plain Hassam, (b) Hassam bicomac construction on Durham Avenue: A. Brazos & Sons, 66 Oak Street, Middletown, (a) $10,545; F. Arrigoni & Bro., 301 Main Street, Middletown (a) $9,477.

City of Middletown, about 2668 lin. ft. (a) reinforced concrete, (b) Warrenite, (c) plain Hassam, (d) Hassam bicomac on South Main Street: F. Arrigoni & Bro., 301 Main Street, Middletown (a) $22,934; Connecticut Hassam Paving Co., 902 Chapel Street, New Haven (c) $24,146, (d) $27,432; A. Brazos & Sons, 66 Oak Street, Middletown (a) $25,830; Warren Bros. Co., 142 Berkeley Street, Boston (b) $24,231.

New Canaan, about 4345 lin. ft. (a) reinforced concrete, (b) Warrenite, (c) Topeka on South Avenue: H. Sanford Osborn, Redding Ridge (a) $20,420; Edward Tracy, 200 Olivia Avenue, Derby (c) $25,253; Warren Bros. Co., 132 Berkeley Street, Boston, Mass. (b) $19,912; Union Paving Co., Hotel Bishop, New Haven (c) $18,208. Also 5730 lin. ft. same type construction on Smith Ridge: H. Sanford Osborn (a) $29,442; Edward Tracy (c) $32,268; Warren Bros. Co. (b) $27,288; Union Paving Co. (c) $23,862.

Town of Prospect, 7700 lin. ft. grading, C. A. Rossi Construction Co., 151 Franklin Street, Torrington, at $7,467 (lowest bidder).

Town of Windsor Locks, about 3300 lin. ft. bituminous macadam on Spring Street, L. Suzio Contracting Co., Colony Street, Meriden, $8,649 (only bidder).

★City of Waterbury, about 13,325 lin. ft. Hassam pavement on Thomaston Avenue awarded to Connecticut Hassam Paving Co., 902 Chapel Street, New Haven, at about $50,000.

★Town of Salisbury, for section of macadam road with slag foundation, awarded to Mascetti & Holley, Torrington, about 2700 lin. ft.

Bayonne, N. J.—See "Proposed Work."

Paterson, N. J.—Following bids opened July 26 by Board of Chosen Freeholders for improving section of Midvale-Greenwood Lake Road: George F. Brackett, Clifton, $72,754, and A. W. Gill, 57 Spring Valley Avenue, Hackensack, at $73,346.

★**Somerville, N. J.**—Contract for constructing McCurdy Road (bids opened July 25) awarded William R. Moon, Far Hills, at $21,867. Other bidders: R. H. Lansdell, Hackensack, $23,244, and Hickey & Houghton, Raritan, $24,616. William S. Kershau, Clerk Board Chosen Freeholders.

★**Trenton, N. J.**—Contract awarded by Board of Chosen Freeholders (bids opened July 25) for oiling nine principal roads to John Ginder, Trenton, at $31,147. Other bids were: Lewis Klockner, Trenton, $32,815; Newton Paving Co., Trenton, $34,234; Mainwaring & Cummings, Philadelphia, $35,003 and Aor-Cleaned Roads Co., Hackensack, $37,651.

★**Emporium, Pa.**—Contract for grading, draining and paving Woodland Avenue, about 25,451 sq. yd. brick paving, awarded Petro F. Connley, Horseheads, N. Y., at $55,000. F. F. Brady, Borough Engineer, Emporium. (Bids opened July 25 by Street Committee.)

Pennsylvania.—Contracts for state highway work (bids opened July 19) awarded by State Highway Commission, Harrisburg, as follows:

★Section 8, State Highway Route 131, in Penn, Upper Oxford and Lower Oxford Townships, Chester County, to Souder Construction Company, Lancaster, at $109,632 for 32,214 ft. of reinforced cement concrete pavement.

★State Aid Road Application 320, Hickory Township, Forest County, 5385 ft., to South Shore Construction Company, Erie, at $11,528. See "Proposed Work."

★**Pottstown, Pa.**—Contract awarded by Town Council for paving streets with Clearfield paving blocks to J. B. Trexler, Reading, at $19,251.

★**Baltimore, Md.**—Contract awarded by Board of Awards for paving portions of Calvert, Monument and Light Streets, and Linden Avenue, to Baltimore Block & Tile Co., Monroe and Lorman Streets, at $120,323.

★**Rockville, Md.**—Contract awarded by County Commissioners for constructing Muncaster Mill Road, along the county road between Norbeck and near Redland, a distance of about 5 miles, to Brown & Gaskins, Baltimore, at $30,000.

★**Atlanta, Ga.**—Contracts awarded by County Commissioners as follows: For concrete paving, work on which has been started. Lakewood Avenue, Macon and Turner Road, to Pittman Construction Co., Atlanta, at $83,000, and Zoo Drive and East Pacis Ferry Road, in Grant Park, to Drysard Construction Co., Atlanta, at $16,000.

★**Dyersburg, Tenn.**—Contract for 27,550 sq. yd. of pavement, etc. (bids opened July 12 by L. E. Carne, Mayor) awarded Memphis Asphalt & Paving Company, Memphis, Tenn.

★**Chicago, Ill.**—Following are unit figures of the four lowest bids opened July 17 by Board County Commissioners, Chicago, for constructing Cook County Highway, Higgings Road, 120,000 sq. yd. Bids on Concrete "A" and Concrete "B" are the same with but two exceptions: (a) Commonwealth Improvement Co., 179 W. Washington Street, $120,637 (awarded contract); (b) John A. McGarry Co., 189 W. Madison Street, Class "A" $124,367, "B" $121,029; (c) F. B. Coughlin & Co., "A" $124,009, "B" $120,975; (d) James A. Sackley, 133 W. Washington Street, $126,863.

	*(a)	(b)	(c)	(d)
22,000 cu. yd. excav. earth macadam	$0.50	$0.50	$0.55	$0.60
205.8 cu. yd. reinforced concrete, B & C	18.00	14.80	15.00	20.00
262 cu. yd. plain concrete, B & C.	12.00	9.10	10.00	12.00
20,230 sq. yd. earth shoulders	0.04	0.05	0.10	0.04
60,689 sq. yd. asphaltic pavement	0.93	0.795	1.10	0.97
13,486 cu. yd. waterbound macadam pavement	2.95	3.39	2.40	3.00
200 sq. yd. stone riprap	1.25	2.00	1.00	1.00
350 lin. ft. 6-in. shale tile	0.25	0.20	0.20	0.30
950 lin. ft. 18-in. shale tile	0.90	0.90	1.00	0.95
1,152 lin. ft. guard fence	0.25	5.50	0.50	0.30
20 road signs	10.00	10.00	3.00	10.00
1,500 cu. yd. stone in place	2.55	3.00	2.00	2.75

★**Rogersville, Tenn.**—Contract for improving 90 miles of road (limestone) to include concrete and steel bridges (bids opened July 6) awarded Newell Construction Company, Chattanooga. Estimated cost, $450,000. About 500,000 cu. yd. excav. included. W. C. Connell, Engineer, Rogersville.)

★**Ashtabula, Ohio.**—Contract for paving with brick on Ann and Edwin Streets, brick and concrete base, awarded Y. P. Fitzgeralds, 306 Main Street. Estimated cost, $35,000. (Bids opened July 10 by J. W. Prime, City Manager).

Dayton, Ohio.—Only bid submitted to Director of Public Service for paving Brighton Avenue from Salem Avenue to alley west of Linda Vista by Clifton Hooliban, Dayton, at about $12,000.

★**Reading, Ohio.**—Following are three bids opened July 7 by County Commissioners for improving Reading Road (concrete pavement): D. P. Foley, Park Avenue, Cincinnati, $58,024 (awarded contract); Van Camp Brothers, Newtonville, $63,954, and Thomas P. Strack, 31 Goodall Bldg., Cincinnati, $68,147. (Bidders all of Cincinnati.)

★**New Albany, Ind.**—Contract awarded by County Commissioners for constructing Pearl Street and Bono Road to W. O. Sweeney, Jeffersonville, and Frank Green, New Albany, at $11,997.

★**Indianapolis, Ind.**—Contract awarded by County Commissioners for improving Sherman Drive to C. M. Kirkpatrick, Indianapolis, at $27,000.

★**Pontiac, Mich.**—Contract for improving about 2 miles of Woodward Road (bids opened July 24) awarded by County Clerk to R. D. Baker Company, Detroit, at $1.65 per sq. yd.

★**Peoria, Ill.**—Following are two bids opened July 25 by Walter E. Emery, Superintendent Highways, Peoria, for improving Galena Road: Barnewott Construction Company, Peoria, $16,471 (awarded contract); Ajax Constructing & Engineering Company, Gary, Ind., $16,880.

★Following are bids opened July 24 by City for paving East and West McClure Streets: McElwee & Bushell, 1217 South Washington Street, $57,515 (awarded contract); A. D. Thompson Company, 1005 Jefferson Bldg., $57,572, and D. A. Myers, 209 West Armstrong Avenue, $58,571. L. D. Jeffries, City Engineer.

★**Dubuque, Iowa.**—Contract for 22,650 sq. yd. brick block pavement (bids opened July 24 by J. J. Shea, City Recorder), awarded C. B. McNamara & Company, 280 West Seventeenth Street.

★**Minneapolis, Minn.**—Contract awarded by County Commissioners for paving extension of Crystal Avenue through Robbinsdale with concrete, to Schugun Bros., Minneapolis, at $29,500.

★**Anaconda, Mont.**—Contract awarded by City Council for grading and sewer improvements in Gold and Excelsior Street to Peter Oren, Anaconda, at $16,323.

★**Dallas, Tex.**—Contract awarded by Board of City Commissioners for paving Forest Avenue and South Boulevard with asphaltic concrete to Western Paving Co., Oklahoma, Okla.

★**Longmont, Colo.**—Contract reported awarded Phillips & Son, Denver, at $33,000, for paving 15 blocks in District No. 2, with 6-in. single-course reinforced concrete.

★**Bremerton, Wash.**—Reported City Council awarded contract to Erickson, Anderson & Hicks, Tacoma, at $9,000, for paving Front Street to the Municipal wharf with concrete. F. E. Hathaway, City Engineer.

★**Seattle, Wash.**—Following are four lowest bids opened July 21 by Board of Public Works for paving East Marginal Way: Holt & Jeffery, Transportation Bldg., $114,149 (awarded contract); Sparger Concrete Co., Forty-first Avenue and Midvale Avenue, $117,196; G. Argentieri & Co., Seattle, $117,689; Cascade Construction Co., Pacific Block, $117,945. A. H. Dimock, City Engineer.

★Following contracts awarded by Board of Public Works for paving Warren Avenue to P. J. McHugh, Third Avenue North and Mercer Street, at $32,083; for grading, concrete walks, etc., on Thirty-ninth Street, to George A. Banderet, Bellevue, at $22,222.

Low bid opened by Board of Public Works for concrete walks on Twenty-second Avenue Northeast, submitted by Silverston & Williams, 2823 South J Street, Tacoma, at $8,175.

★**McMinnville, Ore.**—Contract awarded by City Council for paving certain streets with asphaltic concrete to Montague-O'Reilly Co., Blake-McFall Bldg., Portland, at $22,982.

★**Anaheim, Cal.**—Contract awarded by City Council for constructing about 371,268 sq. ft. of pavement of 1½-in. sheet asphalt on 4½-in. concrete base on West Broadway to Los Angeles Paving Co., 2900 Santa Fe Avenue, at $35,900.

★**Arcadia, Cal.**—Contract awarded by City Council for constructing macadam pavements about 8000 cu. yd. excavation, 2500 lin. ft. shaping roadbeds, etc., to Andrew Holloway, 471 Broadway, Pasadena, at $25,000.

★**Los Angeles, Cal.**—Contract awarded by Board of County Supervisors for paving Mesa Drive to A. L. McCray, 234 West Twenty-eighth Street, at $11,380.

★**Martinez, Cal.**—Contract for approximately 11 miles of highway awarded by County Commissioners to O'Brien Brothers, Martinez, at $140,000.

Ocean Beach, Cal.—Lowest bid submitted to the Board of Works for constructing second section of the Ocean Beach esplanade by C. E. Lamburth, San Francisco, at $23,900.

★**Richmond, Cal.**—Contract awarded by Board of Public Works for paving San Pablo Avenue to Paul Schoor, Jr., Oakland, at $33,000.

★**Santa Barbara, Cal.**—Contract awarded by City Council for improving about 2500 lin. ft. Micheltoreni Street with 1½-in. asphaltic wearing surface, 4-in. concrete base, cement curbs and concrete gutters, to Municipal Improvement Company, Richmond.

★**Sandpoint, Idaho.** — Reported City Council awarded contract for paving in District No. 6 to Spokane Bitumass Co., Spokane, at $19,399.

★**Windsor, Ont.**—Contract awarded to Municipal Concrete Co., Ingersoll, at $60,000, for constructing concrete walks.

RAILWAYS
Steam and Electric

PROPOSED WORK.

Little Falls, N. Y.—The New York Central R. R. (George W. Kittredge, Chief Engineer, New York) has submitted plans to Common Council for the elimination of grade crossings.

Rochester, N. Y.—New York Central and Buffalo, Rochester & Pittsburgh Railroads have been directed by the Upstate Public Service Commission at Albany to eliminate grade crossing at Brown Street at a cost of about $450,000, half to be paid by the two railroads, a quarter by city and second quarter by state.

New Brighton, Pa.—Reported the Beaver Valley Traction Co. expects to reconstruct 3800 ft. of track.

Pennsylvania—Reported Pennsylvania Public Service Commission, Harrisburg, has directed the construction of an undergrade crossing by the East Erie Commercial R. R., which will abolish two dangerous grade crossings known as Six Mile Creek and Parker crossings, and has apportioned the cost as follows: The East Erie Commercial R. R. is to do the work which is to cost $67,000 and this company will pay $11,500; New York Central (G. W. Kittredge, Ch. Engr., New York, N. Y.), $32,500; New York, Chicago & St. Louis R. R., $11,500; State of Pennsylvania, $5,000; Erie County, $5,000, and Harborcreek Township, Erie County, $1,500.

Philadelphia, Pa.—Council passed three loan bills covering $114,000,000 calling for an extension of transit system, additional wharves and docks along Delaware River, and general improvements to Philadelphia Hospital, and other large projects, including $1,000,000 for constructing sewers in 240 streets; $750,000 for constructing bridges, including $400,000 for steel and concrete bridge at South Street; $61,000 for bridge on Ashburner Street over New York Division of Pennsylvania R. R.; $46,000 for bridge on Linden Avenue over same tracks; $60,000 for approach to bridge connecting Gray's Ferry Avenue on the west of Schuylkill River with Thirty-fourth Street, and $60,000 for bridge to carry Forty-ninth Street over tracks of Philadelphia, Baltimore & Washington R. R. G. E. Datesman, Dir. Public Works.

Wellsburg, W. Va.—Wellsburg & Eastern R. R. incorporated to construct a railroad from Wellsburg to Pennsylvania line via Buffalo Creek.

Tampa, Fla.—Hillsborough Pinellas Interurban Railway Company, with M. Caraballo, Secretary, incorporated for the purpose of constructing an interurban railway between Tampa, Tarpon Springs, Clearwater Green Springs, Large, St. Petersburg, Sutherland, Dunedin, Belleait and neighboring cities and towns, forming a line connecting neighboring towns west of Tampa.

Lebanon, Tenn.—Election to be held Aug. 24 in the county to vote $150,000 bonds for constructing an electric railway. Address County Clerk.

Elyria, Ohio.—The New York Central (George W. Kittredge, Chief Engineer, New York, N. Y.) and the city officials are considering the elimination of all grade crossings.

Toledo, Ohio.—See "Industrial Plants and Warehouses."

Tulsa, Okla.—Reported the constructing of an electric railway from Tulsa to Oklahoma, Okmulgee, Henryetta and McAlester is contemplated. C. B. Douglas, Secretary Board of Trade, may be able to give further information.

Holtville, Cal.—Southern Pacific Ry. Company (Wm. Hood, Ch. Engr., San Francisco), is having surveys made for extensions to lines to serve practically all of Imperial Valley. A line about 100 miles long will extend from the main ine at Salipatria throug Seelye Heber and Holtville.

London, Ont.—The London & Port Stanley Ry. Co. considering double tracking electric railway to Port Stanley, 30 miles, and installing new equipment; cost about $500,000.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Detroit, Mich.**—Contract awarded P. T. Clifford & Son, Valparaiso, Ind., for grading, ditching and drainage of the new yard property of the Grand Trunk Ry. in Detroit; expect to let some team work in connection with this job.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Fall River, Mass.—Fall River Iron Works Company, Ferry Street, planning erecting six-story concrete storehouse.

New Haven, Conn.—Forsyth Dyeing Company, West Fitch St., intends erecting two-story, 80 x 160-ft. brick addition to plant.

Flushing, L. I., N. Y.—Heinrich Franck Sons, Inc., of Flushing, secured site between Flushing and Corona and propose erecting a second factory to cost approximately $500,000.

New York, N. Y.—Plans filed for erecting following buildings: 12-story brick and terra cotta fireproof factory at 144 East Twenty-fourth Street for Leicestershire Realty Co., cost $800,000, Harry B. Milliken, Archt., 103 Park Avenue; two 16-story brick fireproof factories at 257 West Forty-third Street and 332 Fourth Avenue for J. W. Ahearn, total cost $800,000, Robert E. Moss., Archt., 126 Liberty Street; 12-story brick fireproof factory at 121 West Forty-eighth Street for Alt Realty Co., cost $140,000, William H. Gompert, Archt., 171 Madison Avenue.

Solvay, N. Y.—Plans being prepared by Russel & King, Snow Building, Syracuse, for 40 x 200 ft. kiln house and a one-story, 20 x 115 ft. sagger shed to be erected on Solvay Street for Pass & Seymour, Inc. (James Pass, President).

Yonkers, N. Y.—Scott Elevator Company, recently incorporated with Daniel M. Hopping, 26 South Broadway, and others, intends erecting factory on Saw Mill River Road, to cost approximately $250,000.

Jersey City, N. J.—Reported International Elevator Company, foot Fifteenth Street, Hoboken, purchased site 200 x 100 ft. in North River and Bay District, and contemplates erecting plant.

Bynum, N. C.—Reported J. M. Odell Manufacturing Company will rebuild cotton yard mills destroyed by fire.

Fort Mills, S. C.—Fort Mills Manufacturing Company intends enlarging plant at cost of $250,000.

Jacksonville, Fla. — Southern Cattle Company, Jacksonville, will erect a $50,000 abattoir.

McNary, La.—Reported McNary Lumber Company will erect lumber plant to cost approximately $200,000.

Chattanooga, Tenn.—City appropriated $100,000 for erecting warehouses and a wharf on the water front from plans of Robert Hooke, City Engineer.

Perryville, Ky.—Reported Russell Bros. Company, Perryville, will erect ice and electric light plant to cost $50,000.

Cleveland, Ohio.—See "Steel Bridge Work."

Toledo, Ohio.—Reported Baltimore & Ohio Railroad Company (E. H. Pfafflin, Ch. Engr., Chicago, Ill.) which has taken over the Cincinnati, Hamilton & Dayton Railroad, intends erecting freight terminal and office building at Ottawa and Bridge Streets; also an office building at Rossford, and other extensive improvements.

Port Huron, Mich.—Reported Grand Trunk Railroad (H. R. Safford, Ch. Engr., Montreal, Que.) has approved issue of $750,000 bonds for constructing new railroad shops here.

Seattle, Wash.—Reported plans being prepared for store and loft building which D. M. Hoffman of Tacoma, proposes erecting at 1211 Third Avenue; cost $100,000.

Buttonwillow, Cal.—F. W. Cowden and O. V. Crisp, of Oxnard, planning erecting beet sugar factory here.

Sydney, N. S.—Atlantic Milling Company (J. W. Smith, Manager) plans erecting flour mill to cost $60,000.

Sherbrooke, Que.—Plans, being prepared by H. G. James, Whiting Block, for concrete and steel machine shop extensions; cost $70,000.

Brockville, Ont.—Canadian Briscoe Motor Company (T. Storey, President), head office Jackson, Mich., will equip $100,000 plant here.

Renfrew, Ont.—International Molybendum Company (J. L. Murray, President) contemplates equipping an electrically operated refining plant to cost $150,000.

Teeswater, Ont. — Reported Toronto Plaster Co. will prepare plans for crushing mill and lime kilns to cost $50,000.

Winnipeg, Man.—A. J. Wills, 204 Sterling Bank Building, engaged to prepare plans for an abattoir to be erected for D. Balcovske; cost $65,000.

Penuelas, P. R.—See Reinforced Concrete."

San Juan, P. R.—See "Reinforced Concrete."

BIDS DESIRED.

Chicago, Ill.—Reported desired until Aug. 14 for erecting Morgue power house and laundry, 100 x 159 ft., for Cook County. Eric E. Hall, Archt., 19 S. La Salle Street, Chicago, Archt.

Billings, Mont.—Reported desired until Aug. 7, for improvements to plant of the Yellowstone Packing Co. of Billings, formerly the Merrill Packing Co. Probable cost, $50,000.

Pekin, China.—Until Sept. 2, by Bureau Yards & Docks, Navy Dept., Washington, D. C., for an ice-making and cold-storage plant for U. S. Marine Barracks at Pekin.

PRICES AND LETTINGS

★*Indicates award of contract.*

Clifton, N. Y.—See "Reinforced Concrete."

★**Coatesville, Pa.**—Contract awarded William B. Pollock Company of Youngstown, Ohio, for erecting Bessemer furnace of 500 tons daily capacity at Worth Brothers Company plant of the Midvale Steel & Ordinance Company.

★**Baltimore, Md.**—Contract awarded Consolidated Engineering Company, 243 Calvert Building, for erecting five-story warehouse at Mulberry and Jasper Streets, for Gomprecht & Benesch, 316 North Eutaw Street

★**Darrington, Wash.**—Contract awarded Black Construction Company, Alaska Building, Seattle, for erecting cement plant here with 2200 barrels capacity, for Galbraith, Bacon & Company. Engineer, H. Bittman, Washington Securities Building, Seattle.

★**Smithfield, Utah.**—Contract reported awarded by Amalgamated Sugar Company to Dyer Construction Company, Cleveland, Ohio, to erect a sugar factory here; cost approximately $750,000.

★**Sherbrooke, Que.**—Contract for erecting steel and concrete buildings for Canadian Cotton Mills Co. awarded Loomis Dakin, Ltd., 25 Belvidere Street; cost $90,000.

★**Burford, Ont.**—Contract awarded by Canadian Milk Products Company, Mail Building, Toronto, for erecting factory to Schultz Brothers, Brantford; cost $100,000.

★**Chatham, Ont.**—Contract awarded by American Pad & Textile Company to Wells & Gray, Confederation Life Building, Toronto, for erecting $50,000 factory addition.

★**New Toronto, Ont.**—Dominion Construction Company, 14 Wellington Street, East Toronto, secured contract to erect $750,000 factory here for Goodyear Tire & Rubber Company, 152 Simcoe Street, Toronto.

★**Thorold, Ont.**—Contract awarded by Ontario Paper Company to W. J. Trimble, care the company, for erecting a sulphite mill and addition to plant; cost $1,000,000.

★**Toronto, Ont.**—Contract awarded by William Davies Company to Witchall & Son, 156 St. Helens Avenue, for erecting brick and concrete refrigerating plant; cost $50,000.

★Wells Gray, Confederation Life Building, Toronto, secured contract for erecting brick and concrete addition to Harris Abattoir, Union Stock Yards; cost $75,000.

BUILDINGS
Public and Private

PROPOSED WORK.

Boston, Mass.—Albert Geiger, Jr., 87 Milk Street, will erect three-story, 100 x 125-ft. auto service building on Warren Avenue and Claredon Street.

Chelsea, Mass.—S. S. Isenberg, Chelsea, engaged to prepare plans for the Carter School, to cost $175,000.

Lowell, Mass.—Sum of $200,000 has been given to Lowell General Hospital for erecting two-story building. Dr. Charles H. Stouell, Chairman Board of Trustees.

Brooklyn, N. Y.—Plans completed by Slee & Bryson, 154 Montague Street, for five 5-story brick apartment houses to be erected on Ridge Boulevard and Eighty-fourth Street for Minnie Bullock of West Simsbury, Conn.; total cost $350,000.

Harry Moore, 738 St. Marks Avenue, is architect for six-story 100 x 87-ft. brick apartment house to be erected at Prospect Park West and Eighth Street for Richard D. Bridgette, 305 Third Avenue; cost, $100,000.

Dunkirk, N. Y.—F. W. Ballard, Cleveland, Ohio, engaged by city to prepare plans for one-story brick addition to power house; cost approximately $200,000. A. B. Toomey, City Clerk.

Endicott, N. Y.—Methodist Society contemplates erecting 1½-story brick and stone church; cost about $60,000. Rev. George N. Underwood, Pastor, 119 Madison Avenue.

New York, N. Y.—Plans filed for erecting following buildings: 6-story brick apartment at 153d Street and Bradhurst Avenue for Bradhurst Holding Company, cost $50,000, George F. Pelham, Archt., 30 East Forty-second Street; two 5-story brick apartments at Dyckman Street and Post Avenue for 302 Fifth Avenue Company, total cost $200,000, George F. Pelham, Archt., 30 East Forty-second Street; two 12-story brick fireproof apartment houses at 1140 and 1760 Fifth Avenue for Floyd S. Bryce, total cost $1,200,000, Shape & Bready, Archts., 220 West Forty-second Street; 13-story brick fireproof store and apartment house at 1 East Eighty-second Street and a 9-story brick fireproof store and apartment house at 2 East Eighty-eighth Street for Adele S. Dodd, total cost $400,000, Delano & Aldrich, Archts., 4 East Thirty-ninth Street; 13-story brick fireproof apartment house at Park Avenue and Ninetieth Street for Alliance Realty Company, cost $1,000,000, Andrew J. Thomas, Archt., 2526 Webster Avenue; 5-story brick fireproof tenement house at 171st Street and Broadway for Gross & Bagge, cost $175,000, Neville & Bagge, Archts., 105 West Fortieth Street; 16-story brick fireproof loft building at 160 Madison Avenue for I. Randolph Jacobs, cost $550,000, W. L. Rouse & L. A. Goldstone, Archts., 38 West Thirty-second Street; 12-story brick fireproof apartment house at Claremont Place and Riverside Drive for Coll-Clare Realty Company, cost $1,500,000, Neville & Bagge, Archts., 105 West Fortieth Street; brick and stone school, church and rectory at 147 West Seventieth Street for Cardinal John M. Farley, cost $500,000, Gustave E. Steinback, Archt., 15 East Fortieth Street; 9-story brick fireproof club house at 6 West Fifty-fifth Street for University Club, cost $100,000, McKim, Mead & White, Archts., 101 Park Avenue; 5-story brick dwelling at 12 East Ninety-sixth Street for Robert L. Livingston, cost $60,000, Ogden Codman, Archt., 340 Madison Avenue; 12-story brick and terra cotta fireproof hotel at 123 West Forty-seventh Street for Stebbing Company, cost $290,000, William H. Gompert, Archt., 171 Madison Avenue; 14-story brick fireproof hotel at 28 East Sixtieth Street for Dunnock Realty Company, cost $400,000, Emery Roth, Archt., 119 West Fortieth Street; 14-story brick fireproof hotel at 206 West Seventieth Street for Directors' Realty Holding Corporation, cost $300,000, W. L. Rouse & L. A. Goldstone, Archts., 38 West Thirty-second Street; 39-story brick and terra cotta fireproof hotel at 587 Broadway for the Silk Realty Company, cost $1,900,000, Charles E. Horn, Archt., 1476 Broadway; 13-story brick fireproof hotel at 350 Lexington Avenue for Hoggson Brothers, cost $140,000, Charles Ewing and J. R. Allen, Associate Archts., 101 Park Avenue; 22-story brick fireproof hotel at Forty-fifth Street and Madison Avenue for A. Heckscher, cost $1,000,000, Warren & Wetmore, Archts., 16 East Forty-seventh Street; 12-story brick fireproof office building at 111 Moore Street for Fred B. Jennings, cost $300,000, Renwick, Aspinwall & Tucker, Archts., 8 West Fortieth Street; 16-story brick fireproof telephone exchange and office building at 42 Pearl Street for New York Telephone Company, cost $1,200,000, McKenzie, Voorhees & Gmelin, Archts., 1123 Broadway; 12-story brick fireproof store and loft building at 214 West Twenty-eighth Street for Midtown Holding Corporation, cost $250,000, Neville & Bagge, Archts., 105 West Fortieth Street; 17-story brick fireproof store, office and loft building at 224 West Thirty-fourth Street for 224 West Thirty-fourth Street Company, cost $380,000, E. L. Larkin, Archt., 259 West Thirty-fourth Street; 16-story brick, terra cotta fireproof store, loft and office building at 256 West Thirty-fourth Street for Chelsea Exchange Bank, cost $1,450,000, E. L. Larkin, Archt., 259 West Thirty-fourth Street; 16-story brick fireproof store and loft building at 13 West Thirty-sixth Street for J. Tishman, cost $250,000, Schwartz & Gross, Archts., 347 Fifth Avenue, 16-story brick fireproof store and loft building at 234 West Thirty-sixth Street for Thirty-sixth Street Company, cost $450,000, Neville & Bagge, Archts., 105 West Fortieth Street; 16-story brick fireproof store, loft and office building at 205 West Thirty-sixth Street for Seventh Avenue Association, Incorporated, cost $980,000, E. L. Larkin, Archt., 259 West Thirty-fourth Street; 16-story brick fireproof store and loft building at 208 West Thirty-ninth Street for Midtown Holding Company, cost $450,000, Neville & Bagge, Archts., 105 West Fortieth Street; 16-story brick fireproof office and loft building at 104 West Fortieth Street for Valentine Cook, cost $750,000, Albert J. Bodker, Archt., 62 West Forty-fifth Street; 16-story brick, terra cotta, granite and fireproof store, loft and office building at 49 West Forty-fifth Street for F. J. Fullayter, cost $425,000, E. L. Larkin, Archt., 259 West Thirty-fourth Street; 27-story brick fireproof store and office building at 201 Broadway for 195 Broadway Corporation, cost $200,000, W. W. Bosworth, Archt., 527 Fifth Avenue; 32-story limestone, brick fireproof store, office and storage building at 112 Park Avenue for Benjamin L. M. Bates, cost $4,700,000, Charles Ewing and J. R. Allen, Associate Architects, 101 Park Avenue; 16-story brick, terra cotta, granite and fireproof office, store and loft building at 469 Seventh Avenue for Benjamin F. Haas, cost $1,050,000, E. L. Larkin, Archt., 259 West Thirty-fourth Street; 16-story brick, terra cotta, granite and fireproof store, loft and office building at 492 Seventh Avenue for U. S. Realty & Improvement Company, cost $1,325,000, E. L. Larkin, Archt., 259 West Thirty-fourth Street; 16-story brick, terra cotta, granite and fireproof store, loft and office building at 500 Seventh Avenue for Caroline and Eliza W. White, cost $2,175,000, E. L. Larkin, Archt., 259 West Thirty-fourth Street; 20-story brick fireproof store and office building at 110 William Street for the 110 William Street Corporation, cost $981,000, Frank H. Quinby, Archt., 99 Nassau Street; 16-story brick fireproof store and office building at 27 West Forty-third Street for Syndicate Managers of Racquet and Tennis Club, cost $1,100,000, Starrett & Van Vleck, Archts., 8 West Fortieth Street; 16-story brick fireproof store, loft and office building, 7 West Thirty-ninth Street, for Frank V. Burton, cost $300,000, Starrett & Van Vleck, Archts., 8 West Fortieth Street; 16-story brick and fireproof store, loft and office building at 6 West Forty-eighth Street for Robert T. Burrill, cost $250,000, Robert T. Lyons, Inc., Archt., 52 Vanderbilt Ave.; 18-story brick and stone fireproof store and office at Thirty-second Street and Fifth Avenue for George T. Rives, cost $400,000, Trowbridge & Livingston, Archts., 527 Fifth Avenue; 1-story brick and fireproof theater at 126 Dyckman Street for 135 Broadway Holding Corporation, cost $60,000, J. C. Watson, Inc., Archt., 271 West 125th Street; 4-story brick garage at Grand Avenue and Fordham Road for Henry Koch Realty Company, cost $50,000, Schwartz & Gross, Archts., 347 Fifth Avenue.

Rochester, N. Y.—Board of Education will soon let contract for Lincoln School 22, two stories, 148 x 299 ft., brick and stone, to be erected at Zimbrick and Leo Streets; cost about $130,000.

Syracuse, N. Y.—James A. Randall, 209 Midland Avenue, engaged to prepare plans for new Jefferson School; $60,000 available; also for school to be erected in Nineteenth Ward, at Broad Street and Lancaster Avenue; approximately $88,000 available.

Fairview, N. J.—Election to be held Aug. 8 to vote $54,000 bonds for erecting school in Underhill Section of the Borough. James F. Lyons, Borough Clerk.

Jersey City, N. J.—City Commissioners have decided to erect library buildings in Hudson City, Bergen and Greenville sections of the city, to cost $175,000.

Plans being prepared by William A. Tilton, 76 Montgomery Street, for five-story brick and limestone store and apartment building to be erected at Thirteenth Street and Park Avenue for David Palermo; cost about $70,000.

Newton, N. J.—School Board sold $75,000 bonds to erect new high school.

Union, N. J.—Erection of $100,000 school on Hudson Avenue contemplated. Address Board of Education.

Plans and specifications being prepared for St. John's German Lutheran Church; cost $50,000. Jacob Schuster, Chairman Building Committee.

West New York (P. O., Weehawken), N. J.—A. A. Costa, West New York, will erect an apartment house on Dewey Avenue, to cost $60,000.

Allentown, Pa.—Norman S. Sherwood, North Stock Exchange Building, Philadelphia, reported interested in erecting a branch department store building at Fifth and Hamilton Streets, to cost approximately $500,000.

Lewistown, Pa.—School bonds amounting to $100,000 sold. Address Board of Education.

Philadelphia, Pa.—See "Railroads."

Philadelphia, Pa.—Plans completed by John T. Windrim, Commonwealth Building, for nine-story, stone, concrete and brick building to be erected at Tenth and Chestnut Streets for Philadelphia Electric Company; cost $375,000.

Albert Kelsey, Perry Building, is architect for seven buildings to be erected for

Carson College for Girls; total cost $250,000.

Contract soon to be let by Frederick Webber, Archt., Morris Building, for erecting 15-story, 61 x 106 ft., brick, stone and terra cotta office building.

Contract soon to be let by N. Serrancio, Archt., 1170 Broadway, New York, N. Y., for erecting St. Nicholas Roman Catholic Church, 54 x 115 ft., brick and stone.

Architects engaged to prepare plans for $50,000 building to be erected at 529 Chestnut Street for Girard Life Insurance Company, Drexel Bldg.

Baltimore, Md.—St. Peter's Roman Catholic Church, Poppleton and Hollins Streets, will erect three-story, 75 x 75 ft. school from plans by Murphy & Olmstead, 1413 H Street N. W., Washington, D. C.; cost $50,000. Rev. Thomas J. Kenny, Pastor, 848 Hollins Street.

Norfolk, Va.—Common Council reported in favor of appropriating $100,000 for erecting new school in West Ghent section to be known as the Walter Herron Taylor School.

Jacksonville, Fla.—F. E. Hathaway, Superintendent of Board of Public Instruction, authorized to sell $600,000 school bonds.

New Orleans, La.—Building Committee of New Orleans Stock Exchange in a report recommends erecting new building to cost about $300,000. Address Board of Directors, Cotton Exchange.

Louisville, Ky.—Plans completed by J. J. Gaffney, 437 South Second Street, for two-story garage to be erected for W. A. Thomas; cost approximately $50,000.

Cleveland, Ohio.—Plans being prepared by H. T. Jeffrey, 1836 Euclid Avenue, for three-story commercial and apartment building which George W. Hale, 340 Leader - News Building, contemplates erecting at Addison Road and Superior Avenue; cost between $45,000 and $50,000.

Alexander Bernstein, City Director of Public Service, recommends erecting $175,000 bathhouse at Gordon Park.

Lamar T. Beman, City Director of Public Welfare, will recommend at City Council meeting Aug. 28 issue of $400,000 bonds for erecting additions to tuberculosis sanitarium at Warrensville.

Reported an addition costing about $50,000 is to be erected to Fern Hall, 3250 Euclid Avenue.

East Liverpool, Ohio.—School bonds amounting to $95,000 sold. Address Board of Education.

Rocky River, Ohio.—Midland Film Company (H. P. Angel, Secretary), 453 Leader-News Building, Cleveland, purchased site here and intends erecting moving picture studio; total cost about $100,000.

Wellington, Ohio.—School bonds for $55,000 will be sold Aug. 5, by Board Education, E. L. Barrick, Clk.

Terre Haute, Ind.—Lowe & Bollenbaker, 14 East Jackson Boulevard, Chicago, Ill., engaged to prepare plans for Centenary Methodist Church, recently destroyed by fire; estimated cost $80,000. Dr. Walter Rice, Chairman Building Committee.

Battle Creek, Mich.—Erection of a fireproof nurses' home on North Washington Avenue, for Battle Creek Sanitarium contemplated; cost $100,000.

Chicago, Ill.—Augustinian Society of Illinois secured site at Sixty-third Street and Fairfield Avenue and intends erecting a hospital with two or three wings, nurses' home, superintendent's home and quarters for employees; cost about $250,000.

Steger, Ill.—John V. Steger Estate will erect 2 brick and steel hospital buildings costing, with equipment, $90,000. George F. Steger of Steger may be able to give information.

Ashland, Wis.—Knights of Columbus will erect a $50,000 clubhouse at Ellis Avenue and Second Street.

Iowa City, Iowa.—Citizens voted $250,000 bonds for erecting four or five schools. Address Board of Education.

Lincoln, Neb.—All bids opened July 22 by Property Committee of Board of Regents, University of Nebraska, Lincoln, for erecting the agricultural and engineering building at the University rejected. Cost $140,000.

Great Falls, Mont.—Reported School Board contemplates erecting $100,000 school on West Side.

Jonesboro, Ark.—Erection of $50,000 high school contemplated. Address Clerk School Board.

Bartlesville, Okla. — Commercial Club reported considering erecting auditorium; probable cost $$50,000.

North Yakima, Wash.—H. J. Cahalan, North Yakima, will erect a 32-suite apartment house on Yakima Avenue; cost $60,000.

Tacoma, Wash.—Reported Heath & Gove, National Realty Building, engaged to prepare sketches for fireproof nurses' home, to be erected at Tacoma General Hospital; cost $50,000. S. M. Jackson, President Board of Trustees.

Portland, Ore.—Reported revised plans prepared and contract soon to be let for erecting proposed $200,000 Benson Polytechnic School of brick and terra cotta construction. F. A. Naramore, Supt. of School Properties, Court House, Portland.

Reported R. F. Wassell, Pittock Block, plans erecting four-story, fireproof apartment house costing $125,000.

Los Angeles, Cal.—L. T. Mayo, Black Building, is architect and will have charge of erecting four-story and basement, 135 x 150 ft. apartment house on Grand Avenue and Fourth Street for Harold Nutter; cost about $150,000.

San Francisco, Cal.—Jail and hospital bonds for $450,000 have been sold.

Santa Barbara, Cal.—See "Reinforced Concrete."

Salt Lake City, Utah.—State School Commission approved plans for seventeen schools; total cost $450,000.

Gooding, Idaho.—Reported Tourtellotte & Hummel, Rothschild Building, Portland, Ore., engaged to prepare plans for proposed two-story, 156 x 120 ft., stone administration building to be erected at Gooding College by Methodist Church of Idaho; cost $80,000. Reported contract for construction will be let about Sept. 1.

Rexburg, Idaho.—Reported plans being prepared for two-story, 165 x 80 ft., brick and terra cotta hotel which the Rexberg Investment Company intends erecting; cost $50,000.

Windsor, Ont.—T. L. Reeves of the Universal Realty Company is preparing plans for a 24-story office building.

San Juan, Porto Rico.—All bids opened for erecting Santurce School rejected. Plans being revised and new bids will be asked about the middle of August.

Banco Popular Bank of San Juan, plans erecting new bank and office building; probable cost, $80,000.

BIDS DESIRED.

Bridgewater, Mass.—Until Aug. 9, by Massachusetts Board Education, Payson Smith, Comr., Room 217, State House, Boston, for erecting new dormitory, refectory and service building on grounds of State Normal School, Bridgewater. Separate bids for ventilating, heating, mechanical equipment, etc.

Milton, Mass.—Until Aug. 9 by Committee on School Buildings (Percy E. Sheldon, Chmn.) for erecting an addition to the Vose School. Kilham & Hopkins, Archts., 9 Park Street, Boston.

Cobleskill, N. Y.—Until Aug. 15 by Board Trustees, Agricultural Hall, State and Lodge Streets, Albany, for constructing plumbing and drainage and electric work for dairy and horse barn at Schoharie State School of Agriculture, Cobleskill, advertised in Engineering Record. Lewis F. Pilcher, State Architect, Albany.

Harrisburg, Pa.—Until Aug. 7, by Supervising Architect Treasury Dept., Washington, D. C., for erecting elevator, etc., in U. S. Post Office.

Westernport, Md.—Until Aug. 10 by Board of Education (Edward F. Webb, Secretary) for erecting a 2-story brick addition to Westernport High School. George F. Sansbury, Archt., Cumberland.

Columbus, Ga.—Until Aug. 10 by T. Hicks Fort, of Building Committee of Roase Hill Lodge I. O. O. F. No. 480, for erecting three-story brick building on Twenty-fourth Street and Hamilton Avenue. Separate bids for heating, wiring, plumbing, etc.

Savannah, Ga.—Until Aug. 16, by Auditorium Commission, for erecting and completing the municipal auditorium building. Separate bids for heating, ventilating, etc. Henrik Wallin, Archt., 23 Abercorn Street, Savannah.

Orlando, Fla.—Until Sept. 12, by James A. Wetmore, Acting Supervising Architect, Washington, D. C., for constructing U. S. Post Office, advertised in Engineering Record.

Athens, Ala.—Until Sept. 7, by County Commissioners, for erecting a court house, including heating, plumbing and wiring, advertised in Engineering Record.

Florence, Ala.—Until Aug. 15, by City Clerk, for erecting high school. Separate bids for heating, plumbing, excavation, etc. Rich. G. Deacon, Archt., Chattanooga, Tenn.

Cleveland, Ohio. — Reported desired until Aug. 8, by E. W. Streibinger, Archt., Euclid Bldg., for erecting a one-story and basement, 100 x 150 ft. church for Second Church of Christ. Probable cost, $200,000.

Eaton, Ohio.—Until Aug. 26, by County Auditor, for erecting a 3-story and basement, 74 x 146-ft. courthouse and jail. Probable cost, $250,000. Richards, McCarty & Bulford, Archts., 1001 Hartman Bldg., State and Third streets, Columbus; G. E. Renshaw, Secy., Preble County Court House Bldg. Com.

Hilliards, Ohio.—Reported desired until Aug. 18, by Dr. W. Reason, Pres. Board Education, for erecting a 2-story and basement high and grade school. Probable cost, $60,000. Frank L. Packard, Archt., Hayden Bldg., Columbus.

Struthers, Ohio.—Until Aug. 16 (readvertisement) by Jonah Richards, City Clerk, for erecting a municipal building to cost about $60,000.

Eaton, Ind.—Reported desired until Aug. 18, by Wm. E. Gump, Trustee Union Township, for erecting a brick school.

Huntington, Ind.—Reported desired until Sept. 2, by Board Trustees (F. H. Diehm, Secy.), for erecting a county hospital.

Grand Rapids, Mich.—Reported desired until Aug. 10, by Marion Van Blois, Secy. School Dist. No. 3, for erecting a fireproof building at East Grand Rapids. Thos. Benjamin & Son, 35 Wenham Bldg., Grand Rapids, Archt.

Hinsdale, Ill.—Reported desired until Aug. 12, by Talmadge & Watson, Archts., 189 W. Madison Street, Chicago, for erecting a two-story and basement, 126 x 110-ft. church. Probable cost, $75,000.

Fort Dodge, Iowa.—Until Aug. 24, by J. L. Parte, Secretary Independent School District, for erecting two brick schools, to cost $65,000.

Mason City, Iowa.—Reported desired until Aug. 9 by Board Education (R. L. James, Clk.) for erecting a 2-story and basement, 165 x 240 ft., school. J. H. Felt & Co., Archts., Grand Avenue Temple, Kansas City, Mo.

Muscatine, Iowa. — Reported desired until Aug. 10, Eckland, Fugard & Knapp, Archts., 4 McKinnie Bldg., Moline, for erecting three-story, 75 x 125-ft. high school addition. Probable cost, $75,000.

Atwater, Minn.—Until Aug. 12, for erecting a Norwegian Lutheran Church at Atwater. Peter Larson, Secy. Building Committee. George E. Blewett, Archt., 646 Endicott Building, St. Paul.

Duluth, Minn.—Reported desired until Aug. 7, by N. A. Young, Supt. Board Education, for erecting three schools in Dists. Nos. 105, 107 and 108.

Moorehead, Minn.—Until Aug. 7, by School Board Dist. No. 88, for erecting a brick consolidated school. Separate bids for heating, plumbing, etc. A. J. O'Shea, Archt., Fargo, N. D.

Arkansas City, Kan.—Until Aug. 7 by W. N. Sinnott, City Clerk, for erecting a city hall and auditorium building. Wm. T. Schmitt, Archt., Oklahoma City, Okla.

Harper, Kan.—Until Aug. 7, by Board Education and S. S. Voight, Archt., Wichita, for erecting a high school. Separate bids for heating, plumbing, etc.

Cumberland, Neb. — Reported desired until Aug. 11 by Archts. Reimer & Herlin, Marshalltown, Iowa, for erecting school. Separate bids for heating, plumbing, etc.

Niobrara, Neb.—Until Aug. 18, by James Forsyth, Secy., for erecting a high and grade school. Grabe & Helleberg, Archts., Columbus. Also separate bids same time and place, for plumbing and heating apparatus.

Mitchell, S. D.—Reported desired until Sept. 1, for erecting three-story, 84 x 108-ft. hospital for Methodist State Hospital. Probable cost, $75,000. C. Chapman, Archt., Paulton Blk., Sioux Falls.

Winner, S. D.—Unitil Aug. 10, by Lloyd Mengel, Clk. Board of Education, Lamro Independent Consolidated School Dist., No. 20, for erecting a high and grade school in said school district. Grabe & Helleberg, Archts., Columbus, Neb. Also same time and place, separate bids for plumbing and heating apparatus.

Moberly, Mo.—Reported desired until Aug. 10, by Board Education, for erecting two-story 50 x 75-ft. addition to high school. Probable cost, $90,000. W. H. Sayler, Archt., 606 Gumbel Bldg., Kansas City, Mo.

Avalon, Cal.—Until Aug. 11, F. W. Elder, City Clerk, for furnishing material and erecting a city hall and jail. Bids desired as follows: (a) on entire work complete, (b) entire work omitting plumbing, (c) entire work omitting painting and plumbing, (d) plumbing both buildings complete, (e) for painting both buildings complete. C. C. Rittenhouse, Archt., 310 Wilcox Bldg., Los Angeles.

Calgary, Alta.—Reported desired until Aug. 8, by R. C. Desroches, Secy., Dept. Public Works, Ottawa, Ont., for erecting a drill hall. Leo. Dowler, Archt., Calgary.

The Pas, Man.—Until Aug. 16, by Thomas H. Johnson, Minister Public Works, Winnipeg, for erecting public buildings at The Pas. G. Nelson Taylor, Archt., The Pas.

Vancouver, B. C.—Until Aug. 8, by B. Marcus Pritcea, Archt., Pantages Theater Bldg., Seattle, or World Bldg., Vancouver, for erecting a 104 x 120 ft. theater on Hastings Street in Vancouver for Alex. Pantages; probable cost $200,000.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**North Andover, Mass.**—Contract for enlarging Johnson High School and Stevens Hall awarded E. A. Peabody & Son of Lawrence, at $66,088.

Bristol, R. I.—Following are four lowest bids, opened by School Committee, for erecting school on High Street: William Williams, 86 Weybosset Street, Providence, $53,000; Alex. Martin, Providence, $54,273; William H. Hamlyn & Son, Providence, $55,387; Famiglietti Brothers, Providence, $55,600. Clark & Howe, Archts., Turk's Head Building, Providence.

★**New York, N. Y.**—Contract awarded R. McAdams, 4203 Third Avenue, for erecting five-story, 100 x 100-ft. brick and limestone apartment house at Academy Street and Sherman Avenue for Jacob Ruppert Realty Company; cost about $100,000. Moore & Lansiedel, Archts., 148th Street and Third Avenue.

★**Cliffside Park (P. O. Cliffside), N. J.**—Contract for erecting Roman Catholic Church of Epiphany awarded Montague & Egan, 523 Jersey Avenue, Jersey City; cost about $50,000.

Jersey City, N. J.—Reported following bids opened July 25 by City Commissioners for erecting (a) new wing and (b) nurses' home at City Hospital: (a) general construction, Emerson Building Company, 103 Park Avenue, New York, N. Y., $248,900; plumbing, P. F. Kenny Company, 33 Old Broadway, New York, N. Y.; $22,950; heating and ventilating, Adams Britz & Company, 1761 Park Avenue, New York, N. Y., $46,333; (b) general construction, W. H. & F. W. Cane Company, Woolworth Building, New York, N. Y., $52,525; heating and ventilating, John H. Cooney, 212 North Fourth Street, $5,017; electrical work, Manhattan Engineering Company, 217 East Thirty-fifth Street, New York, N. Y., $820.

Montclair, N. J.—All bids opened July 25 by Board of Education for erecting (a) addition and alteration to Watchung School and (b) addition to Nishuane School rejected. The lowest bidder was Fred Kilgus, Newark, (a) $91,400 and (b) $93,573.

★**Coatesville, Pa.**—Contract awarded by Lukens Iron & Steel Company to Irwin & Leighton, 126 North Twelfth Street, Philadelphia, for erecting two-story, 25 x 131 ft., brick and stone office building. Stewardson & Page, Archts, 316 Walnut Street, Philadelphia.

★**Chestertown, Md.** — Contracts for erecting two buildings at the Washington College (bids opened July 20) awarded as follows: Brick administration building to Henry S. Rippel, Baltimore, and for boiler house to Clarence E. Stubbs, Baltimore. Total cost $53,990. J. W. Cain (President), Chairman Building Committee.

★**Newark, Del.** — Contract awarded George & Borst, 277 South Eleventh Street, Philadelphia, Pa., for improvements at Delaware College, costing $75,000. Day & Klauder, Archts., 925 Chestnut Street, Philadelphia, Pa.

Arlington, Va.—Following are bids opened July 26 by Memorial Amphitheater Commission, Washington, D. C., for erecting masonry approaches to Memorial Amphitheater in the Arlington National Cemetery: Marble Arch Company, Broadway and 216th Street, New York, N. Y., submitted four bids, ranging from $112,200 to $135,900; John H. Parker Company, 315 Fourth Avenue, New York, N. Y., four bids, ranging from $114,950 to $139,950, and George A. Fuller Company, Munsey Building, Washington, D. C., three bids, ranging from $102,000 to $130,000.

Norfolk, Va.—Lowest bid opened for erecting Ohef Sholom Temple at Raleigh Avenue and Stockley Gardens submitted by Baker & Brinkley, of Norfolk, at $81,498.

Cocoa, Fla.—See "Reinforced Concrete."

★**Alliance, Ohio.**—J. H. Wells, Heed Building, Philadelphia, Pa., secured contract for erecting $60,000 Elks Building.

Anderson, Ind.—P. H. Lorenz of Moline, Ill., submitted lowest bid for erecting Y. M. C. A. building, at $133,340.

★**Superior, Wis.**—Weinberg Construction Company, Grand Rapids, secured contract to erect addition to training school; cost about $80,000.

Union Grove, Wis.—All bids opened recently for erecting buildings at Southern Home for Feeble Minded and Epileptics, at Union Grove, exceeded the appropriation and some changes will have to be made before contract can be awarded by State Board of Control, at Madison. (M. J. Tappins, Secretary.)

★**Davenport, Iowa.**—Contract awarded Central Engineering Company of Davenport, for erecting addition to car barns and other improvements for Tri-City Railway Company; cost $85,000.

★**Hibbing, Minn.**—Contracts for erecting courthouse awarded as follows: General construction, Hugh Fawcett, Duluth, $78,485; plumbing, heating and ventilating, A. C. Schirmer Company, Hibbing, $16,460; electrical work, Northern Electric Company, Duluth, $1,497.

★**Portland, Ore.** — Contract reported awarded Litherland & Abrey, Beck Building, for erecting $90,000 building in the Piedmont District for Sisters of Good Shepherd.

Los Angeles, Cal.—See "Reinforced Concrete."

★**St. Gregoire le Thaumaturge, Que.**—Contract for erecting school awarded Martineau & Prenouveau, 643 Berri Street, Montreal; cost $140,000.

★**Galt, Ont.**—Contract awarded Truss Concrete Steel Co. of Walkerville for erecting $60,000 exchange building for Bell Telephone Co.

★**Toronto, Ont.** — Contract awarded Wells Brothers, 96 Gould Street, for erecting brick employees' home for Robert Simpson Company; cost $100,000.

Regina, Sask. — See "Steel Bridge Work."

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Boston, Mass.—All bids opened July 24 by Metropolitan Water and Sewerage Board for improving Beaver Dam Brook in Towns of Framingham, Natick and Sherborn, rejected.

No bids received by Harbor & Land Commissioners, Boston, July 29, for dredging Sangus River; $10,000 available for this work.

Newton, Mass.—Board of Aldermen appropriated $6,000 to complete South Meadowbrook drainage system.

Covington, Ga.—Directors of Cornish Creek Drainage District reported taking steps to construct the drainage district which will be about 13 miles in length and cost $31,600. C. D. Gibson is member of Board of Trustees.

Huntington, Tenn.—Reported plans prepared for 25 to 30 miles of canals for draining 20,000 acres in Carrol County Drainage District No. 1; cost about $150,000.

Water Valley, Miss.—Board of Mayor and Aldermen is considering the construction of a drainage canal.

Boone, Iowa.—Supervisors of Boone, Webster and Hamilton Counties are reported to be taking steps to construct a joint drain to cost $60,000.

Elk River, Minn.—No bids received July 28 by Arthur Robinson, County Auditor, for constructing Judicial Ditch No. 1 of Sherburne and Anoka Counties.

Plankinton, S. D.—County Commissioners reported to be taking steps to construct the drainage ditch in Palatine Township, costing $24,000.

Woonsocket, S. D.—Reported County Commissioners plan constructing three drainage ditches, one estimated to cost about $38,000.

Newport, Ark.—C. H. Miller, Little Rock, has prepared plans which have been approved for the levee system to be constructed at a cost of $125,000. With exception of 400 yd. through Iron Mountain, which will be of concrete, levee will be of ordinary construction.

San Benito, Tex.—Citizens, July 25, voted to form the San Benito Irrigation District, later to take over the canal lines, pumping plants and other property of the San Benito Land & Water Company, now in hands of a receiver. B. F. Foley is to be a director of the district. Another election is to be held later to vote $600,000 bonds to provide funds for purchase and improvement of the canal lines and for future needs.

Saticoy, Cal.—The cost of constructing drainage works has been estimated by Commissioners of Saticoy Drainage District at $32,780. Address Board of Supervisors, Ventura.

Terra Bella, Cal.—Terra Bella Irrigation District will hold an election Aug. 12 to vote on $1,000,000 bond issue for constructing an irrigation system consisting of about 16 wells, four 8 and two 12-in. centrifugal pumps, two 120-hp. Diesel engines, two 25-hp. motors, a 75-hp. engine, turbines, and 30 to 40-in. distributing pipes, later to be enlarged by additional centrifugal pumps, engines, etc. S. E. Kieffer, Engineer, 57 Post Street, San Francisco, prepared preliminary plans.

Caldwell, Idaho.—Reported Pioneer Irrigation Ditch is to be lined with concrete; cost about $60,000. J. W. Shepard of Caldwell, Engr. in charge of work.

BIDS DESIRED.

Bolivar, Tenn.—Reported desired until Aug. 12, by M. R. Hizer, Chmn. Directors Drainage Dist. No. 3, for constructing canal 4.9 miles long at top and 14 ft. wide, 63,200 cu. yd. right of way to be cleared.

Rock Island, Ill.—By Commissioner of Drury Drainage District, Rock Island County, for repair and rebuilding of about 9 miles of levee along Mississippi River, advertised in Engineering Record. Work can be done with hydraulic dredge. For further information address Elliott & Harman Engineering Company, Peoria.

Mason City, Iowa.—Reported desired until Aug. 14 by George E. Frost, County Aud., for constructing County Drainage Dist. No. 26, to consist of Sect. 1, 15,500 ft. of 8 to 26-in. tile, and Sect. 2, 5200 ft. 8 to 18-in. tile, and a number of smaller laterals.

Tipton, Iowa.—Until Aug. 7, at office of the Board of Supervisors, for grading 7 miles of county roads, and 58,600 cu. yd. earth excav. Separate bids considered on sections. H. L. Phelps, County Engineer.

Waterloo, Iowa—Until Aug. 10, by County Board of Supervisors, for constructing Drainage District No. 5, in all about 41,830 ft. of from 8 to 24 in. tile together with bulkhead, etc. J. Rainbow, County Auditor.

Webster City, Iowa.—Reported desired until Aug. 15 by A. J. Peterson, County Aud., for furnishing material and constructing joint county drain. Probable cost $65,589.

Marshall, Minn.—Until Aug. 21, by Ernest S. Shepard, County Aud. for County Ditch No. 20, to consist of 36,797 ft. of from 5 to 24 in. Estimated cost, $14,439. Also for County Ditch No. 21, to consist of 23,472 ft. of 6 to 24-in. tile. Estimated cost, $7,566.

St. James, Minn.—Reported desired until Aug. 15, by J. C. Jensen, Co. Aud., for Judicial Ditch No. 11, of tile. Probable cost $79,205.

Gordon, Neb.—Until Aug. 15, by Paul E. Brown, Engr. in charge, 206 North Elm Street, Gordon, for cleaning natural water course and constructing ditches in the Horse Shoe Lake Drainage Dist., about 150,000 cu. yd. excav. in sand and muck. Leat is nearest unloading point, 3½ miles from lower end of main ditch. Dry-land dredges and dragline work.

England, Ark.—Until Aug. 7, by Commissioners Keo-England Drainage Dist. No. 4, of Lonoke County (S. C. Cobb, Secy.), at office of Morris & Morris, Attorneys, England, for constructing a floating dredging ditch about 10 miles long, 8 to 20 ft. bottom, and 5 miles of laterals, bottom 8 ft., aggregating 278,500 cu. yd., also 5500 cu. yd. levee work and 6700 cu. yd. team work.

Seattle, Wash.—Until Aug. 8, by Board Commissioners of Drainage Dist. No. 4 (Roy Pickering, Secy.), 715 New York Blk., Seattle, for constructing a drainage system in Drainage Dist. No. 4. Cost about $25,000. James Watson, Globe Block, Seattle.

Richfield, Utah.—Until Aug. 22, for drainage system for Seiver County Drainage District No. 1, to consist of approximately 350,000 lin. ft. trenching from 5 to 8 ft. deep, and 350,000 lin. ft. drain tile from 5 to 15 in. in diameter. (L. A. Wilson, Secretary District.) Brown & Kleinschmidt, Engineers, 306 Dooly Block, Salt Lake City.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Boston, Mass. — Following are bids opened July 19 by Harbor and Land Commissioners, State House, Boston, for dredging 75,000 yd. material at Yarmouthport Harbor, Yarmouth and Barnstable: Bay State Dredging Company, 247 Atlantic Avenue, 44 cts. per cu. yd.; John R. Burke, 78 Devonshire Street, 58 cts. per cu. yd.

Boston, Mass.—See "Proposed Work."

Erie, Pa.—Following are three bids opened July 26 by Finance Committee of the Board of Education for constructing temporary channel for Mill Creek through site of New Academy High School: L. V. Metz Construction Company, 34 cts. per cubic yard for excavation and disposal of material and $1.24 for rock excav.; F. G. Diefendorf, 35 cts. and $1.25, and Willis Bancroft, Jr., 70 cts. and 85 cts.

Baltimore, Md.—The bid of Dorsey & Miller Company, Washington, D. C., at 16.25 cts per cu. yd. for dredging in Susquehanna River (bids opened July 11 by U. S. Engineer's Office, Baltimore), has been recommended for award.

★**Bowling Green, Ohio.**—Contract for $60,000 worth of State Aid work consisting of earth and stone excav. awarded F. C. Goppell, Riesville.

★**Beardstown, Ill.**—Contracts reported awarded Traut & Osner, Beardstown, for constructing levee improvement in Big Praire Drainage and Levee District in Brown County at approximately $90,000, and for ditch work in New Plankey Pond District at about $9,000.

★**Jacksonville, Ill.**—Contract for constructing Hillview Levee and Drainage District (bids opened July 27) awarded A. Y. Wills & Sons, St. Louis, Mo., at $41,910. Other bids: Canal Construction Company, Chicago, $45,219, and Fred R. Jones Company, Chicago, $47,425. Caldwell Engineering Company, Engineers, Jacksonville.

★**Sullivan, Ind.**—Contract for improving 12-mile Gill Township levee awarded W. A. Polk & Company, Oaktown, at about $60,000.

★**Urich, Mo.**—Contract for constructing main ditch and laterals, 527,000 cu. yd. excav. on main ditch and 50,000 yd. on laterals (bids opened July 11) awarded A. V. Wills & Sons, 517 Boatman Bank Bldg., St. Louis, at $49,240. H. A. Stewart, Secretary, Pioneer Drainage District.

★**Arkansas City, Ark.**—Contract awarded R. H. & G. A. McWilliams, Memphis, Tenn., for constructing the Cypress Creek Drainage District, which will reclaim lands in Desha County, aggregating 286,000 acres. Three canals to be 40 miles long and from 40 to 70 ft. wide at bottom, included. Improvements to cost $1,000,000. Vernon McCammon, President District Board.

★**Seattle, Wash.**—Contract for sanitary fill, Denny & Hoyt addition, awarded Standard American Dredging Company, Central Building, Seattle, at $12,560.

★**Riverside, Cal.**—Contract awarded J. E. Winship, Riverside, by County Board of Supervisors, for drainage work in Drainage Improvement District No. 2 along San Jacinto River, in vicinity of Perris, involving approximately 450,000 cu. yd. excav. for new and enlarged channels for the river, levees, etc., construction of automatic gates, drainage pipe lines and enlargement of a number of small bridges at $52,700. Other bidders: Tryon & Brain, 501 Merchants Trust Building, Los Angeles, $56,489, and Robinson, Breese & Roberts, $56,800.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Oswego, N. Y.—John A. Bensel, 111 Broadway, New York, is engineer for the power development contemplated here and for which citizens voted in favor. Cost, $345,000. Fred M. Riley, Secretary Commission.

Philadelphia, Pa.—See "Railroads."

Martinsburg, W. Va.—Potomac Light & Power Company, organized to success the Martinsburg Power Company, and plans improvements to hydroelectric plant costing $100,000.

Miami, Fla.—County Commissioners will call an election, latter part of August, to vote $600,000 bonds for constructing a causeway across Biscayne Bay, between city of Miami and the town of Miami Beach.

Biloxi, Miss.—J. D. Ferguson, City Engineer, has submitted a report to Council on the cost of constructing a seawall along beach front and around Point Cadet to East Howard Avenue, estimated cost $205,178, length 4.85 miles, and a second proposition for a seawall from Kellar Avenue to western limits of the corporation, including filling, etc., at $123,673, to be 2.97 miles.

Chattanooga, Tenn.—See "Industrial Plants and Warehouses."

Shawano, Wis.—All bids opened June 27 by City Clerk for constructing concrete dam with concrete flume corewalls, etc., rejected.

Duluth, Minn.—Duluth, Missabe & Northern R. R. (H. L. Dresser, Ch. Eng., Duluth), will construct an ore dock costing $2,500,000.

Kansas City, Mo.—Harrington, Howard & Ash, Kansas City, are engineers for the Blue River improvements, which include lock and dam and improvements for commercial purposes, etc.; $100,000 available.

Fresno, Cal.—Pacific Light & Power Company (R. C. Starr, Chief Hydraulic Engineer), Pacific Electric Bldg., Los Angeles, is surveying for improvements to generating system near Huntington Lake in Fresno County, to include raising of two large concrete dams, one about 50 ft. and one about 120 ft., installation of generating units, etc. Numerous heavy grades lessened and curves shortened on the line of the San Jaoquin & Eastern Ry. (C. G. Watson, General Manager, Fresno.)

San Juan, Porto Rico.—A. Stierle, Engineer, San Juan, has prepared plans and specifications for rebuilding the Pier No. 2 of the Insular Dock Company, 100 x 420 ft. Work includes removing of old wooden piles and replacing them with steel cylinder piles filled with concrete on top of which is to be built a reinforced concrete girder beam and slab floor, designed for 540 lb. live load; total estimated cost $170,000; work to be started at once; $40,000 available.

BIDS DESIRED.

New York, N. Y.—Until Aug. 10, by Commissioners of Parks, Municipal Building, New York (Cabot Ward, President), for furnishing materials and constructing timber jetties and bulkhead on beach at Jacob Riis Park, Rockaway, Borough of Queens; security $15,000.

New York, N. Y.—Until Aug. 14, by Department of Public Charities (John A. Kingsbury, Comr.), for furnishing labor and material required for the erection of structural steel work for a nine-story and basement fireproof elevator storehouse on Blackwell's Island. Security $50,000. Also separate bids, same time and place, for constructing concrete foundation for same building.

Erie, Pa.—Until Aug. 18, by City Council, for constructing a series of 20 reinforced concrete piers, connected by a walkway at top, etc., to form a drift catcher across Valley of Mill Creek, advertised in Engineering Record.

Philadelphia, Pa.—Until Aug. 7, by Lighthouse Inspector, for furnishing and depositing 800 tons large rip rap at Ship Johns Shoal Light Station, Delaware River.

Steubenville, Ohio.—Until Aug. 22 by County Commissioners for furnishing material and constructing north abutment of Adena Bridge, also for furnishing material and constructing steel superstructure of Adena Bridge. John L. Means, Co. Aud.

Kansas City, Mo.—Until Aug. 9, by Board Park Commissioners (T. C. Harrington, Secy.), for furnishing material and constructing a rubble masonry retaining wall on southerly bank of Brush Creek.

Houston, Tex.—Until Aug. 25 by E. B. Booney, City Secy., for furnishing labor, material, machinery, electric motors, etc., for installation of three apron conveyors of the Reno type at Municipal Wharf No. 4.

Sherbrooke, Que.—Until Aug. 11, by E. C. Qatien, City Secretary-Treasurer, for constructing concrete dam at municipal hydroelectric plant, to cost $90,000. Thomas Tremblay, Engineer, Sherbrooke.

PRICES AND LETTINGS

★*Indicates award of contract.*

Boston, Mass.—Followings bids opened by Harbor and Land Commission, State House, Boston, July 19, for constructing breakwater, stone wall and timber bulkhead, Waquoit Bay, Falmouth, and Mashpee—(a) furnishing 3300 tons stone in place for breakwater, price per ton; (b) furnishing stone in place for wall, price per ton; (c) furnishing and setting in place 100 piles and 38,320 ft. B. M. for timber bulkhead, per lin. ft.: John R. Burke, 78 Devonshire Street, (a) $2.95, (b) $3.95, (c) $4.90; Dennis F. Crowley of Milton, (a) $3.90, (b) $4.40, (c) $4.95.

★**New London, Conn.**—Contract for constructing ferry slip and municipal wharf (bids opened July 17) awarded T. A. Scott Company, New London, at $33,900. Alton T. Miner, Chairman Building Committee.

★**New York, N. Y.**—Contract for foundation for building to be erected at Twenty-first Street and Broadway for Ritz Realty Corp., awarded to Underpinning & Foundation Co., 290 Broadway. Schwartz & Gross, 347 Fifth Avenue, Archts.

Manhattan Beach, Cal.—Following three lowest bids opened July 19 by Llewellyn Price, City Clerk, for constructing a pleasure wharf at foot of Marine Avenue are held for further consideration (all bids exceeded the appropriation and plans are being modified): Broadway Construction Co., 235 East Washington Street, Los Angeles, $22,485; Merchants Realty & Improvement Co., 630 Marsh Strong Building, Los Angeles, $22,346, and George W. Harbou, 149 W. Thirty-first Street, Los Angeles, $21,433.

★**San Francisco, Cal.**—Contract awarded by Pacific Gas & Electric Company July 25 to Twohy Bros., First National Bank Bldg., for raising Lake Spaulding Dam 25 ft. This will bring total height to 260 ft. and increase capacity from 43,500 to about 65,000 acre ft.

★**Ponce, Porto Rico.**—Contract awarded to Alonzo Aquilar, Mayaguez, at $37,000 by Department of Interior of Porto Rico for constructing 100-meter, one 50-meter and one 6-meter bridge, over Portuguese River, near Ponce. Bridges of reinforced concrete pile and pier, structural steel beam and reinforced concrete slab construction.

TUNNELS AND SUBWAYS

PROPOSED WORK.

Cleveland, Ohio.—County sold $500,000 subway bonds. Address County Clerk.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**New York, N. Y.**—Contract for constructing new East River tunnel opposite Sixtieth Street awarded by Public Service Commission, 120 Broadway, to Patrick McGovern & Company, 1 Madison Avenue, at $4,194,797.

★**Longmont, Col.**—Contract awarded F. C. Dreher of Denver for constructing 327 ft. tunnel leading from present dam to city water works of Loveland. This tunnel is part of the preliminary construction necessary for building municipal electric light system. Contract soon to be let for constructing power house; also for equipment, including two water turbines Total cost of system $120,000. E. S. Bice, Longmont, City Engineer Longmont and Loveland.

MISCELLANEOUS

PROPOSED WORK.

Incinerator—Clearfield, Pa. — Contract soon to be let by Council for constructing a garbage incinerator.

Garbage Disposal—Crooksville, Ohio.—A garbage disposal plant is to be installed. W. H. Davis, Mayor.

Garbage Disposal—Springfield, Ohio.—Construction of a garbage disposal plant is under consideration. Charles E. Ashberner, City Manager.

Crematory — Spokane, Wash. — See "Buildings."

Transmission Line—San Francisco, Cal.—It is proposed to construct a high-tension transmission line 12 miles long from Early Intake temporary power plant to Hetch Hetchy dam site. Surveys are to be made this month for this line, also for power line in Moccasin Creek and Lake Eleanor. Cost of construction of the power plant and the transmission line this year will be about $120,000.

Garbage Incinerator—Pocatello, Idaho.—L. W. Phillips is interested in the private garbage incinerator which it is proposed constructing at a cost of $35,000.

BIDS DESIRED.

Conduit and Steam Pipe Line—Central Islip, N. Y.—Until Aug. 17 by State Hospital Commission, Capitol, Albany, for conduit and steam pipe line at Central Islip State Hospital. Advertised in Engineering Record. Lewis F. Pilcher, State Architect, Albany.

Refuse Destructor—New Rochelle, N. Y.—Until Aug. 15, by John A. Hadert, Commissioner Public Works, for constructing a refuse destructor, advertised in Engineering Record.

Iron Fence—Charleston, S. C.—Until Aug. 15, by Lighthouse Inspector, for furnishing an iron and brick fence with stone caps, coping, etc.

Cement—Savannah, Ga.—Reported desired until Sept. 14, by G. Reuben Butler, Clk. County Commissioners, for 14,000 bbl. Portland cement, for cement highway.

Boiler—New Philadelphia, Oho.—Until Aug. 15, by James E. Scott, Director Public Service, for furnishing and installing one 200-hp. water tube boiler, advertised in Engineering Record.

Iron and Steel—Dallas, Tex.—Until Aug. 31, by U. S. Engineer Office, Dallas, for furnishing iron and steel advertised in Engineering Record.

Hydraulic Gate Valves—Los Angeles, Cal.—Until Aug. 8 by Dept. Public Service (C. P. Vrooman, Secy.), Knickerbocker Building, for furnishing hydraulic gate valves.

Street Sweeping—Los Angeles, Cal.—Until Aug. 14 by Board Public Works (F. H. Ferris, Secy.) for sweeping paved streets with power driven vacuum street sweeper for a period of one, two or three years.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Power Improvements—South Norwalk, Conn.**—Board of Electrical Commissioners awarded contract to J. G. White Engineering Cor. of New York City for designing and construction of extensions and improvements to electric light and power station at South Norwalk and installation of ornamental street lighting system in Second Taxing Dist. of Norwalk.

Proposals

For Proposals Advertised See Pages 43, 44, 45, 46 and 47

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.		See Eng. Record.
Aug. 7.	Hartford, Conn. Adv. Jul. 29.	Jul. 29
Aug. 7.	Eldon, Iowa. Adv. Jul. 29.	Jul. 29
Aug. 7.	Boston, Mass	Aug. 5
Aug. 8.	Oxford, N. Y. Adv. Jul. 22, 29.	Jul. 22
Aug. 8.	Matheson, Ont.	Jul. 29
Aug. 8.	Lexington, Ky.	Jul. 29
Aug. 8.	Mable, Minn.	Jul. 29
Aug. 8.	Elmhurst, Ill. Adv. July 29.	Jul. 29
Aug. 8.	Sheperdstown, W. Va.	Jul. 29
Aug. 8.	Boston, Mass	Aug. 5
Aug. 8.	Central Islip, N. Y.	Aug. 5
Aug. 8.	Kansas City, Mo.	Aug. 5
Aug. 8.	Glencoe, Ill.	Aug. 5
Aug. 8.	Albert Lea, Minn.	Aug. 5
Aug. 8.	Ashton, Ill. Adv. Aug. 5.	Aug. 5
Aug. 8.	Shirley, Mass	Aug. 5
Aug. 8.	Los Angeles, Cal.	Aug. 5
Aug. 8.	Thief River Falls, Minn.	Aug. 5
Aug. 9.	Sheridan, Mont. Adv. Jul. 15 to 29.	Jul. 15
Aug. 9.	Boston, Mass	Aug. 5
Aug. 9.	Louisville, Ky.	Aug. 5
Aug. 9.	Glasgow, Mont.	Aug. 5
Aug. 10.	Red Creek, N. Y. Adv. Jul. 15.	Jul. 15
Aug. 10.	Coshocton, Ohio	Jul. 22
Aug. 10.	Atlantic City, N. J. Adv. Jul. 29.	Jul. 29
Aug. 10.	Ft. Madison, Iowa	Jul. 29
Aug. 10.	Coshocton, Ohio	Jul. 29
Aug. 10.	Shreveport, La	Aug. 5
Aug. 11.	Boston, Mass	Aug. 5
Aug. 11.	Osborne, Kan	Aug. 5
Aug. 12.	Hoboken, N. J.	Jul. 22
Aug. 12.	New Bremen, Ohio	Jul. 29
Aug. 12.	Fairfax, Okla	Aug. 5
Aug. 14.	Ravenna, Ohio	Jul. 22
Aug. 14.	Los Angeles, Cal.	Aug. 5
Aug. 14.	Rogers, Neb.	Aug. 5
Aug. 14.	Canton, Ohio	Aug. 5
Aug. 14.	Oelwein, Iowa	Aug. 5
Aug. 14.	Toledo, Ohio. Adv. Aug. 5.	Aug. 5
Aug. 14.	Stamford, Conn. Adv. Aug. 5.	Aug. 5
Aug. 15.	Kennedy, Tex.	Jul. 22
Aug. 15.	Savannah, Ga. Adv. Jul. 22, 29.	Jul. 22
Aug. 15.	Irvington, N. Y. Adv. July 29, Aug. 5.	Jul. 29
Aug. 15.	Richmond, Va.	Jul. 29
Aug. 15.	Chino, Cal.	Jul. 29
Aug. 15.	East New Market, Md. Adv. July 29, Aug. 5.	Jul. 29
Aug. 15.	Assiniboia, Sask. Adv. July 29, Aug. 5.	Jul. 29
Aug. 15.	Drummondville, Que.	Aug. 5
Aug. 15.	Rocky River, Ohio	Aug. 5
Aug. 15.	Mansfield, Ohio	Aug. 5
Aug. 15.	Spooner, Minn.	Aug. 5
Aug. 16.	Winnebago, Wis.	Jul. 22
Aug. 16.	Fargo, N. D. Adv. Jul. 22, 29.	Jul. 22
Aug. 16.	Greenville, Ohio	Jul. 29
Aug. 16.	Schenectady, N. Y. Adv. Aug. 5.	Aug. 5
Aug. 16.	Dover, Ohio. (3 proposals) Adv. Aug. 5.	Aug. 5
Aug. 16.	Greenfield, Ohio	Aug. 5
Aug. 16.	Hoboken, N. J. Adv. July 29, Aug. 5.	July 29
Aug. 17.	Colby, Wis.	Jul. 29
Aug. 18.	Kaukauna, Wis.	Jul. 29
Aug. 18.	Ravenna, Ohio. (3 proposals) Adv. Aug. 5.	Aug. 5
Aug. 18.	Panama	Aug. 5
Aug. 19.	Medina, O. Adv. Aug. 5.	Aug. 5
Aug. 21.	Lovell, Wyo.	Aug. 5
Aug. 21.	Pitman, N. J. Adv. Aug. 5.	Aug. 5
Aug. 24.	Anthon, Iowa. Adv. Aug. 5.	Aug. 5
Aug. 25.	Clintonville, Wis.	Aug. 5
Aug. 26.	Great Lakes, Ill.	Aug. 5
Aug. 29.	Hamilton, Ohio	Aug. 5
Aug. 31.	Boston, Mass.	Jul. 29
Sept. 6.	Wilmington, Del. Adv. Aug. 5.	Aug. 5

STEEL BRIDGE WORK.

Bids Close.		See Eng. Record.
Aug. 7.	Klamath Agency, Ore. Adv. Jul. 15 to 29.	Jul. 15
Aug. 7.	Pascagoula, Miss.	Jul. 22
Aug. 8.	La Moure, N. D.	Jul. 8
Aug. 8.	Petersburg, Ind.	Jul. 22
Aug. 8.	Ellendale, N. D.	Jul. 22
Aug. 8.	Los Angeles, Cal.	Aug. 5
Aug. 9.	Bakersfield, Cal.	Jul. 29
Aug. 9.	La Moure, N. D.	Jul. 29
Aug. 10.	Bennington, N. Y.	Jul. 29
Aug. 10.	Red Lodge, Mont.	Jul. 29
Aug. 10.	Waterville, Wash.	Aug. 5
Aug. 11.	Henderson, Ky.	Aug. 5
Aug. 11.	Franklin, Ky.	Aug. 5
Aug. 12.	Miles City, Mont. Adv. Jul. 22.	Jul. 22
Aug. 14.	Dayton, Ohio	Jul. 22
Aug. 14.	Heflin, Ala.	Jul. 22
Aug. 14.	Lisbon, Ohio	Jul. 22
Aug. 14.	Edwardsville, Ala.	Jul. 29
Aug. 14.	Montague, Tex.	Aug. 5
Aug. 14.	Dalhart, Tex.	Aug. 5
Aug. 15.	Petersburg, Va. Adv. Jul. 8, 15.	Jul. 8
Aug. 17.	Ray, Ariz.	Jul. 22
Aug. 17.	Betzwood, Pa. Adv. Aug. 5.	Aug. 5
Aug. 19.	Dakota City, Neb.	Jul. 29
Aug. 21.	Selma, Ala.	Jul. 29
Aug. 22.	Steubenville, Ohio	Aug. 5
Aug. 28.	Chatom, Ala.	Aug. 5

REINFORCED CONCRETE.

Bids Close.		See Eng. Record.
Aug. 8.	Marlinton, W. Va.	Jul. 29
Aug. 8.	Seagrave, Ont.	Jul. 29
Aug. 8.	Bellingham, Mass.	Aug. 5
Aug. 8.	Hamilton, Mont.	Aug. 5
Aug. 8.	Kingman, Kan.	Aug. 5
Aug. 8.	Seattle, Wash.	Aug. 5
Aug. 9.	Oswego, Kan.	Jul. 29
Aug. 10.	Washington, D. C. Adv. Jul. 22 to Aug. 5.	Jul. 22.
Aug. 10.	Akron, Ohio	Aug. 5
Aug. 11.	Uniontown, Pa.	Jul. 29
Aug. 11.	Gainesville, Ga.	Jul. 29
Aug. 11.	Franklin, Ky.	Aug. 5
Aug. 12.	Portageville, N. Y. Adv. Jul. 29.	Jul. 29
Aug. 15.	Minneapolis, Minn.	Jul. 22
Aug. 15.	Washington, D. C.	Jul. 29
Aug. 15.	New Richland, Minn.	Jul. 29
Aug. 15.	Woonsocket, R. I. Adv. Jul. 29.	Jul. 29
Aug. 15.	Hastings, Minn.	Aug. 5
Aug. 15.	Jamestown, N. D.	Aug. 5
Aug. 16.	Buckhannon, W. Va.	Jul. 29
Aug. 17.	Buchannon, W. Va.	Aug. 5
Aug. 17.	Dallas, Ore.	Aug. 5
Aug. 18.	Topeka, Kan.	Aug. 5
Aug. 21.	McConnellsburg, Pa.	Aug. 5
Aug. 22.	South Bend, Wash.	Aug. 5
Aug. 23.	Hamilton, Ohio	Aug. 5

ROADS AND PAVING.

Bids Close.		See Eng. Record.
Aug. 7.	Albany, N. Y. Adv. Jul. 22 to Aug. 5.	Jul. 22
Aug. 7.	Morristown, N. J. Adv. Jul. 29, Aug. 5.	Jul. 29
Aug. 7.	St. John, Mich. Adv. Jul. 29.	Jul. 29
Aug. 8.	Republic, Wash.	Jul. 15
Aug. 8.	West New York, N. J.	Jul. 22
Aug. 8.	Greenfield, Ohio	Jul. 22
Aug. 8.	Indiana	Jul. 22
Aug. 8.	Clinton, Iowa Adv. Jul. 29, Aug. 5.	Jul. 29
Aug. 8.	Rockville, Md. Adv. Jul. 29, Aug. 5.	Jul. 29
Aug. 8.	Frankfort, Ky.	Jul. 29
Aug. 8.	Plataka, Fla.	Jul. 29
Aug. 8.	Maryland Adv. Jul. 29, Aug. 5.	Jul. 29
Aug. 8.	Port Clinton, Ohio	Jul. 29
Aug. 8.	Bakersfield, Cal.	Jul. 29
Aug. 8.	Ventura, Cal.	Jul. 29
Aug. 8.	Bedford, Ky.	Jul. 29
Aug. 8.	Hackettstown, N. J.	Aug. 5
Aug. 8.	Indiana	Aug. 5
Aug. 8.	Marietta, Ohio	Aug. 5
Aug. 9.	Indiana	Jul. 22
Aug. 9.	Indiana	Jul. 15
Aug. 9.	Martinsville, W. Va. Adv. Jul. 15 to Aug. 5.	Jul. 15
Aug. 9.	Hamlin, W. Va.	Jul. 29
Aug. 9.	Deshler, Ohio	Aug. 5
Aug. 9.	Newark, N. J.	Aug. 5
Aug. 9.	Indiana	Aug. 5
Aug. 9.	Kansas City, Mo.	Aug. 5
Aug. 9.	Illinois	Aug. 5
Aug. 10.	Elkins, W. Va.	Jul. 15
Aug. 10.	Waterville, Wash.	Jul. 22
Aug. 10.	Indiana	Jul. 22
Aug. 10.	Fulton, Mo.	Jul. 29
Aug. 10.	Sandusky, Ohio	Jul. 29
Aug. 10.	Pine Bluff, Ark.	Jul. 29
Aug. 10.	Helena, Ark.	Jul. 29
Aug. 10.	Erwin, Tenn.	Aug. 5
Aug. 10.	Independence, Mo.	Aug. 5
Aug. 10.	Covington, Ky.	Aug. 5
Aug. 10.	Carlton, Ore.	Aug. 5
Aug. 10.	Newark, N. J. Adv. Aug. 5.	Aug. 5
Aug. 10.	Galveston, Tex.	Aug. 5
Aug. 12.	Georgetown, Del. Adv. Aug. 5.	Aug. 5
Aug. 14.	Birmingham, Ala. Adv. Jul. 15, 22.	Jul. 8
Aug. 14.	Perrysburg, Ohio	Jul. 8
Aug. 14.	Camden, Ala.	Jul. 22
Aug. 14.	Albany, N. Y. Adv. Jul. 29, Aug. 5.	Jul. 29
Aug. 14.	West Allis, Wis.	Jul. 29
Aug. 14.	Morristown, N. J. Adv. Jul. 29, Aug. 5.	Jul. 29
Aug. 14.	West Allis, Wis.	Aug. 5
Aug. 14.	New Orleans, La.	Aug. 5
Aug. 14.	Globe, Ariz.	Aug. 5
Aug. 14.	Boston, Mass.	Aug. 5
Aug. 15.	Lebanon, Ohio	Jul. 29
Aug. 15.	Keyser, W. Va.	Jul. 29
Aug. 15.	Vallejo, Cal. Adv. Jul. 29, Aug. 5.	Jul. 29
Aug. 15.	Embreeville, Pa.	Aug. 5
Aug. 15.	Greenwich, Conn. Adv. Aug. 5.	Aug. 5
Aug. 15.	Montclair, N. J. Adv. Aug. 5.	Aug. 5
Aug. 15.	Covington, Ky.	Aug. 5
Aug. 15.	Rensselaer, N. Y. Adv. Aug. 5.	Aug. 5
Aug. 16.	Bay Minette, Ala.	Jul. 22
Aug. 16.	Albany, N. Y. Adv. Jul. 29, Aug. 5.	Jul. 29
Aug. 16.	Paterson, N. J.	Jul. 29
Aug. 16.	Schenectady, N. Y. Adv. Aug. 5.	Aug. 5
Aug. 18.	Albany, N. Y. Adv. Jul. 29, Aug. 5.	Jul. 29
Aug. 18.	Butler, Pa.	Jul. 29
Aug. 19.	Indiana	Aug. 5
Aug. 19.	Sandusky, Ohio	Aug. 5
Aug. 20.	Salt Lake City, Utah	Jul. 29
Aug. 21.	Colfax, Wash.	Jul. 29
Aug. 21.	Los Angeles, Cal.	Jul. 29
Aug. 25.	Clarksville, Tex.	Aug. 5
Aug. 25.	London, Ohio	Aug. 5
Aug. 26.	Center, Ala.	Aug. 5
Sept. 1.	Globe, Ariz.	Jul. 29
Sept. 1.	Indiana	Aug. 5
Sept. 6.	Mt. Holly, N. J. Adv. Aug. 5.	Aug. 5
Sept. 11.	Birmingham, Ala. Adv. Jul. 29.	Jul. 29
——	Ocean City, N. J. Adv. Jul. 15.	Jul. 15

RAILROADS.

Bids Close.		See Eng. Record.
Aug. 10.	New York, N. Y.	Jul. 29

INDUSTRIAL PLANTS AND WAREHOUSES.

Bids Close.		See Eng. Record.
Aug. 14.	Chicago, Ill.	Aug. 5
Sept. 2.	Pekin, China	Aug. 5

BUILDINGS.

Public and Private.

Bids Close.		See Eng. Record.
Aug. 7.	Portland, Ore. Adv. Jun. 10, 17.	Jun. 10
Aug. 8.	Lakewood, Ohio. Adv. Jul. 15.	Jul. 15
Aug. 8.	Calgary, Alta.	Jul. 22
Aug. 8.	Eau Claire, Wis.	Jul. 22
Aug. 8.	Vancouver, B. C.	Aug. 5
Aug. 8.	Cleveland, Ohio	Aug. 5
Aug. 9.	Milton, Mass.	Aug. 5
Aug. 9.	Dover, N. J.	Jul. 29
Aug. 9.	Bridgewater, Mass.	Aug. 5
Aug. 9.	Mason City, Iowa	Aug. 5
Aug. 10.	Fort Wayne, Ind.	Jul. 15
Aug. 10.	Sumter, S. C.	Jul. 22
Aug. 10.	Nicollett, Minn.	Jul. 29
Aug. 10.	Westernport, Md.	Aug. 5
Aug. 10.	Muscatine, Iowa	Aug. 5
Aug. 10.	Winner, S. D.	Aug. 5
Aug. 10.	Moberly, Mo.	Aug. 5
Aug. 10.	Columbus, Ga.	Aug. 5
Aug. 10.	Grand Rapids, Mich.	Aug. 5
Aug. 11.	Burlington, N. C. Adv. Jul. 8, 15.	Jul. 8
Aug. 11.	Seattle, Wash.	Jul. 22
Aug. 11.	Frederickton, Ohio	Jul. 22
Aug. 11.	Robinson, N. D.	Jul. 29
Aug. 11.	Avalon, Cal.	Aug. 5
Aug. 11.	Cumberland, Neb.	Aug. 5
Aug. 12.	Front Royal, Va. Adv. Jul. 22 to Aug. 5.	Jul. 22
Aug. 12.	Hinsdale, Ill.	Aug. 5
Aug. 12.	Atware, Minn.	Aug. 5
Aug. 14.	Cumberland, Iowa	Jul. 22
Aug. 14.	Jackson, Mich.	Jul. 22
Aug. 15.	Charleston, W. Va.	Jul. 22
Aug. 15.	Hixton, Wis.	Jul. 29
Aug. 15.	Takamah, Neb.	Jul. 29
Aug. 15.	Cobleskill, N. Y. Adv. Aug. 5.	Aug. 5
Aug. 15.	Florence, Ala.	Aug. 5
Aug. 16.	Newark, Ohio. Adv. Jul. 15.	Jul. 15
Aug. 16.	Charleston, W. Va.	Jul. 22
Aug. 16.	Savannah, Ga.	Jul. 29
Aug. 16.	Madison, W. Va.	Jul. 29
Aug. 16.	Savannah, Ga.	Aug. 5
Aug. 16.	Struthers, Ohio	Aug. 5
Aug. 16.	The Pas, Man.	Aug. 5
Aug. 17.	Ridgewood, N. J.	Jul. 22
Aug. 17.	Fort William, Ont.	Jul. 29
Aug. 17.	Portland, Me.	Jul. 29
Aug. 17.	Covington, Ky.	Jul. 29
Aug. 18.	Eaton, Ind.	Aug. 5
Aug. 18.	Hilliards, Ohio	Aug. 5
Aug. 18.	Niobrara, Neb.	Aug. 5
Aug. 21.	Winnipeg, Man.	Jul. 22
Aug. 21.	Buffalo, N. Y. Adv. Jul. 22 to Aug. 5.	Jul. 22
Aug. 23.	West Liberty, W. Va.	Jul. 29
Aug. 24.	Ft. Dodge, Iowa	Aug. 5
Aug. 25.	Ashland, Ohio Adv. Jul. 22, 29.	Jul. 22
Aug. 26.	Eaton, Ohio	Aug. 5
Aug. 28.	Nashville, Tenn.	Jul. 8
Sept. 1.	Mitchell, S. D.	Aug. 5
Sept. 2.	Huntington, Ind.	Aug. 5
Sept. 7.	Athens, Ala. Adv. Aug. 5.	Aug. 5
Sept. 12.	Orlando, Fla. Adv. Aug. 5.	Aug. 5
Sep. 19.	Warrenton, Va.	Jul. 29
——.	Reidsville, N. C. Adv. Jun. 17.	Jun. 17

FOUNDATIONS, PIERS AND DAMS.

Bids Close.		See Eng. Record.
Aug. 8.	New Orleans, La.	Jul. 22
Aug. 9.	Kansas City, Mo.	Aug. 5
Aug. 10.	New York, N. Y.	Aug. 5
Aug. 11.	Sherbrooke, Que.	Aug. 5
Aug. 11.	Cape Girardeau, Mo. Adv. Jul. 15 to Aug. 5.	Jul. 15
Aug. 11.	Norwich, Conn. Adv. Jul. 15.	Jul. 15
Aug. 14.	Wheeling, W. Va. Adv. Jul. 29, Aug. 5.	Jul. 29
Aug. 14.	New York, N. Y.	Aug. 5
Aug. 22.	Steubenville, Ohio	Aug. 5
Aug. 18.	Erie, Pa. Adv. Aug. 5.	Aug. 5
Sept. 25.	Houston, Tex.	Aug. 5

EXCAVATION, DREDGING AND DRAINAGE.

Bids Close.		See Eng. Record.
Aug. 8.	Seattle, Wash.	Aug. 5
Aug. 9.	Clarksdale, Miss.	Jul. 29
Aug. 9.	Mason City, Iowa	Jul. 29
Aug. 10.	Lancaster, Ohio	Jul. 15
Aug. 10.	Rayville, La.	Jul. 29
Aug. 10.	Waterloo, Iowa	Aug. 5
Aug. 12.	Bolivar, Tenn.	Aug. 5
Aug. 14.	Malta, Mont. Adv. Jul. 15.	Jul. 15
Aug. 14.	Donna, Tex.	Jul. 22
Aug. 14.	Mason City, Iowa	Aug. 5
Aug. 15.	Buffalo, N. Y. Adv. Jul. 22 to Aug. 5.	Jul. 22
Aug. 15.	Jamestown, N. D.	Jul. 29
Aug. 15.	Fort Madison, Iowa Adv. Jul. 29.	Jul. 29
Aug. 15.	Webster City, Iowa	Aug. 5
Aug. 15.	St. James, Minn.	Aug. 5
Aug. 15.	Gordon, Neb.	Aug. 5
Aug. 16.	Powell, Wyo.	Jul. 22
Aug. 18.	Washington, D. C. Adv. Jul. 15.	Jul. 15
Aug. 21.	Marshall, Minn.	Aug. 5
Aug. 22.	Richfield, Utah	Aug. 5
Aug. 26.	Riverside, Cal.	Jul. 22
——	Rock Island, Ill. Adv. Aug. 5.	Aug. 5

MISCELLANEOUS.

Bids Close.		See Eng. Record.
Aug. 8.	Hydraulic Gate Valves, Los Angeles, Cal.	Aug. 5
Aug. 9.	Limestone and Brick, New Martinsville, W. Va. Adv. Jul. 15 to 29.	Jul. 15
Aug. 12.	Dredge—Vallejo, Cal.	Jul. 15
Aug. 14.	Street Sweeping, Los Angeles, Cal.	Aug. 5
Aug. 15.	Iron Fence, Charleston, S. C.	Aug. 5
Aug. 15.	New Philadelphia, Ohio. Adv. Aug. 5.	Aug. 5
Aug. 17.	Conduit and steam pipe line, Central Islip, N. Y. Adv. Aug. 5.	Aug. 5
Aug. 18.	Refuse Destructor, New Rochelle, N. Y. Adv. Aug. 5.	Aug. 5
Aug. 23.	Purchase of Locomotives, Panama Adv. Jul. 1.	Jun. 24
Aug. 23.	Engine—Panama Adv. Jul. 15.	Jul. 15
Aug. 31.	Iron and Steel, Dallas, Tex. Adv. Aug. 5.	Aug. 5
Sep. 13.	Traveling Cranes, New Orleans, La.	Jul. 29
Sept. 14.	Cement, Savannah, Ga.	Aug. 5

Railway Revenues Largest in Recent Years

Settlement of Wage Demands Under Discussion Will Determine Use of 36-Per Cent Increase in Net Revenue

IN the light of railway statistics for the fiscal year just ended, the second conference between the union railway employees and the management of the roads in the United States, now under way in New York City, has considerable significance for contractors. Although returns for the month of June are not complete, it is evident that the net operating revenues of the railroads of the country will exceed by more than 20 per cent those for any recent fiscal year. In view of the statement of the railroads that, if the demands of the union employees are granted, an additional burden of $100,000,000 will be placed on the roads, the statistics of railroad earnings are of interest. The accompanying table shows the net operating revenues of the railroads of the country by months in dollars per mile of line for the past five years. The net

NET OPERATING REVENUES

	Fiscal Year Ended June 30				
	1916	1915	1914	1913	1912
July	$380	$341	$347	$354	$326
August	426	386	387	438	393
September	477	402	405	433	411
October	508	384	424	487	424
November	503	292	338	408	358
December	451	263	298	361	326
January	337	221	228	284	203
February	340	220	168	257	252
March	416	293	290	281	304
April	396	289	256	261	256
May	450	309	247	320	295
June	454	360	308	334	339
Annual total	$5,138	$3,747	$3,682	$4,218	$3,887

operating revenue is the sum left out of the total operating income after all operating expenses are paid, but before deducting taxes, uncollectible revenues and dividends.

The total net operating revenue for the fiscal year ended June 30, 1915, amounted to more than $856,000,000. On this basis the net operating revenue for the year just ended will approximate $1,172,000,000. As will be seen, the year 1915 was slightly better than the lean year of 1914, but considerably below 1913, which itself was by no means a banner year, when compared with the returns of ten years ago. It seems that the figures for the fiscal year of 1913 will be exceeded by those of the year just closed by about 20 per cent. The increased expense which the railroads anticipate the granting of the demands of their union employees would cause would amount to perhaps 40 per cent of this gain.

It is evident, therefore, that the railroads, after the dispute is settled, will have money to spend for needed improvements in any case. The question is as to whether they will feel justified in spending it. It is doubtful whether the exceptionally heavy traffic which has produced the revenues of 1916 will continue indefinitely. Certainly this would not be the case if any depression were felt in this country at the termination of the European War. Many of the carriers have not paid dividends, and stockholders must be taken care of before much money is spent on extensions. Moreover, it is likely that much of the increased earnings have already been mortgaged by the exceptionally heavy buying of locomotives, rails and rolling stock which has been going on for the past year, and which is not yet ended. It seems likely, therefore, that if much railroad construction is to be expected an issue of the wage dispute that will be favorable to the railroads will be necessary, or else a general rate advance will have to be granted them.

Waterworks and Sewers

An increased volume of waterworks and sewer construction is noted in this issue. The larger projects are summarized below:

Contracts awarded:	Class of Work	Cost or Quantity
E. Youngstown, Ohio	Filter plant	$53,000
Great Falls, Mont.	Filter plant	177,000
Bids opened:		
New York City	Sewers	290,000
Ironton, Ohio	Pumping station	69,000
Rock Island, Ill.	Sewer	61,000
Bids desired:		
Bell Wood, Pa.	Sewers. miles	8
Salem, Ohio	Waterworks	$50,000
Chicago, Ill.	Sewer, miles	7
Granite City, Ill.	Sewer	$350,000
Madison, Minn.	Sewers, miles	7
Proposed work:		
Reading, Pa.	Sewers	$200,000
Cleveland, Ohio	Disposal plants	800,000
Cincinnati, Ohio	High pressure system	400,000
Columbus, Ohio	Disposal plants	2,000,000
Stuttgart, Ark.	Waterworks	85,000
Tulsa, Okla.	Waterworks	200,000
Ardmore, Okla.	Waterworks	65,000
Houston, Tex.	Sewers	300,000
Muscatine, Iowa	Sewers	166,000
Rawlins, Wyo.	Waterworks	150,000

Miscellaneous Headings

A $200,000 contract for completing dam No. 48 on the Ohio River at Evansville, Ind., has been awarded. A new railroad bridge contracted for over the Kaw River at Kansas City will cost $1,500,000. The construction of a $350,000 steel bridge has been contracted for at Kettle Rapids, Man. Bids are desired at Gulfport, Miss., for constructing a $200,000 sea wall. A contract is to be let at once for constructing a railroad to cost $400,000 near Lindsay, Cal.

Levee bonds in the sum of $1,500,000 have been sold at Clarksdale, Miss. A reinforced-concrete grain plant to cost $225,000 is proposed at New Orleans. Two reinforced-concrete buildings, one to cost $300,000 and the other to cost $225,000, are proposed at Cleveland. A reinforced-concrete hotel at St. Paul will cost $300,000. Plans are being prepared at Salem, Ore., for two irrigation and drainage projects that will cost together $3,000,000. It is reported that a $2,000,000 dam and pulp mill will be erected at Grand Rapids, Man.

Buildings

A contract is reported awarded at Harrisburg, Pa., for erecting a $350,000 freight station. The lowest bid received at New Orleans for remodeling the U. S. Custom House was $313,000. Bids will be opened Aug. 31 at St. Paul for erecting a $400,000 club house. A large number of building projects are noted in prospective work under buildings and new industrial plants. The following table summarizes the larger items:

	Kind of Building	Cost
New York City	Office building	$1,500,000
New York City	Apartment	660,000
New York City	Theatre	300,000
Bayonne, N. J.	School buildings	275,000
Erie, Pa.	Railroad station	450,000
Philadelphia, Pa.	Institute buildings	2,300,000
Youngstown, Ohio	Steel furnaces	700,000
Columbus, Ohio	Auditorium	600,000
Chicago, Ill.	Factory	250,000
St. Paul, Minn.	Railroad shops	2,000,000
Newport, Minn.	Packing plant	432,000
Texarkana, Ark.	Hotel	250,000
Sapulpa, Okla.	Railroad shops	450,000
Fort Colborne, Ont.	Metal refinery	4,000,000
Hanover, Mont.	Cement mill	1,000,000

Road and Paving

Road and paving work is active for the season, and a good volume of construction is yet in prospect. Projects noted this week are summarized below:

Contracts awarded:	Kind	Cost or Quantity
Trenton, N. J.	Brick	$130,000
Cincinnati, Ohio	Granite	79,000
Ridge Farm, Ill.	Brick	70,000
Bids desired:		
Baltimore, Md.	Concrete, miles	8.4
Ohio	Highways	$502,000
Prospective work:		
Newport, Pa.	Brick	100,000
Baltimore, Md.	Asphalt	100,000
Toledo, Ill.	Brick	87,000
Lake Village, Ark.	Highways	256,000
Monroe, La.	Highways	500,000
St. Paul, Minn.	Wood block	125,000
Corpus Christi, Tex.	Paving	150,000
Bond issues:		
Paterson, N. J.	For sale	181,000
Jefferson City, Mo.	Voted	300,000
Corsicana, Tex.	Sold	280,000
Pittsburg, Tex.	Voted	100,000

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Worcester, Mass.—The new reservoir at Howland Hill will be constructed by day labor, under supervision of City Engineer. G. W. Batchelder, Water Commissioner.

Hamden, Conn.—The construction of a sewer system is reported under consideration. Address City Clerk.

Buffalo, N. Y.—The Mayor, in a report to City Council, recommended a bond issue of $28,000 for extensions of fire pipe lines from Ohio through Michigan Street, etc. Address City Engineer.

Johnstown, N. Y.—City plans in near future constructing a storage reservoir to cost $40,000. Address City Clerk.

Lancaster, N. Y.—Village Engineer preparing estimates for extensions to water system.

North Tonawanda, N. Y.—City intends reconstructing the pumping station. George O. Miller, Chairman Board Public Works.

Bayonne, N. J.—Louis J. Tribus of Tribus & Massa, Consulting Engineers, 66 Warren Street, New York, N. Y., has been engaged by the city to look into the causes of recent stoppage in water service; to design a comprehensive system of distribution mains according to which future pipe laying may conform, and in general to take up the whole subject of Bayonne's water supply.

Clearfield, Pa.—Borough Council is reported to be considering the purchase of the plant of the Clearfield Water Company.

College Hill, Pa.—Council passed ordinance providing for a bond issue of $30,000 for constructing sewer system. Address Borough Clerk.

Erie, Pa.—Hammermill Paper Company engaged Chester & Fleming, Pittsburgh, to prepare plans and specifications for reinforced concrete settling basins to be used for the 20,000,000-gal. filter plant of this company in this city. Contract soon to be let.

Hazleton, Pa.—State Board of Health has granted time to this city have plans prepared for sewer.

Montrose, Pa.—The Montrose Water Co. is to improve water system and install filters, according to reports.

Pennsylvania. — Plans approved by State Board of Health, Harrisburg, as follows, for water and sewer improvements:

Tunkhannock (Tunkhannock Water Co.), additional drilled well supply and requiring plans for the protection and permanent improvement of the system.

Bedford, plans for additional supplies and supply main and requiring plans and report covering permanent improvements.

North Buffalo Twp., Armstrong Co., Cadogan Village (Allegheny River Mining Co.), plans for waterworks system.

Clinton Twp., Lycoming Co. (State Industrial Home for Women) (Building Commission), plans for new waterworks system.

Reading (Angelica Water and Ice Co.), extension of distributing system and requiring temporary germicidal treatment and report on permanent improvements.

Beaver Twp., Jefferson Co., Conifer Vil. (Allegheny River Mining Co.), plans for waterworks system.

East Franklin Twp., Armstrong Co., Furnace Run Vil. No. 1 (Allegheny River Mining Co.), plans for waterworks system.

East Franklin Twp., Armstrong Co., Furnace Run Vil. No. 2 (Allegheny River Mining Co.), plans for waterworks system.

Madison Twp., Armstrong Co., Chickasaw Vil. (Allegheny River Mining Co.), plans for waterworks system and drilled well supply.

Mahoning Twp., Armstrong Co., Seminole Vil. (Allegheny River Mining Co.), plans for waterworks system.

Johnstown (Cambria Steel Co.), waterworks system with supply from Hinckston Run, but requiring plans for permanent purification or protection of the supply and complete separation from industrial supply.

Johnstown (Johnstown W. Co.), plans for temporary disinfecting apparatus.

Saltsburg, additional supply from drilled wells and the elimination of raw river water emergency supply.

Harmony, plans for waterworks and driven well supply and requiring disinfecting apparatus for emergency use.

Brentwood, plans for sanitary sewer system.

Hazleton, sewer extensions and granting extension of time for preparation of comprehensive sanitary sewerage plans.

New Wilmington, sanitary sewer extensions and requiring enlargement of treatment works.

Scranton, plans for district sanitary sewer system.

Youngsville, plans for a comprehensive sanitary sewerage system and preliminary plans for sewage treatment and requiring revised detailed plans for treatment works.

Birdsboro (Birdsboro Steel Foundry & Machine Co.), sewage treatment works.

Williamsport, plans for extensions to the sanitary sewer system.

Philadelphia, lateral sewer extensions.

Philadelphia, plans for storm water overflow, Frankford Creek collecting sewer.

Quincy Twp., Franklin Co. (Quincy United Brethren Orphanage & Home), sewerage and sewage treatment.

Smith Twp., Washington Co. (American Zinc & Chemical Co.), sewerage and sewage treatment.

Clinton Twp., Lycoming Co. (State Industrial Home for Women) (Building Commission), plans for sanitary sewer system and sewage treatment works.

Johnstown, lateral sewer extensions and temporarily withholding approval of main and outfall sewer plans.

Lewisburg, granting an extension of time for the preparation of plans for sewage treatment works.

New Bethlehem, plans for a comprehensive sanitary sewer system and requiring plans for sewage treatment.

Pottsville, plans for an extension to the sewer system and requiring plans for sewage treatment.

Wilkes-Barre, lateral sewer extensions.

Cheltenham Twp., Montgomery Co. (Curtis Publishing Co.), sewage treatment.

Wellsboro, Pa.—Dr. Dixon, State Commissioner of Health, Harrisburg, recommends to Borough Council the extending of the sewer system in the industrial plant of the borough and the construction of a disposal plant.

Philadelphia, Pa.—State Department of Health has approved plans for outfall of storm water sewer in Frankfort Creek District of Philadelphia.

Punxsutawney, Pa.—The Punxsutawney Water Company is planning enlarging the reservoir on hill south of West End to a capacity of 2,000,000 gal.

Reading, Pa.—Council authorized the construction of a house sewer distict in the Hampden Heights section, to cost $200,000. Edmond Ulrich, City Engineer.

Arlington (P. O. Baltimore), Md.—E. K. Whitman, Baltimore, is consulting engineer, and estimates cost of constructing the disposal plant at Arlington at $177,000. Address Clerk County Commissioners, Towson.

Bristol, Va.—Election will probably be held to vote on increasing the water supply. Address City Clerk.

Charleston, W. Va.—Mayo Tolman, State Sanitary Engineer, in his annual report recommends investigation of the pollution of Kanawha River.

Fairmont, W. Va.—Monongah Service Company, formed with A. J. Colborn, A. M. Rowe and others for the purpose of operating water works to supply the towns of Monongah, Worthington, Ida May mine, Eveston, Chiefton and other small mining settlements on West Fork River and in Helens Run section. About $100,000 will be used.

Hickory, N. C.—City contemplates extending waterworks. J. W. Shuford, Mayor.

Laurens, S. C.—J. J. Adams, Chairman Water & Light Committee reports that additional deep water wells are to be bored for 300,000 gal. daily supply, and city will purchase additional pumping machinery.

Lavonia, Ga.—The City Council sold $50,000 water, sewer and school bonds.

Madison, Ga.—Reported city is planning constructing water works. Address City Clerk.

Tallapoosa, Ga.—About $10,000 is to be spent by city on waterworks plant recently purchased. Address City Clerk.

Piedmont, Ala.—Bond issue of $20,000 for constructing a sewerage system has been voted by citizens. P. W. Roberts, Mayor.

Shreveport, La.—All bids opened recently by City Commissioners for 2 pumping stations rejected.

Westwego, La.—Contract will be let about September for improvements to the water works, including about 6000 ft. 8-in. mains, one 50,000-gal. steel tower tank, one 60-hp. Fairbanks-Morse engine, with a 500-gal. underwriters pump and 18 hydrants. Vic A. Petie, Westwego, may be able to give information.

Johnson City, Tenn.—Reported election to be held Aug. 19 to vote $20,000 bonds for constructing a water system. Surveys have been made. Address Town Clerk.

Akron, Ohio.—Improvements to water works, including two new pumps, one a low lift 15,000,000-gal. daily capacity pump to pump water into the filters, and the other a high lift pump, capacity 10,000,000 gal. per day, for forcing water into city mains. Address Service Director.

Batavia, Ohio.—Plans submitted by H. C. Babbitt of Lockland for sewerage system accepted by the Council; cost $33,000.

Cincinnati, Ohio.—City Council authorized issue of $400,000 bonds for completing high pressure fire service system. Work includes construction of a pumping station at Eighth Street and Eggleston Avenue, estimated at $250,000, and the laying of $150,000 worth of high pressure mains. Work is under supervision of J. A. Hiller, General Superintendent Waterworks.

Cleveland, Ohio.—Mayor has approved the ordinance providing for the issue of $800,000 bonds for the construction of sewage disposal plants and sewers leading thereto to prevent pollution of Lake Erie. R. E. Collins, Clerk of Council.

Columbus, Ohio. — J. O'Shaughnessy, Supt. of Water Works, is in favor of enlarging the filtration plant, extending the water mains and adding to the capacity of the city storage reservoir.

Mayor approved ordinance providing for a $2,000,000 bond issue for construction of sewage disposal plants and sewers leading thereto to prevents the pollution of Cuyahoga River and Lake Erie.

Defiance, Ohio.—City Council is reported considering issuing bonds to purchase the water plant of O. E. Williams.

East Palestine, Ohio. — Water works bonds for $35,000 have been sold. Address O. L. Butts, City Clerk.

Elyria, Ohio.—Water works improvement bonds for $20,000 have been sold. Address City Clerk.

Ironton, Ohio.—Waterworks filtration plant bonds for $375,000 will be sold Sept. 2, by H. M. Paul, Clerk of Council. Contracts for plant have been awarded. Walter L. Watson, Engineer, Ironton.

Kent, Ohio.—Bonds for $60,000 for a sewer system will be sold Aug. 28, by Fred Bechtle, City Clerk.

Salem, Ohio.—Reported Council is considering the increasing of the water supply. Address City Clerk.

Reported about $5,000 will be spent by city for water meters.

Reported Council is considering improving the sewage disposal plant northwest of the city; probable cost $20,000.

Sandusky, Ohio.—Council is considering the North Sandusky Street sewer. Address Director Public Service.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Upper Sandusky, Ohio.—Upper Sandusky Water Works Company rebuilding filter plant, under supervision of Chester & Fleming, Engineers, Pittsburgh, Pa.

Youngstown, Ohio.—City Council passed ordinance providing for $100,000 for Milton Reservoir completion.

Carnegie Steel Company (E. C. Brown, Chief Engineer, Pittsburgh, Pa.) has submitted to Board of Health, Columbus, plans for a sewage disposal plant to be constructed for McDonald bar mills.

Rock Island, Ill.—Sewage disposal plant costing $16,000 to be constructed. Address City Clerk.

Whitefish Bay, Wis.—Citizens of the village authorized $100,000 bond issue for sewer improvements. Address Village Clerk.

Muscatine, Iowa.—Sewerage and drainage improvements costing $16,000 being considered by City Council. C. H. Young, City Engineer.

Chisholm, Minn.—It is proposed to lay about 12 miles of 8 to 36-in. sewer at a cost of $30,000. B. H. Graham, Recorder.

Hopkins, Minn.—J. F. Druar, St. Paul, is preparing a survey and plans for a sewer system. E. A. Close, City Recorder.

Rochester, Minn.—Aldermen authorized construction of sewers in High Street; also sewerage systems in Reiss, First and Second additions. Address City Clerk.

Virginia, Minn.—City Council authorized plans prepared for a sewerage system for the Scanlon location of the Virginia & Rainy Lake Company.

Galena, Kan.—The city would like to confer with engineers on plans for filtration plant. Address George F. Braun, Chairman Board City Water Works Commission.

Palco, Kan.—Town officials engaged George P. Taylor, Stockton, Kan., to prepare plans for municipal waterworks and electric light plant.

Pittsburg, Kan.—Storm sewers to be constructed in District No. 3 at a cost of $14,000. E. E. Curfman, City Engineer.

Arnold, Neb.—Citizens voted $14,000 bonds for constructing waterworks. Address City Clerk.

Kearney, Neb.—It is proposed to lay several miles of water mains. R. M. Barney, Chairman Purchasing Committee.

Wayne, Neb.—Water extension bonds for $12,000 will be sold Sept. 5 by J. M. Cherry, City Clk.

Wayne, Neb.—Citizens July 31 voted $12,000 bonds for constructing 2¼ miles of 4-in. c. i. water main. J. M. Cherry, Clerk.

Fargo, N. D.—City Commission contemplates constructing trunk sewer to cost $20,000.

Three Forks, Mont.—Plans and specifications being prepared by Swearingen & McCulloh, Great Falls, for a system of sanitary sewers.

Rawlins, Wyo. — City contemplates a new water system, to replace present system, which is pumped from wells. The new system will be either a system pumping from Platte River, 10 miles distant, to a distributing reservoir, or a gravity system from Safe Creek, 25 miles south; cost about $150,000. Address City Engineer.

King City, Mo.—E. M. Stevens & Company, of Kansas City, reported making surveys for a sewer system, to cost $65,000.

Dardanelle, Ark.—Sewer system to be installed; also new pumping plant contemplated, and laying about 2 miles of mains. S. A. Huckaby, Town Recorder.

Nashville, Ark.—It is proposed to construct a sewer system costing $31,000, also waterworks costing $60,000. Dove & Winter, Ft. Smith, Engr., H. B. Corinth, City Recorder.

Newport, Ark.—Arkansas Light & Power Company is reported to have applied to City Council for a franchise to install city water plant and lay mains.

Stuttgart, Ark.—Plans being prepared by White, Humphreys & Tovey, Pine Bluff, for a water works distribution system, to cost $85,000.

Walnut Ridge, Ark.—Hiram Phillips, International Life Building, St. Louis, Mo., is engineer for waterworks and sewer system proposed here at a cost of $60,000.

Beaumont, Tex. — See "Foundations, Piers and Dams."

Crockett, Tex.—Contract soon to be let for constructing a sewer system, to cost between $30,000 and $35,000. Address City Clerk.

Fort Worth, Tex.—Election to be held in September to vote $800,000 bonds; of the sum, $363,000 will be for sewage disposal plant and $300,000 for street improvements. Address City Clerk.

Houston, Tex.—Reported E. E. Sands, City Engineer, is preparing plans for four main lines of sewers to cost about $300,000.

Lubbock, Tex.—The improvements to the water works will include a well and pumping plant, steam power. L. A. Hitchcock, City Engineer; J. W. Lamb, City Secretary.

Marlin, Tex.—The City Engineer and J. W. Maxcy, Houston, has completed plans and specifications for a sewer system and disposal plant.

Miami, Tex.—Henry E. Elrod, Southwestern Life Building, Dallas, engaged by city to prepare plans and supervise construction of proposed water works system and electric light plant; cost about $25,000.

Seguin, Tex.—Citizens voted $36,000 bonds for sewer system. Address City Clerk.

Sherman, Tex.—Plans being drawn for an extension of water mains, laying of sanitary sewers and building of a disposal plant. Address City Clerk.

Ardmore, Okla.—Citizens July 31 voted $65,000 for water and sewer extension. G. H. Bruce, City Clerk.

Bartlesville, Okla.—City considering the construction of 1½ miles of storm sewer. Construction may not begin before the new year. Address City Clerk.

Crowder, Okla. — Water works bonds voted by citizens. Address City Clerk. McIntosh Walton Company, Engrs., Oklahoma, Okla.

Dewar, Okla.—Reported installation of meters is under consideration. Address Town Clerk.

Shawnee, Okla.—Election will probably be held in November to vote $25,000 water works bonds and $50,000 paving bonds. Frank D. Brown, City Engineer.

Tulsa, Okla.—E. M. Stevens & Company, Kansas City, Mo., are engineers for water works improvements including concrete filtration bank, with a capacity of 6,000,000 gal; total cost, about $200,000.

Ilwaco, Wash.—Reported contract soon to be let by Council for constructing a main trunk sanitary and storm drainage sewer system.

Seattle, Wash.—Steel mains from Swan Lake to city reservoirs, etc., proposed; also reservoirs and extensions to water system. Address L. B. Young, Superintendent of Water.

Finance Committee has recommended to Council the passage of a bill appropriating $90,000 for constructing a 36-in. and 42-in. steel water mains in Twelfth Avenue, north from East Denny Way to East Prospect Street. L. B. Young, Supt. of Water.

Charles R. Case, Superintendent of Streets has recommended to Council the submitting to vote the question of issuing bonds for extension replacement and repair of sewers in Georgetown and the Ranier and Duwamish Valleys, Alki District, Connecticut and Washington Streets. A. H. Dimock, City Engineer.

Contract soon to be let by Board of Public Works for laying water mains in North Fifty-ninth and other streets.

Tacoma, Wash.—City Council is reported to have appropriated $23,000 for new water mains and betterments to service. W. D. Nickeus, City Clerk.

Brandon, Ore.—Reported City Council plans constructing a storage reservoir and pipe line to cost $40,000.

Canby, Ore.—Reported work on proposed municipal water system will begin about Aug. 20, under direction of S. A. Cobb, Consulting Engineer, Oregon City; specifications call for a 75,000-gal. water tank on a 70-ft. tower; 4½ miles of mains, a deep well; water to be distributed by gravity; cost $18,000.

Hermosa Beach, Cal.—Board Trustees Aug. 1 passed resolution of intention to construct a sewage treatment plant (Brosius system of activated and aerated sludge), sewage ejector plant and effluent outfall to discharge out into the ocean. The improvement will consist of two 100-gal. compressed air sewage ejectors with compressors and electric motors, required to raise 200 gal. of raw sewage per minute through an 8-in. c.-i. force main 1800 ft. long against a static head of 43 ft. to the sewage treatment plant. Treatment plant to consist of eight circular cement concrete tanks 12½ ft. in diameter and 13 ft. deep; electric motor, high-pressure blower, and the necessary pipes, etc. From the treatment plant, effluent is carried in a 12-in. vitr. pipe for 830 ft.; this pipe and the force main for 700 ft. will be in a tunnel 5½ x 7 ft., lined with timber; from end of tunnel for a distance of 1380 ft. the effluent will be carried in a 12-in. reinforced concrete pipe to the shore of the ocean, from which point a 10-in. c.-i. pipe will be laid 13,000 ft. to the floor of the ocean. Contract will be let about Oct. 15. Engineer's estimate, $27,000. C. R. Sumner, City Engineer.

San Diego, Cal.—City Council directed F. M. Lockwood, Manager of City Operating Department, to prepare plans for pumping station to be located on Tia Juana River. Probable cost $100,000. Election will probably be held in fall on construction of same.

Seal Beach, Cal.—Waterworks to be installed next year. C. A. Little, City Clerk.

San Francisco, Cal.—Contract soon to be let for constructing Great Highway sewer, to cost $60,000, and Ocean View sewer, to cost $35,000. M. M. O'Shaughnessy, City Engineer.

It is proposed to construct sewers in district west of Twin Peaks at a cost of $49,320. M. M. O'Shaughnessy, City Engineer.

Santa Barbara, Cal.—Olmsted & Gillelen, 1112 Hollingsworth Building, Los Angeles, engaged to prepare plans for sewage disposal plant; cost $75,000.

Ventura, Cal.—Ventura Light & Power Co. contemplates constructing a reservoir east of Ventura to cost about $15,000.

Woodland, Cal.—City Trustees sold $61,000 water and sewer bonds. Address City Clerk.

Tucson, Ariz.—John W. Dailey, reported to have been granted permission to construct a reservoir, conduit and power house at Sabino Canyon dam site.

Wickenburg, Ariz.—Contract will probably be let about Sept. 15 by A. W. Akin, Jr., Deputy Town Clerk, for constructing improvements to the waterworks.

Albion, Idaho.—Quotations on pipe, meters, hydrants, pipe fittings, curb boxes, deep well pumps, motor driven, etc., are desired by a company preparing to install a water system here. Plans and specifications will be furnished by A. E. Uhl, Vice-president and General Manager of the Albion Water Company, Albion.

Hamilton, Ont.—Improvements to waterworks, including installation of a steam turbine pump in the Beach waterworks is under consideration. Address City Clerk.

London, Ont.—Utilities Board (E. V. Buchanan, General Manager) has under consideration the construction of a reservoir of 10,000,000 gal. capacity.

BIDS DESIRED.

Boston, Mass.—Until Aug. 16, by Edw. F. Murphy, Comr. Pub. Wks., for constructing B and Seventh Street overflow extension, South Boston.

New Bedford, Mass.—Until Aug. 16, by Mayor and Board of Aldermen, for building superstructure and appurtenances of the Belleville Avenue Pumping Station for the Intercepting sewer system. Wm. F. Williams, Consulting Engr., 302 Municipal Bldg., New Bedford.

Hartford, Conn.—Reported desired until Aug. 16, by Water Board, for about 22,500 ft. c. i. mains from 6 to 12 in. W. G. Aubrey, Supt.

East View, N. Y.—Until Aug. 23, by Building Commission Westchester County, White Plains, for water works system for new county buildings at East View, advertised in Engineering Record.

Fulton, N. Y.—Reported desired until Aug. 21, by C. Milton Allen, Jr., City Clk., for constructing sewers, to consist of 2900 ft. of 39, 42 and 48-in. concrete pipe, and 1917 ft. of 15, 20, 30, 33 and 36-in. vitr. pipe. G. C. Hill, City Engr.

Olean, N. Y.—Until Aug. 23, by Common Council, for constructing sanitary sewers and a storm sewer in West State Street, advertised in the Engineering Record. E. E. Allen, Superintendent of Streets.

Long Island City, L. I., N. Y.—Until Aug. 15, by Maurice E. Connolly, Pres. Borough of Queens, for constructing sewers and appurtenances in Lurting Street and Alystyne Avenue, in the Second Ward, to consist of approximately 1506 lin. ft. 10 ft. x 8 ft. 3-in. reinforced concrete sewer, 1928 lin. ft. 9 ft. x 8 ft. 3-in. reinforced concrete sewer, 420 lin. ft. 4 ft. x 9 in. and 586 lin. ft. 4 ft. 6-in. reinforced concrete sewer, five junction

chambers, 15,000 lin. ft. piles, 75,000 ft. timber for bracing and sheet piling. Security, $90,000. Constructing sewers with all appurtenances in Nineteenth, Center and Woodbine Streets. Total security, $4,505. Constructing sewer and appurtenances in Collins Avenue, Adriatic Street and Fresh Pond Road, Second Ward, in all about 1661 lin. ft. plain concrete sewers, 499 lin. ft. from 15 to 24-in. vitr. pipe sewer, five chambers, 7900 cu. yd. displaced material for sewer embankment, etc. Security, $56,000. And constructing sewer and appurtenances in Forbes Street, Jackson Avenue and Clarence Street, about 2314 lin. ft. vitr. pipe sewer, 30 manholes, junction chambers, etc. Security, $16,000.

New York, N. Y.—Until Aug. 18, by Marcus M. Marks, Pres. Manhattan Borough, for receiving basins in 126th Street, with inlets and all work incidental thereto. Security $1,300.

Until Aug. 17, by William Williams, Comr. Water Supply, Gas & Electricity, Manhattan, for furnishing, delivering and laying water mains and appurtenances in Chestnut and Clinton Streets, Central, Homes, Hope and other Avenues, Belair Road and Amity, Ormard and Butler Places, in Borough of Richmond. Security $10,000.

Until Sept. 5, by Board Water Supply, Municipal Building, New York, for Contract 174, furnishing and installing controlling mechanisms and appurtenances for controlling riser valves in shaft of city tunnel, Catskill Aqueduct, in New York City, advertised in Engineering Record.

Bellwood, Pa.—Reported desired until Aug. 21, by I. J. Steffan, Borough Secy., for constructing sewer system and sewage disposal plant to consist of 46,240 ft. 6, 8 and 10-in. pipe, Imhoff tank and sprinkling filter, etc. Harvey Linton, Engr., 1717 Thirteenth Street, Altoona.

Philadelphia, Pa.—Until Aug. 18, by Geo. E. Dateman, Dir. Pub. Wks., for intake and outlet houses Torresdale sedimentation basin; foundation and grading, Roxbury Pumping Station, and grading and riprapping Torresdale sedimentation basin.

Washington, D. C.—Until Sept. 5, by Commissioners D. C. (Oliver P. Newman, Chmn.), for sewers, advertised in Engineering Record.

Scotland Neck, N. C.—Until Aug. 15, by City Clerk, for furnishing material for waterworks system, approximate quantities as follows: 75,000 gal. tank on 75-ft. tower, 30,104 ft. 4, 6 and 8-in. Class B c. i. pipe, together with fire hydrants, gate valves, etc., advertised in Engineering Record. The J. B. McCrary Co., Engrs., Atlanta, Ga.

Johnson City, Tenn.—Until Aug. 15, by Board Aldermen and Mayor, for purchase of 207 ⅝-in., 13 ¾-in., 3 1-in. and two 2-in. disc. straight gal. meters. P. F. McDonald, Commissioner and Engr.

Salem, Ohio.—Reported desired until Aug. 15, for distribution system and reservoir; probable cost $50,000. J. M. Russell, Dir. Pub. Service.

West Park, Ohio.—Reported desired until Aug. 31, for furnishing and laying water mains. Lander Engineering Co., American Trust Bldg., Cleveland.

Highland Park, Mich.—Until Aug. 21 by R. M. Ford, Village Clerk, for constructing certain drains in Davidson and Dequindre Avenues east of village limits; also separate bids same time and place for constructing a reinforced concrete reservoir, approximately 1373 x 294 ft. outside and 14 ft. deep at wall line; both proposals advertised in Engineering Record. Hoad & Decker, Consulting Engineers, Ann Arbor.

Barry, Ill.—Until Aug. 24, by City Clerk, for constructing water works to cost $24,000, including two 200-g.p.m. triplex electric driven pumps, 130 lb. pressure, one 100,000 gal. steel concrete reservoir, about 5 miles of 4, 6 and 8-in. c.-i. pipe, hydrants and valves, etc. Fuller-Coult Company, Engineers, St. Louis, Mo.

Beardstown, Ill.—Until Sept. 5, by Robert W. Hunt & Co., 2200 Insurance Exchange Bldg., Chicago, for pumping plant for South Beardstown Drainage and Levee District of Case County, advertised in Engineering Record.

Chicago, Ill.—Until Aug. 31, by John McGillen, Clerk Sanitary District, Chicago, 700 South Michigan Avenue, for Evanston, intercepting sewer, Contract No. 1, advertised in Engineering Record.

Until Aug. 18, by Bd. Local Improv. (Edw. J. Glackin, Secy.), for constructing drains in North Hamlin and Potomac Avenues, West Van Buren and numerous other streets.

Duquoin, Ill.—Reported desired until Aug. 20 by E. F. Knauer, Mayor, and Samuel Clark, Clk. Bd. Local Improv., from 5 to 7 miles 8 and 12-in. pipe sewer. Probable cost $10,000. J. C. Gibson, City Engineer.

Evanston, Ill.—Until Sept. 8, by Irving C. Brower, Commissioner Public Works, for a steam pumping unit, advertised in Engineering Record.

Glasford, Ill.—Reported desired until Aug. 18, by Village Clk., for furnishing material and improving waterworks. Consisting of pumping equipment, steel tower and tank, etc. Fuller Coult Co., Engrs., St. Louis.

Granite City, Ill.—Until Aug. 15, by Board Local Improvements, for constructing concrete outlet sewer, advertised in Engineering Record. Edmund Hall, Engineer, Room 5, Kistner Building, Granite City.

New Hampton, Iowa.—Until Aug. 16, by F. B. Strike, City Clk., for constructing outfall sewers and sewage disposal plant, to consist of 3893 ft. 8 and 15-in. pipe sewers, Imhoff tank, sludge beds and all necessary accessories.

Stuart, Ia.—Until Aug. 21, by City Clerk, for constructing sewer system, outlet sewer and disposal plant, to consist of 40,301 ft. 6 to 12-in. sewer, Imhoff tank and dosing chamber, one set triple alternating siphons, manholes, etc. Theo. S. Delay, Consulting Engr., Creston, Ia.

Waterloo, Ia.—Reported desired, until Aug. 14, by R. L. Degon, City Clk., for constructing sewers in Fletcher and Reber Avenues and Kern Street.

Madison, Minn.—Until Aug. 28, by City Council, for constructing general sewer and including sewage treatment plant, for Sewer Dists. Nos. 1 to 9 inclusive, a Joint Dist. Sewer for Dists Nos. 10 and 11, and sewers for Dists. Nos. 1 to 8 inclusive, to consist of approximately 7 miles of 6 to 15-in. sanitary sewer and appurtenances, sewage treatment plant, etc. L. P. Wolff, Consulting Engr., Germania Life Bldg., St. Paul.

Belle Fourche, S. D.—Until Aug. 26, by Dan McCurchen, Street Commissioner, for constructing waterworks to cost $30,000. Bonds will be sold Aug. 21. Bruce & Sebastian, Engineers, Omaha, Neb.

Glendive, Mont.—Reported desired, until Aug. 17, by A. J. Colin, City Clk., for improving water works, to consist of 2,000,000 gal. mechanical filter plant, laying pipes, furnishing hydrants and valves, etc. Burns & McDonnell, Engrs., 402 Interstate Building, Kansas City.

Montreal, Que.—Until Aug. 18, by R. Bolte, Purchasing Agent, for 47 2, 4, 6 and 8-in. full-bore current meters; cost $25,000. T. W. Lesaye, Superintendent Waterworks.

New Toronto, Ont.—Until Aug. 14, by G. D. Scott, Village Clk., for constructing sanitary sewers and a sewage pumping station. T. Lowes, Engr., Mimico.

London, Ont.—Until Aug. 18, by the Chairman and Members of the Board Control, for constructing storm sewer system to consist of Contract No. 7, 5000 lin. ft.; No. 8, 6200 lin ft; No. 9, 6800 lin ft.; No. 10, 1300 lin. ft. and No. 11, 3200 lin. ft. H. A. Brazier, City Engr.; Chipman & Powers, Consulting Engrs., Toronto.

PRICES AND LETTINGS.

★Indicates award of contract.

★Boston, Mass. — Contract reported awarded Coleman Brothers, Chelsea, at $11,614, for laying high pressure fire service pipes in section of Franklin, Summer, School Streets and Merchants Row.

★Batavia, N. Y.—Contract for installing at sewage pumping station three motor-driven pumps to replace present pumps, awarded Root, Neal & Company, Buffalo, at $9,764.

New York, N. Y.—Following are unit figures of the two bids opened Aug. 3 by Douglas Mathewson, President Bronx Borough, for constructing sewers in East 177th Street, Bronx Park Avenue, etc.: (a) New York and New Jersey Construction Company, 30 East Forty-second Street, $289,964, and (b) Anita Construction Company, 2975 Marion Avenue, $315,444:

	a.	b.
203 lin. ft. 8 ft. 3 in. x 8 ft. double concrete sewer	$72.00	$50.00
1014 lin. ft. 13 ft. x 8 ft. single concrete sewer	57.00	49.00
1791 lin. ft. 9 ft. 3 in. x 8 ft. single concrete sewer	42.00	46.00
263 lin. ft. 8 ft. 9 in. x 8 ft., single concrete sewer	42.00	45.00
810 lin. ft. 8 ft. 3 in. x 8 ft. single concrete sewer	35.00	42.00
459 lin. ft. 7 ft. x 8 ft. single concrete sewer	76.00	42.00
51 lin. ft. 8 ft. 9 in. x 6 ft. 6 in. single concrete sewer	76.00	19.00
23 lin ft. 3 ft. 3 in. single concrete sewer	12.00	12.00
82 lin. ft. 32 x 44 in. egg-shaped single concrete sewer	12.00	12.00
68 lin. ft. 30 in. vitr. pipe sewer	8.00	6.00
95 lin. ft. 24 in. vitr. pipe sewer	7.00	5.00
33 lin. ft. 20 in. vitr pipe sewer	6.00	5.00
71 lin. ft. vitr. 18 in. pipe sewer	5.50	4.00
27 lin. ft. 15 in. vitr. pipe sewer	5.00	4.00
470 lin. ft. 12 in. vitr. pipe sewer	4.00	4.00
300 lin. ft. basin connections	1.30	3.00
300 lin. ft. vitr. pipe drains 12 to 30 in.	2.50	2.00
410 spurs for house connections	.50	1.00
2050 lin. ft. risers	1.00	1.00
1 overflow chamber	14,000.00	30,000.00
37 manholes	60.00	60.00
5 receiving basins Type B	150.00	150.00
10 receiving basins Type C	130.00	150.00
20,000 cu. yd. rock excavation	1.50	2.50
50 cu. yd. Class A concrete	7.00	7.00
650 cu. yd. Class B concrete	6.00	6.00
100 cu. yd. Class C concrete	6.40	6.00
10 cu. yd. brick masonry	12.00	12.00
5000 lb. steel reinforcement bars	.035	.03
225 M ft. timber sheeting	10.00	40.00

★Canonsburg, Pa.—Contract awarded by North Strabane Water Company, to Manistee Iron Works, Manistee, Mich., for furnishing an electric pump with a capacity of 200,000,000 gal. per 24 hours.

★Wilmington, Del.—The following are unit figures of the four lowest bids opened June 2 by Water Commissioners for constructing Rodney Street reservoir: (a) Williams & Kinnaman, Baltimore, Md., $134,713 (awarded contract); (b) Suburban Engineering Company, New York, N. Y., $148,509; (c) J. F. Rogers Company, Moorestown, N. J., $149,961; (d) C. B. Clark Company, $152,909. George W. Fuller, Engineer, 170 Broadway, New York, N. Y.

	*(a)	(b)	(c)	(d)
22,000 cu. yd. earthwork	$0.87	$0.65	$0.67	$0.75
20 cu. yd. rock excavation	2.50	5.00	3.50	4.00
Rolling reservoir foundation, complete	200.00	250.00	200.00	150.00
475 cu. yd. cinder fill	1.00	1.60	1.00	1.00
8,000 cu. yd. stone concrete	8.35	10.00	10.80	10.50
44 cu. yd. cinder concrete	8.35	15.00	10.00	16.00
3,800 cu. ft. granolithic floor surfacing	0.06	0.06	0.06	0.04
550,000 lb. steel reinforcement	0.048	0.054	0.045	0.05
Piping, valves and castings, complete	6,500.00	8,400.00	7,950.00	9,800.00
3,000 lb. miscellaneous wrought-iron and steel work	0.15	0.15	0.08	0.07
Fences and railings, complete	...	...	...	...
2,500 lin. ft. laying electric conduits	0.03	0.15	0.125	0.03
2,930 sq. yd. asphalt pavement	1.10	1.20	1.40	1.20
675 sq. yd. brick pavement	1.72	1.20	2.40	1.50
Shelter, complete	1,800.00	2,000.00	2,140.00	1,900.00
Gate house, complete	2,500.00	2,300.00	1,400.00	1,900.00
725 lin. ft. stair treads	0.75	0.40	0.45	0.60
Seeding, complete	50.00	120.00	245.00	250.00
5,000 sq. yd. sodding	0.25	0.30	0.40	0.25

★Great Falls, Mont.—Following are unit figures of the four lowest bids opened July 10 by W. H. Harrison, City Clerk, for Contract I, General Contract for the filtration plant: (a) Engineer's estimate, $114,583; (b) Olson Johnson Co., Great Falls, $101,435 (awarded contract); (c) Hoyt-Hayden, Great Falls, $109,885; (d) Leighland Kieppe, Great Falls, $113,000; (e) Ness-Theisen Construction Co., Great Falls, $120,000. Burns & McDonnell, Engineers, Kansas City, Mo.

	(a)	*(b)	(c)	(d)	(e)
17,000 cu. yd. earth excavation	$0.50	$0.50	$0.25	....	$0.38
3,250 cu. yd. Class "A" concrete	12.50	12.50	14.50	10.75	7.25
1,230 cu. yd. Class "B" concrete	10.00	8.60	12.50	9.00	6.90
394,000 lb. reinforcing steel	0.055	0.046	0.045	0.03½	0.0475
62,200 lb. structural steel	0.08	0.053	0.06	0.0435	0.0481
560 lin. ft. 4-in. Class "B" pipe	0.85	0.12	0.80	0.75	0.93
925 lin. ft. 24-in. Class "A" pipe	6.00	0.68	6.60	7.00	7.00
240 lin. ft. 4-in. wrought-iron pipe	0.50	0.11	0.61	0.75	0.60
350 lin. ft. 6-in. steam line	3.50	0.20	3.00	1.35	1.10
320 lin. ft. 6-in. drain tile	0.25	0.12	0.15	0.40	0.30
280 lin. ft. 8-in. drain tile	0.30	0.17	0.22	0.45	0.35
260 lin. ft. 10-in. drain tile	0.40	0.22	0.28	0.52	0.45
35 lin. ft. 12-in. drain tile	0.75	0.29	0.40	0.60	0.62
350 lin. ft. 12-in. vitr. sewer	0.70	0.80	0.95	0.65	0.75
80 lin. ft. 18-in. vitr. sewer	1.40	1.85	1.55	1.26	1.65
120 lin. ft. 20-in. vitr. sewer	1.65	2.00	1.25	1.50	1.75
660 lin. ft. 24-in. vitr. sewer	2.40	2.35	2.90	2.00	2.84

★Erie, Pa.—Contract awarded Edward Driscoll, Erie, for constructing storm water sewers in Thirtieth, Perry and Thirty-first Streets (bids opened July 28). F. G. Lynch, City Engineer.

★Washington, D. C.—Contract for furnishing c.-i. pipe and specials for the District of Columbia (bids opened July 10) awarded Lynchburg Foundry & Machinery Company, Lynchburg, Va., at $28.90 per ton for 12-in. pipe and $60 per ton for specials.

Pasadena, Ca. — See "Foundations, Piers and Dams."

★Arcadia, Fla.—Contract for water and sewer extensions approximately 22,000 lin. ft. 6-in. c. i. water pipe, including necessary c. i. specials, 13 connections to old mains, 46 6-in. 2-way fire hydrants, 30 6-in. gate valves and 26,000 lin. ft. vitr. sewer pipe from 8 to 12 in. diam., including manholes, flush tanks, and all appurtenances (bids opened July 24), awarded to Florida National Vault Company, Lakeland, at $18,807 for water extensions and $20,024 for sewer extensions. Cravens & Kimmel, Engineers, Room 5 Parker Building, Arcadia.

★Birmingham, Ala.—Contract for constructing sanitary sewer in Woodland and Gate City awarded by City Commissioners to H. N. Bowdry, Empire Building, at $18,236.

★Cleveland, Ohio.—Contract awarded by City Board of Control to Worthington Pump & Machinery Corporation, 115 Broadway, New York, N. Y., for a gear drive for lay shaft on a Holly pump at city water works pumping station; cost $1,500 (bids opened July 26).

★East Youngstown, Ohio.—Contract for constructing filter plant awarded Henderson Construction Company, Youngstown, at $53,000, and for furnishing iron pipe to Massillon Iron Company, Massillon, at $30.65 per ton.

★Martins Ferry, Ohio.—Contract for constructing waterworks reported awarded J. W. Beltz & Sons Company, Wheeling, W. Va.

Chicago, Ill.—Lowest bids opened Aug. 3, by Trustees Sanitary District of Chicago for Contract No. 7 of the Calumet Intercepting Sewer, submitted as follows: (a) soil area furnished by Sanitary Dist. of Chicago; (b) soil removed by contractor, T. J. Forschner Contracting Company, Orland, Chicago, concrete (a) $900,761; (b) $912,031; brick and concrete alternate, Nash Dowdle Company, 29 S. La Salle Street, (a) $989,701; (b) $1,042,031.

★Geneva, Ill.—Contract for $17,683 awarded George A. Mallory Company, Kewanee, for sewer improvements.

★Ironton, Ohio.—Contracts in connection with the water works have been awarded as follows: Pumping station and intake wells, Hausman & Shumway, Portsmouth, $69,000; filtration plant, Continental Jewel Filtration Company, New York, N. Y., $103,357; reservoir, Merydith Construction Company, $79,617; pumps and machinery, Epping Carpenter Pump Company, Pittsburgh, Pa., $69,843; pipes, Scherer, Mountain & Grimes, $65,500.

★Ossian, Iowa.—Contract for constructing waterworks (bids opened July 18) awarded Des Moines Iron & Bridge Company, Des Moines, at $14,917. C. L. Green, Clerk.

★Miller, Neb.—Contract for constructing works (bids opened July 27) awarded Katz Construction Company, Omaha. Ross Brown, City Clerk.

★Bismarck, N. D.—Contract for constructing storm sewer system awarded E. L. Gedney, Minneapolis, Minn., at $37,500. T. R. Atkinson, Engineer, Bismarck. R. H. Thistle, City Auditor.

★Great Falls, Mont.—Following are three bids opened July 10 by W. H. Harrison, City Clerk, for Contract II, filter contract (engineer's estimate $78,000): Pittsburgh Filter Manufacturing Company, Pittsburgh, Pa., $76,000 (awarded contract); Norwood Engine Company, Florence, Mass., $78,000; Roberts Filter Company, Darby, Mass., $79,000. Contract III—pump contract—(engineer's estimate $8,860): Merkle-Hines Machinery Company, Kansas City, Mo., $10,380 (awarded contract); Great Falls Electric Supply Company, Great Falls, $11,069; Hoyt-Hayden, Great Falls, $11,425; Norwood Engine Company, Florence, Mass., $11,650.

★Kingsville, Tex.—Contract awarded American Cast Iron Pipe Company, Birmingham, Ala., for c. i. pipe, at $32,902, and specials at $844; lead to Kingsville Lumber Company, Kingsville, at $2,720; valves and valve boxes to Fairbanks Company, New Orleans, La., at $3,333, and hydrants to Columbian Iron Works, Chattanooga, Tenn. (bids opened July 26). Henry C. Porter, City Engineer.

Othello, Wash. — Crane & Company, Seattle, reported to have submitted the lowest bid for furnishing 2400 ft. 6-in. c.-i. water pipe at $42 per ton; valves, $12.41 each; fittings, $104; Matheson steel pipe, 53 cts. per ft.

★Silverton, Ore. — Contract reported awarded by Council to Silver Falls Timber Company, Silverton, at $16,000, for constructing first unit of an auxiliary water system.

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★**Pasadena, Cal.**—Contract for furnishing valves awarded by City Commission to Smith Booth Usher Company, 230 Central Avenue, Los Angeles, at $1,979.

★**San Francisco, Cal.**—Contract for making core borings along the proposed line of the [illegible] Hetchy aqueduct (bids opened [illegible] 26) awarded International [illegible] Contracting Company, care of F. S. [illegible]hill, Secretary Board Public Works.

STEEL BRIDGE WORK

PROPOSED WORK.

Boston, Mass.—Public Service Commission of Massachusetts has authorized the construction of a new bridge over tracks of Boston & Albany R. R. at Brookline Avenue, near Fenway Park. Cost to be shared between City, Boston & Albany and Boston Elevated Company.

Providence, R. I.—Universal Winding Company, Auburn, will erect two-story, [illegible] steel frame building on Elmwood Avenue.

Cohoes, N. Y.—It is proposed to repair bridge between Cohoes and Lansingburg at a cost of $[illegible]00. Alfred Emmett, Engineer, of Troy, may be able to give information.

New York, N. Y.—In connection with the viaduct street around Grand Central Station, [illegible] Park and Fourth Avenues, [illegible] completed for sub-surface work and submitted to Public Service Commission for their approval. Marcus M. Marks, Pres. Manhattan Boro.

Atlantic City, N. J.—Contract soon to be let for erecting 20-story, 150 x 150 ft., brick, steel, concrete and terra cotta addition to Hotel Traymore. Price & McLanahan, Archts., 1418 Walnut Street, Philadelphia, Pa.

Butler, Pa.—State Highway Department, Harrisburg, considering constructing viaduct on South Main Street at Butler; cost $[illegible].

Easton, Pa.—County Engineer will prepare plans for three bridges: No. 185, over Martins Creek in Moore Township; No. [illegible] over Little Martin's Creek in Lower Nazareth Township, and No. 187, near Hagen's Mill in Plainfield Township.

Cocoa, Fla.—Reported $75,000 bonds for construction of the Cocoa and Merritt Island bridge will be sold. Clarence Mord Rogers, Jacksonville, Engineer, will be in charge.

Jacksonville, Fla.—Harrington, Howard & Ash of Kansas City, Mo., have been selected by County Commissioners to draw plans for bridge over St. John River.

Pensacola, Fla. — The Escabia-Santa Rosa Bridge Co. will construct steel draw bridge across the Escambia River at Fort Pickens. Probable cost $90,000. The bridge will be a toll bridge and will be sold by the company at the expiration of 5 years to Escambia and Santa Rosa Counties. Address County Clerk, Pensacola.

Knoxville, Tenn.—Reported steps being taken for construction of viaduct over Southern Ry. yards at State Street. J. Pike Powers, Jr., City Attorney, may be able to give information.

Wapakoneta, Ohio—Bridge bonds for $38,000 will be sold Aug. 18 by F. W. Langhorst, County Auditor.

Minneapolis, Minn.—Dayton Company, Seventh St. and Nicollet Ave., wil lerect a brick, steel, reinforced concrete and fireproof addition to its department store buildings at 40 Eighth Street South; estimated cost $67,300.

Bonita, Mont.—Reported Commissioners of Granita and Missoula Counties plan constructing steel bridge across Rock Creek near Bonita. Address County Clerk, Missoula.

Jefferson City, Mo.—See "Paving and Roads."

Bakersfield, Cal.—Hochheimer & Company, 1924 Chester Street, plans erecting four-story and basement department store building at Nineteenth Street and Chester Avenue, probably of steel and brick construction.

San Diego, Cal.—City Council will construct steel bridge over San Diego River at Old Town; estimated cost $40,000. George Cromwell, City Engineer.

Toronto, Ont.—Plans prepared by T. W. Lamb, 644 Eighth Avenue, New York, N. Y., for brick and steel theater to be erected for L. J. Applegath & Son, 155 Yonge Street, Toronto; cost $100,000.

BIDS DESIRED.

Thomaston, Me.—Reported desired until Aug. 20, by F. R. Redlon, Secy. Commissioners, 80 Union Street, Portland, for erecting steel cell work, grilles, steel sashes and window guards for addition to States Prison at Thomaston. E. F. Fassett, Archt., 95 Essex Street, Portland.

Albany, N. Y.—Until Sept. 6, by W. W. Wotherspoon, State Superintendent Public Works, Albany, for Contract No. 99, constructing portions of a bridge over Oswego River at Minetto, Oswego Canal, Section 1; also for constructing barge canal terminals; also separate bids for Terminal Contract No. 31, constructing a dock wall and approach at Lyons, advertised in Engineering Record.

Grafton, W. Va.—Until Aug. 22, by County Court, for constructing bridge across Lost Run on N. W. Turnpike, and two other bridges across Wickwire Creek on Wickwire Road.

Fort Lauderdale, Fla.—By County Commissioners at Fort Lauderdale, for constructing two steel highway draw bridges 50 ft. clear channel opening; also for roadbed construction, involving approximately 100,000 yd. of earth work. H. C. Davis, Engineer, Fort Lauderdale.

Eufaula, Ala.—See "Reinforced Concrete."

Mobile, Ala.—Until Aug. 14, by Board of Revenue and Road Commissioners of Mobile County, for constructing one steel span bridge.

Jonesboro, Tenn.—Reported desired until Aug. 14, for constructing bridge over Watauga River; probable cost $8,500. W. C. Leab, County Clk.

Brownsville, Ky.—Until Aug. 15, by Fiscal Court, for constructing a 65-ft. span steel bridge on Brownsville and Smith's Grove Road, with wood floor and concrete abutments.

Crosby, N. D.—See "Reinforced Concrete."

Missoula, Mont.—Reported desired, until Aug. 22, by W. J. Babington, Co. Clk. and Recorder, for constructing a 250-ft. steel and wood bridge over Hell Gate River, near Bonita, for Granite and Missoula Counties.

★**Salem, Mass.**—Following are unit figures of bids opened July 31 by County Commissioners for rebuilding Essex Bridge between Salem and Beverly: (a) Holbrook, Cabot & Rollins Corporation, 6 Beacon Street, Boston, $171,367 (awarded contract); (b) H. P. Converse & Co., 88 Broad Street, Boston, $175,168.

	*(a)	(b)
Removing old structure (lump sum)	$7,500.00	$4,290.00
Maintaining travel (lump sum)	3,000.00	10,450.00
Pile structure (lump sum)	85,000.00	86,718.00
Waterproofing (lump sum)	4,750.00	5,940.00
74 cu. yd. 1:7½ concrete	8.00	9.00
58 cu. yd. 1:6 concrete	8.00	12.00
240 cu. yd. 1:6 reinforced concrete	30.00	25.39
3,840 sq. yd. granite paving, asphalt filler	3.75	3.64
430 sq. yd. granite paving, relaid	3.75	2.00
3,120 sq. yd. granite paving, sand filler	0.75	0.85
3,800 cu. yd. riprap	3.50	3.50
1,100 sq. yd. slope paving	3.50	3.25
52,500 lb. reinforcing bars	0.06	0.06
1,370 lin. ft. granite curb	1.10	1.00
12 cu. yd. brick work in manholes	20.00	20.00
330 lin. ft. Akron pipe	1.25	1.76
1,750 lin. ft. iron pipe fence	1.50	1.70
1,120 lin. ft. wooden fence	0.40	0.25
17,000 cu. yd. earth fill	1.10	1.00
4,600 lb. cast-iron pipes, etc.	0.06	7/10

Kansas City, Mo.—Reported desired until Aug. 31, by Board Public Works, for 1110 ft. temporary approach connecting with Allen Avenue viaduct at Liberty and Wyoming Streets. Harrington, Howard & Ash, Engrs., 1012 Baltimore Ave.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Poughkeepsie, N. Y.**—Contract awarded for reconstructing bridges over Central New England R.R.'s tracks in North Clinton and North Streets to C. A. Sibley, Albany, at $22,000 for iron work.

★**Cincinnati, Ohio.**—General contract for the concrete, steel and brick construction of nurses' home and chapel for Bethesda Hospital, Reading Road, awarded D. Meinken, 2126 Western Avenue; cost, $75,000. Samuel Hannaford & Sons, Archts., Sixth and Vine Streets.

★**Cincinnati, Ohio.**—Westlake Construction Co., Eden Avenue, general contractor, for new $250,000 medical college building of the University of Cincinnati, awarded contract for steel and ornamental iron to the Pothoff Construction Co., Bedford, Ind.

★**Dayton, Ohio.**—Contract for constructing approach to Bridge No. 74 (bids opened Aug. 3) awarded Dayton Construction Company, Dayton, at $6,000. W. H. Aszling, Clerk County Commissioners.

★**Racine, Wis.**—Contract for construction and repair of highway bridges to be crossed by the open ditches in Root River Drainage District awarded by Peter Myers, Attorney for District, to Worden Allen Company, Milwaukee, at $8,310.

★**Waukon, Iowa.**—Contract awarded by County Commissioners to Worden, Allen & Co., Milwaukee, Wis., at $40,695, for constructing bridges at Ion, Myron, Sixteen and Village Creek.

★**Kansas City, Mo.**—Contract for constructing Kansas City Terminal Co.'s bridge over Kaw River at Osage Avenue awarded Arkansas Bridge Co., Second and Wyandotte Streets, at about $1,500,000.

★**Astoria, Ore.**—Contract awarded by County Court to Charles H. Waring, Portland, at $6,193, for constructing steel lift drawbridge.

California.—See "Foundations, Piers and Dams."

★**Kettle Rapids, Man.**—Contract awarded by Hudson Bay Ry. to Canadian Bridge Co., Walkerville, at $350,000, for constructing steel bridge.

REINFORCED CONCRETE

PROPOSED WORK.

Media, Pa.—County Commissioners will construct concrete and steel bridge over Crum Creek at Victoria Mills near Swathmore. Address County Clerk.

Maryland.—State Roads Commission, 601 Garrett Building, Baltimore, plans to construct concrete bridge over Sinepuxent River near Ocean City; estimated cost $100,000. Also bridges over Sassafras River, over Western Run on York Road and over Elkton River at Elkton.

New Orleans, La.—John T. Gibbons, New Orleans, intends erecting $225,000 feed and grain plant of reinforced concrete construction, including feed mill, grain elevator, storage warehouse and electrically driven machinery.

Cleveland, Ohio.—Plans being prepared by A. F. Janowitz, 746 Euclid Avenue, for a four, five and six-story, 180 x 230 ft., brick, reinforced concrete, steel and fireproof apartment house, to be erected on East Eighty-ninth Street and Hough Avenue, for Cleveland Realty Development Company; cost $300,000.

Reported Cleveland Cadillac Company (T. H. Towell, President), East Twentieth Street and Euclid Avenue, will erect a three-story, brick, reinforced concrete and terra cotta service station and garage at Chester Avenue and East Thirtieth Street; cost about $225,000.

St. Paul, Minn.—Clarence H. Johnson, 715 Capital Bank Building, engaged to prepare plans for seven-story and basement, reinforced concrete, terra cotta, steel and fireproof Creelman Hotel and garage, to be erected at Laurel and Western Avenues; cost $300,000.

Kansas City, Mo. — Board of Public Works approved resolution authorizing construction of reinforced concrete bridge in Troost Avenue across Brush Creek. The structure will be 56 ft. wide and have roadway 42 ft. wide.

St. Louis, Mo.—Pelligren Construction & Investment Co., Grand and Park Avenues, secured site at Hodiamont and Easton Avenues and intends erecting 5-story reinforced concrete and brick building; probable cost $100,000.

Spokane, Wash.—City Council passed ordinance authorizing issuing $300,000 bonds for repairing, replacing and rebuilding certain reinforced concrete and steel bridges over Spokane River. Address City Clerk.

Tacoma, Wash.—Reported Council contemplates constructing a modern concrete dock at foot of Fifteenth Street to replace present municipal dock; cost, $25,000. W. D. Nickeus, City Clerk.

Portland, Ore.—Contract will soon be let by City Council for regrading project extending from East Twenty-eighth to East Eighty-second Street, which includes number of concrete viaducts, etc. Philip H. Dater, City Engineer.

BIDS DESIRED.

Westfield, Mass.—Until Aug. 22, by John L. Hyde, Town Engineer, for building 2 reinforced concrete bridges, advertised in Engineering Record. Dexter A. Snow, Chairman Board Selectmen.

Somerville, N. J.—Until Aug. 14, by Board Chosen Freeholders, for constructing Woodburn Bridge over South Branch, reinforced concrete arch 70-ft. span, concrete parapets, wing walls, roadway, etc. Addition to White bridge on Marconi Road, seven 12-in. I beams to be furnished, concrete slab parapets and wing walls; also addition to brick arch culvert on Marconi Road, concrete slab, wing and parapets and other improvements to smaller culverts.

Franklin, Pa.—Until Aug. 24, by County Commissioners (John L. Shaffer, Chmn.), for furnishing labor and removing present light steel bridge over Scrubgrass Creek, and constructing a new highway bridge to consist of a 45-ft. span reinforced concrete span 15 ft. rise and 18 ft. reinforced concrete roadway.

Berkeley Springs, W. Va.—Until Sept. 2, by County, for constructing reinforced concrete bridges over Great Cacapon at Enon, over Sleepy Creek near Sleepy Station, over Sleepy Creek at Allens Ford, and over Sleepy Creek at Smith's Cross Roads.

Jacksonville, Fla.—Until Aug. 21, by Board Port Commissioners (J. C. O'Dell, Gen. Mgr.), for furnishing material and constructing locomotive engine house and concrete pit, 48 ft. long 3 ft. 10 in. inside measurement.

Eufaula, Ala.—Reported desired until Aug. 24 by County Board of Revenue, for constructing bridge over Chanahatchee Creek, over Foys Mill, also bridge over White Oak Creek. Bids desired on steel bridge with concrete piers and floors, or all reinforced concrete bridge.

Kizer, Tenn.—Reported desired until Aug. 19, by County Bridge Com. (C. H. Hill, Chmn., Maryville), for constructing 35-ft. span, 12-ft. roadway, reinforced concrete arch bridge at Kizer.

Cincinnati, Ohio.—Until Aug. 16, by Chas. F. Hornberger, Dir. Public Service, for erecting a brick and concrete building, to be used as a public bath house, on Freeman and Central Avenues.

Cleveland, Ohio.—Until Aug. 16, by City Service Department, for constructing concrete swimming pool in Garfield Park.

Ohio.—See "Paving and Roads."

Illinois.—By State Highway Department, Springfield, for constructing following bridges:

Until Aug. 15.

Nashville, conctructing three reinforced concrete bridges in Holyeton Township, Washington, County, called Harshman, Liberty School and Cemetery Bridges, of 26, 40 and 20-ft. span, 16, 16 and 24-ft. roadways. Engineers' estimates, Harshman, $1,225; Liberty School, $2,400, and Cemetery, $1,140. Also separate bids, same time and place, for constructing following bridges: Reinhardt-Sachteben bridge, reinforced concrete, 20 ft. on skew, 16-ft. roadway, Washington Township. Engineers' estimate, $1,346. Jones Bridge, reinforced concrete, 30-ft. span, 16-ft. roadway, Washington Township. Engineers' estimate, $1,840. Welch and White bridges, reinforced concrete, spans 20 and 10 ft., 16 and 20-ft. roadways, Ashley Township. Engineers' estimate, Welch bridge, $900, and White bridge $470.

Constructing four reinforced concrete bridges known as Irvington No. 1, 2, 3 and Wamac Park Bridges, spans 25, 25 on skew, 30 and 25 ft. with 16-ft. roadway on three and 20 ft. roadway on last in Irvington Township. Engineers' estimate, Irvington No. 1, $1,010; No. 2, $2,075; No. 3, $1,457; Wamac Park, 1,300.

Kankakee, Warrell bridge, reinforced concrete, 45-ft. span, 18-ft. roadway, in Bourbonnais Township. Engineer's estimate, $2,730, including piles.

Until Aug. 18:

Garrison Hale bridge, reinforced concrete, two abutments, 14 ft. over all, in Crouch Township. Engineer's estimate, $1,395.

Until Aug. 19:

Quincy, two reinforced concrete bridges, Davis and Nutt bridges, 16 and 10-ft. span, 16 and 20-ft. roadway, in Lima Township. Engineers' estimates, Davis bridge, $690; Nutt bridge, $1,110. Pleasant Grove Bridge, reinforced concrete, in Burton Township, 12-ft. span, 24-ft. roadway. Engineer's estimate, $920.

Until Aug. 21:

No. 7, bridge, reinforced concrete, 60-ft. span, 16-ft. roadway, in Beaver Township. No. 39, reinforced concrete, 24-ft. span, 20-ft. roadway, in Beaver Township. Nos. 34 and 35. reinforced concrete, 10-ft. span, and old superstructure for No. 35 Roadways, 16 and 20 ft. Engineer's estimate No. 34, $625; No. 35, $1,080. Bridges Nos. 2, 24, 40 and 7, reinforced concrete spans, 20, 6, 14 on skew and 18 ft., with 18, 20 and 24-ft. roadways. Engineer's estimate, Bridge No. 2, $3,240; 24, $720; No. 40, $1,075; No. 7, $2,940.

New Baden, Ill.—Reported desired until Aug. 14, by Village Clerk, for furnishing material and constructing a reinforced concrete chimney 100 ft. high and 4 ft. diam. for municipal electric light plant. Fuller Coult Co., Chemical Bldg., St. Louis, Mo., Engrs.

Bemidji, Minn.—Until Aug. 21, by Geo. Stein, City Clk., for constructing steel and concrete bridge across Mississippi River at inlet to Lake Bemidji. T. W. Swinson, City Engr.

St. Cloud, Minn.—Reported desired until Aug. 23. for constructing State Bridge No. 1988, 50-ft. truss span, concrete slab floor, reinforced concrete abutments, State Bridge No. 2014, 140-ft. truss span, concrete slab floor, 18-ft. roadway. N. Thomey, County Auditor.

Waseca, Minn.—Until Aug. 21, by Theo. Peterson, Co. Aud., for constructing reinforced concrete abutments for 28-ft. span steel bridge, in town of Byron, also for head walls for culverts east of this bridge and reinforced concrete abutments for 30-ft. span steel bridge in town of Byron.

Worthington, Minn.—Reported desired until Aug. 21, for constructing 125 culverts, 24 ft. long. Gus. Swanberg, County Auditor.

Belleville, Kan.—Reported desired until Aug. 18, by County Clerk, for constructing steel highway bridge, to consist of four riveted steel pony truss spans 80 ft. long, 16 ft. roadway, four concrete piers and one concrete abutment.

Iola, Kan.—Until Aug. 22, by Geo. Seymour, Co. Clk., for constructing nine reinforced concrete bridges and culverts and about 6½ miles gravel or macadam road 12 ft. wide on the Iola-Geneva Road, in Iola, Carlyle and Geneva Townships, Alton County.

Crosby, N. D.—Until Aug. 21, by W. E. Vandais, County Auditor, for a 45-ft. steel truss bridge, with reinforced concrete abutments, also one reinforced concrete bridge, advertised in Engineering Record. T. W. Davies, County Engineer.

PRICES AND LETTINGS.

★Indicates award of contract.

★Amsterdam, N. Y.—Contract awarded Turner Construction Company, 11 Broadway, New York, N. Y., for constructing a mill for Chalmers Knitting Company, to be of reinforced concrete throughout, 62 x 350 ft., 8 story; also for a power house and dye house. C. R. Makepeace & Company, Providence, R. I., Engineers.

★Brooklyn, N. Y.—Contract awarded Turner Construction Company, 11 Broadway, New York, N. Y., for erecting a reinforced concrete factory, 80 x 60 ft., 6 story, at Manhattan and Skillman Avenues, for Valentine & Company.

★New York, N. Y.—Turner Construction Company, 11 Broadway, secured contract to erect eight-story reinforced concrete factory at 214 West Fourteenth Street, for Daggett & Ramsdell; estimated cost $100,000. Timmis & Chapman, Architects, 315 Fifth Avenue.

★Perry, N. Y.—Contract awarded by Town Board to Shaw & Grethwol, Batavia, for constructing reinforced concrete viaduct at Perry.

★Linesville, Pa.—Contract awarded by County Commissioners at Meadville to the Ferry Concrete Company, Harrisburg, at $5,647, for constructing reinforced concrete bridge, 55-ft. span, 36 ft. wide, over Linesville Creek on Main Street (bids opened July 25).

★Turtle Creek, Pa.—Contract awarded by Borough Council to United States Construction Co., Pittsburgh, at $5,006 for constructing concrete bridge on Maple Avenue.

★Baltimore, Md. — Contract reported awarded by Pennsylvania Railroad Company to James Stewart, Inc., Chicago, Ill., for rebuilding of reinforced concrete construction the grain elevator recently destroyed by fire; cost $2,000,000.

★Cincinnati, Ohio.—General contract for the construction of the new St. Andrew's Roman Catholic Church, Reading Road, was awarded to William L. Barrett, 312 Johnston Building, Cincinnati, Ohio, at $90,000. The structure is to be of brick, stone and concrete. Samuel Hannaford & Sons, Archts., Hulbert Blk., have charge of the work.

★Peoria, Ill.—Contract awarded Widell Company, Mankato, Minn., for constructing a reinforced concrete viaduct to carry Adams Street over the tracks of the Chicago & North Western, the Chicago, Burlington & Quincy and the Minneapolis & St. Louis. Bridge will be 1100 ft. long between abutments, rest on 29 piers, have 24½-ft. roadway with 5-ft. 8-in. sidewalk on each side. An additional structure branching off from main viaduct about 400 ft. long to abutments and providing 16-ft. roadway and no sidewalks will also be built; cost is estimated at $100,000, to be shared by city and the railroads.

★Prairie du Chien, Wis.—Contract for constructing a reinforced concrete girder bridge, 250-ft. span and 30-ft. roadway (bids opened July 27) awarded Delos Engineering & Construction Company, Prairie du Chien, at $8,431. W. H. Turbitt, City Clerk.

★Houston, Tex. — Reported contract awarded American Construction Company, Houston, by Missouri, Kansas & Texas Ry., for constructing a reinforced concrete cotton platform, to cost $50,000.

★Tacoma, Wash.—Contract for constructing a concrete retaining wall awarded Hurley Mason Company, Worcester Building, Portland, Ore., by the Oregon-Washington Ry. & Navigation Company; cost $60,000.

★California.—Contract awarded by California Highway Commission, Sacramento, for constructing two reinforced concrete bridges between Baird and Antler, to Ross Construction Company, Sacramento, at $24,677.

★Los Angeles, Cal.—Contract awarded Leonardt & Peck, 721 H. W. Hellman Building, for erecting five-story and basement, 55 x 137 ft., reinforced concrete store and loft building on Los Angeles and Ninth Streets. Mayberry & Parker, Architects and Engineers, 472 Pacific Electric Building.

★Napa, Cal.—Contract for constructing a concrete bridge over Conn Creek (bids opened July 25) awarded by L. W. Collins, County Clerk, to C. H. Gildersleeve, Napa, at $5,415.

Santa Ana, Cal.—Following are four lowest bids opened Aug. 2 by Board of Supervisors for constructing reinforced concrete girder bridge, 564 ft. long, on concrete pile foundation across Santa Ana River, at West Chapman Avenue, west of Orange, on line of State Highway: H. Clay Kellogg, Santa Ana, $23,555; G. S. Atkinson, $25,400; S. M. Kerns, Long Beach, $25,850, and M. Ledbetter, Los Angeles, $30,000. County furnishes cement, sand, gravel and crushed rock.

ROADS AND PAVING

PROPOSED WORK.

Lawrence, Mass.—City Council has issued $50,000 bonds for paving 5 different streets. Address City Clerk.

Connecticut.—All bids opened July 26 by James J. Bennett, State Highway Commissioner, Hartford, for paving in Prospect and New Canaan have been rejected.

Brooklyn, N. Y.—Board of Estimate, New York, appropriated $120,000 for pavements on Eastern Parkway Extension in Brooklyn from Ralph to Bushwick Avenues.

Burlington, N. J.—City Council considering paving or resurfacing every important thoroughfare during the coming year. Address City Clerk.

Elizabeth, N. J.—All bids opened by Board of Works for repaving Elizabeth Avenue with reclipped block rejected. Address Clerk of Board.

Hoboken, N. J.—Street improvement bonds for $145,000 will be sold Aug. 16 by City Commissioners. Daniel A. Haggerty, City Clerk.

Jersey City, N. J.—Board of Chosen Freeholders will soon let contract for repaving Belleville Turnpike from Saw Mill Creek to Passaic River. Thomas Wasser, Jersey City, County Engineer.

Newark, N. J.—Contract will probably be let in September by Board Street and Water Commissioners for paving with wood block or granite on Prince Street, including 1800 lin. ft. granite curb.

Paterson, N. J.—Road bonds for $181,000 will be sold Aug. 16, by Board Freeholders (Geo. N. Botbyl, Clk.).

Board of Public Works will pave Harrison and Jefferson Streets with concrete. Samuel R. Orcutt, City Clerk.

Berlin, Pa.—Citizens voted $12,000 bonds for paving Main Street. Address Borough Clerk.

New Philadelphia (P. O. Silver Creek), Pa.—Borough Council will spend $20,000 for paving. Address Borough Clerk.

Newport, Pa.—It is proposed to pave with brick on Fourth, Marie, Market, Mulberry and Walnut Streets, about 1 mile on concrete foundation with cement curb. Probable cost $100,000; contract will probably be let in the spring. P. G. Hertz, Borough Secretary.

Baltimore, Md.—Paving Commission decided to repave Gay Street from Baltimore Street to North Avenue with sheet asphalt with recut granite blocks between car tracks. Estimated cost $100,000.

Baltimore, Md.—State Roads Commission will pave Monroe Street from Eagle Street, near Carroll Park, to North Avenue, with sheet asphalt. Estimated cost of work $85,000.

Easton, Md.—County Commissioners sold $50,000 road and bridge bonds. Address County Clerk.

Clarksburg, W. Va.—County Commissioners sold $100,000 road bonds. Address County Clerk.

Convent, La.—Election will probably be held to vote $200,000 good road bonds. Address President Police Jury.

Monroe, La.—Preliminary surveys being made for Parish Road work, costing $500,000. J. W. Billingsley, Consulting Engineer, Monroe.

Palmetto, La.—A ten mill tax is authorized, the proceeds of which will be used for constructing roads. Address President Police Jury.

Carthage, Miss.—County Commissioners issued $22,000 to construct roads. Address Road Commissioner.

Benton, Tenn.—County Commissioners sold $95,000 highway bonds. Address County Clerk.

North View, Va.—Reported Town Council will issue $24,000 street paving bonds. Address City Clerk.

Augusta, Ga.—Bill has passed House at Atlanta authorizing Council of the city of Augusta to require certain grading and paving. If bill becomes a law, about 25 miles of streets will be paved within the next two years.

Newport, Ky.—City Commissioners will improve portion of Tenth Street. Bids on brick, bitulithic and wood block will be considered.

Bays, Ohio.—Road improvement bonds for $27,100 will be sold Aug. 31 by A. L. Miller, Village Clerk.

Cincinnati, Ohio.—City Council approved following estimates of City Engineer Frank S. Krug for street improvements: Reconstructing, widening and repaving intersection of St. Clair Street, Jefferson Avenue and Glendora Avenue with brick, $13,473; restoring and repaving Glenway Avenue, $10,480; paving Wayne Street from Dover to Symmes Streets with brick, $10,093; improving Haven Street from Forest to Ehrman Avenues with bituminous macadam and 6-in. watermain, $9,820; relocating and improving Elsinore Avenue with bituminous macadam and 6-in. watermain.

Cleveland, Ohio.—Street improvement bonds for $183,000 will be sold Aug. 28, by C. J. Neal, Dir. Finance, City Hall.

Coshocton, Ohio—City Council sold $44,000 street improvement bonds. Address City Clerk.

Lakewood, Ohio.—Street improvement bonds for $37,490 will be sold Aug. 28, by B. M. Cook, Director of Finance.

Port Clinton, Ohio.—Highway improvement bonds for $26,500 will be sold Aug. 21 by County Commissioners. D. L. Mackay, County Auditor.

Springfield, Ohio—Paving bonds for $28,745 will be sold Sept. 5, by W. J. Barrett, City Auditor.

Youngstown, Ohio.—City Council is considering the raising of the grade of the East Federal Street paving with brick on concrete foundation and curbing with stone, at a cost of $54,000. F. M. Lillie, Youngstown, City Engineer; Edw. L. MacLean, Clerk Engineer's Department.

Paving bonds for $112,000 will be sold Aug. 21 by Board County Commissioners. B. E. Brainard, Clerk.

Lebanon, Ind.—County Commissioners sold $47,000 gravel road bonds. Address County Clerk.

Seymour, Ind.—County Commissioners sold $115,300 highway bonds.

Wabash, Ind.—County gravel road bonds for $40,000 sold. Address County Clerk.

Forest Park, Ill.—It is proposed to pave Twelfth Street and Desplaines Avenue, about 20,445 sq. yd. brick paving, and 7710 lin. ft. concrete curbing, at a cost of $52,699. Robert E. Williams, Engineer, 106 North La Salle Street; Joseph T. Cainey, Clerk.

Galesburg, Ill.—Board of Local Improvements passed ordinance for paving Jefferson Street with brick. Estimated cost $25,498. Address Clerk of Board.

Toledo, Ill.—Cumberland County intends paving with brick in Greenup at a cost of $87,000 and constructing gravel roads across county, starting at Neoga; amount available $18,440. M. McConnell, County Clerk.

St. Paul, Minn.—City Council has ordered paving Grand Street from Milton Street to Cretin Avenue with creosote wood blocks; estimated cost $124,849. Address City Commissioner, City Building, St. Paul.

Holdrege, Neb.—City Council will pave 20 blocks in business section. Address City Clerk.

Mitchell, S. D.—East Third, East Second Avenues and Duff Street are to be paved with asphaltic concrete, concrete or wood block, and includes about 7380 ft. combined curb and gutter. S. H. Smith, City Engineer; T. Eastcott, City Auditor.

Jefferson City, Mo.—Citizens Aug. 1 voted $300,000 bonds for improving roads, culverts and bridges in the county. C. A. Diecks, County Clerk.

Bozeman, Mont.—Contract will soon be let by City Council for paving North Church Street. Address City Clerk.

Stanberry, Mo.—It is proposed to pave 20,000 sq. yd. on Park, Willow, First and Main Streets with brick on concrete foundation at a cost of $30,000. Black & Veatch, Engineers, Interstate Building, Kansas City; C. A. Greenlee, City Clerk.

Arkansas. — Reported H. R. Carter, State Highway Engineer, Little Rock, has submitted plans and estimates to Jackson County Commissioners (county seat, Newport) for 10½ miles macadam road from Newport to Herring's Chapel. The road will be 16 ft. wide and will cost about $68,000.

Dardanelle, Ark.—City will construct 2 miles of concrete sidewalks. S. A. Huckaby, City Recorder.

Corsicana, Tex.—County Commissioners sold $280,000 road bonds. Address County Clerk.

Corpus Christi, Tex.—Contract will soon be let for paving throughout city; estimated cost $150,000. Address City Clerk.

Dallas, Tex.—Petitions for paving Parry Avenue and Grand Street have been filed with City Commission. Address City Clerk.

El Paso, Tex.—City Council has ordered paving of South Street, Vrain Street and East Boulevard. Address City Clerk.

Hillsboro, Tex.—Citizens voted $10,000 street improvement bonds. Address City Clerk.

Pittsburg, Tex.—Citizens voted $100,000 bonds for constructing macadam roads. Address County Clerk.

Shawnee, Okla.—See "Water Works and Sewerage Systems."

Centralia, Wash.—City Commissioners adopted resolutions for paving South Pearl, Pear and Plum Streets. Address Clerk of Commissioners.

Reported City Council plans hard surfacing portions of J and Fourth Streets; cost $10,000. Roy Welch, City Engineer.

Everett, Wash.—Plans filed with City Council for paving certain blocks on Hewitt Avenue and Thirty-third Street. Hans Mumm, Jr., City Engineer.

Seattle, Wash.—Contract will soon be let for paving Second Avenue North; estimated cost $12,000. A. H. Dimock, City Engineer.

City Engineer estimates cost of constructing concrete walks on West Sixty-fifth Street at $28,173. Contract will soon be let.

Plans filed with City Council for paving Terry Avenue and Boren Avenue, $12,000; repaving Fourteenth Avenue West; cost $10,000. C. B. Bagley, Secy., Board of Public Works.

Contract will soon be let by Board of

Public Works for laying concrete walks on Tenth Avenue Northeast. A. H. Dimock, City Engineer.

It is proposed to pave Olive Street with brick block, about 6570 sq. yd., at a cost of $21,500. Address Secretary Board Public Works.

North Yakima, Wash.—N. A. Gilman, City Engineer, will prepare plans for paving East Yakima Avenue; cost $28,000. R. V. Hopper, City Clerk.

Pomeroy, Wash.—City Council plans paving a portion of Arlington Street. Harry St. George, City Clerk.

Hubbard, Ore.—It is proposed to pave with asphalt concrete on Second, Third, A, C, D, G and J Streets. S. A. Cobb, Engineer, Oregon City. Address City Recorder.

Sandy, Ore.—City Council will grade and pave with crushed rock Revenue Road. Address City Clerk.

Scio, Ore.—Reported contract will soon be let by Town Council for paving, grading, constructing drainage system, etc., in business district. Estimated cost $10,000. Address Town Clerk.

The Dalles, Ore.—Citizens of Wasco County will vote Nov. 7 $260,000 good road bonds. Address County Clerk.

Los Angeles, Cal.—Contract will be let about Sept. 1 by Board of Public Works (H. B. Ferris, Sec'y.) for constructing concrete pavements, cement curbs, etc., on Carolina Street. Address Clerk of Board.

Modesto, Cal.—E. H. Annear, County Engineer, is preparing plans and estimates for system of highways throughout the county preliminary to an election to vote bonds not to exceed $1,500,000.

Salt Lake City, Utah.—Contract will soon be let by City Commission for paving State Street from North Temple Street to Second North Street and Second North Street between Main Street and West Canton Street. Address City Clerk.

Boise, Idaho.—Paving bonds for Local Improvement Dist. No. 22 for $29,282 will be sold Aug. 29 by N. E. Robertson, City Clerk.

Bull, Idaho.—Contract will soon be let for paving portions of Main and Broadway Streets. Address City Clerk.

Winnipeg, Man.—The paving of about 8944 sq. yd. with sheet asphalt on McGregor Street on concrete foundation and 4700 ft. concrete curbing is under consideration. Cost $21,000. C. J. Brown, City Clerk.

BIDS DESIRED.

Boston, Mass.—Until Aug. 18, by Edw. F. Murphy, Comr. Public Works, for paving portions of Blossom Street, Boylston, Chandler and other streets, with sheet asphalt, Topeka, bitulithic or wood block pavement.

Long Island City, L. I., N. Y.—Until Aug. 17, by Maurice E. Connolly, Pres. Queens Borough, for paving and constructing sidewalks in portions of Sherman and Van Dam Streets, Ninth, Jackson and Hillside Avenues and a number of other streets, in all about 8950 sq. yd. sheet asphalt, 5800 sq. yd. asphalt block, 13,300 sq. yd. granite block pavement, 3500 sq. yd. asphaltic concrete, 40,400 ft. cement sidewalks, together with curbing, etc. Security $64,150.

New Brighton, S. I., N. Y.—Until Aug. 14, by Calvin D. Van Name, Pres. Borough of Richmond, for regulating, grading and paving portions of Manhattan Street, Brighton, Pacific and other streets, in all about 20,500 sq. yd. bituminous macadam pavement, 9600 cu. yd. excavation, etc. Security $14,000. Also separate bids until Aug. 15, for regulating and repaving with concrete paving and roadway on Willow Brook Road, and Port Richmond Road, from Richmond Turnpike to the Farm Colony Road, in all about 12,600 sq. yd. concrete pavement, together with excavation, culvert, pipe, etc. Security $9,000.

New York, N. Y.—Until Aug. 16, by Marcus M. Marks, Pres. Manhattan Borough, for regulating and repaving portions of Walker Street, Park Row, Bowery, Grand and a number of other streets, in all about 11,590 sq. yd. asphalt, 45,590 sq. yd. granite block, together with curbing, sewer manholes, etc. Security, $68,400.

Elizabeth, N. J.—Until Aug. 17 (readvertisement) for repaving Elizabeth Avenue from Broad to Seventh Street with reclipped or napped stone blocks on 6-in. concrete foundation, to consist of 20,620 sq. yd. reclipped or napped stone, 7700 lin. ft. curb reset in concrete, manholes, etc. Wm. F. Neafsey, Street Commissioner.

Montclair, N. J.—Until Aug. 22 by Town Clerk, for constructing a 2-in. asphaltic concrete pavement on Orange Road, approximately 5600 lin. ft., advertised in Engineering Record. Henry Ware Jones, Acting Town Clerk.

Woodbury, N. J.—Until Aug. 23, by A. Keyer, City Clerk, for concrete pavement on Remsen Avenue and James Street.

Brentwood, Pa.—Until Aug. 17, by Borough Council (C. F. Way, Clk.), for grading and constructing curb and sidewalk on Brownsville Road, from Fairhaven Avenue to Clairton Road, in all about 90,000 sq. ft. concrete sidewalk, 15,000 lin. ft. combined curb and gutter, and 10,000 cu. yd. grading. Douglas & McKnight, Borough Engrs., 1315 Union Bank Bldg., Pittsburgh.

Lock Haven, Pa.—Until Aug. 21, by Walter E. Zimmerman, Supt. Streets and Public Improvements, for constructing a vitr. brick paving on Henderson Street, approximately 4333 sq. yd., advertised in Engineering Record. H. P. Shoemaker, City Engineer.

Pittsburgh, Pa.—Until Aug. 15, by John P. Moore, County Controller, for furnishing the Road Department with 75,000 to 100,000 gals. more or less light asphalt road oil. Also alternative bids for 40,000 to 50,000 gals. more or less of Emulsifying road oil.

Baltimore, Md.—Until Aug. 16, by Board of Awards, care of City Register, for paving with cement concrete a number of alleys. R. M. Cooksey, Highway Engr.

Maryland.—Until Aug. 29, by State Roads Commission, 601 Garrett Building, Baltimore, for Contract No. H-17, Harford County, and Contract No. S-9, Somerset County, advertised in Engineering Record.

Rockville, Md.—Until Aug. 22, by County Commissioners, for constructing a section of State Aid Highway in Montgomery County, along the Glenmont-Colesville Road, for a distance of about 3 miles, advertised in Engineering Record.

Suffolk, Va.—Until Aug. 17, by R. H. Brentley, City Engineer, for bitulithic or asphaltic concrete resurfacing on old concrete foundation on Washington Street.

Lewisburg, W. Va.—Until Aug. 31, by County Court, for improving 12 miles of James River and Kanawa Townpike, White Sulphur Dist., 5 miles with 9-ft. waterbound macadam or penetration macadam, 1 mile asphaltic concrete or brick, 20 ft. wide, 5 miles bituminous or penetration macadam, and 1 mile resurfacing old macadam. W. P. Hunter, District Engr., White Sulphur.

Albermarle, N. C.—Until Aug. 15, by M. J. Harris, Mayor, and Bd. of Aldermen, for approximately 25,000 sq. yd. pavement, with alternate bids on approximately 50,000 sq. yd. Bids desired on cover-sheet asphalt, bituminous concrete, brick and durax block, and other types of pavement, including granite curb, vitr. brick curbing, etc. Anderson & Christie, Inc., Engrs., Charlotte, N. C.

Stacy, N. C.—Reported desired until Aug. 21, by Road Commissioners Hunting Quarter Township (J. O. Mason, Chmn., Stacey), for constructing 4½ miles of roads.

Lafayette, Ala.—Reported desired until Aug. 28, by F. E. Fitch, County Engr., for constructing two miles of road.

New Orleans, La.—Until Aug. 28, by Highway Dept., Board State Engrs., Room 104 New Orleans Court Building, New Orleans, for constructing with gravel Monroe-Winnsboro Highway, in Ouachita Parish, a distance of about 13 miles. W. E. Atkinson, State Highway Engr.

Paducah, Ky.—Until Aug. 17, by L. A. Washington, Commissioner Public Works, for paving, advertised in Engineering Record.

Tompkinsville, Ky.—Until Aug. 14, by Clk. Fiscal Court, for approximately 8552 sq. yd. crushed stone, 12,000 cu. yd. excavation, 15,484 ft. shaping, etc. R. Wiley, Comr. Pub. Roads, Frankfort.

Cincinnati, Ohio.—Reported desired until Aug. 18, by Fred. E. Wessman, President Board County Commissioners, for 25,734 sq. yd. macadam and 20,000 yd. grading on Dry Ridge Road. Wm. H. Boeh, County Engineer.

Cleveland, Ohio.—Until Sept. 6, by Board County Commissioners, Cleveland, for constructing approaches to Detroit-Superior viaduct, advertised in the Engineering Record. W. A. Stinchcomb, County Surveyor.

Columbus, Ohio.—Reported desired until Aug. 15, by G. A. Borden, Dir. Public Service, for paving with brick on Australia Alley, Eighteenth Street, Fifth Avenue, Granville and other streets.

East Cleveland, Ohio.—Until Aug. 24, by James P. Arter, Clk. Dir. Pub. Service, for furnishing material and paving portions of Baldwin, Hartford, and Haven Avenues and Thacher Street.

Ohio.—Until Aug. 17, by Clinton Cowen, State Highway Commissioner, Columbus, for following roads, including bridges, etc.:

Adams County, Sect. C, West Union Sinking Springs, Road I, Meigs Township, with waterbound macadam. Length 2.82 miles. Estimated cost $19,053.

Allen County, Sect. A, Lima Kenton Road I, Bath and Perry Townships, with brick. Length 2 miles. Cost $55,885. Alternative bids for paving same length with asphalt concrete. Cost $51,272.

Athens County, Sect. J. Logan-Athens Road, Dover Township, with brick. Length .37 mile. Cost $5,952.

Auglaize County, Sect. B-1, of the Kenton-Wapakoneta Road, in village of Waynesville, with brick, concrete and waterbound macadam. .61 mile. Cost $22,878.

Cuyahoga County, Sect. B, Cleveland-Massillon Road, Independence Township, repair .56 mile with brick. Cost $14,015.

Gallia County, Sect. G, of the Ohio River Road, Clay Township, with waterbound macadam. Length .78 mile. Cost $7,221. Sect. E, of the Jackson-Gallipolis Road, in Gallipolis and Green Townships, with waterbound macadam. Length 1.04 miles. Cost $11,039.

Geauga County, Sect. H, Cleveland-Meadville Road, Munson Township, with concrete and brick. 5.64 miles. Cost $74,212.

Harrison County, Sect. D, Dennison-Cadiz Road, Cadiz Township, with waterbound macadam. Length 2 miles. Cost $19,466.

Henry County, Sect. A, Toledo-Napoleon Road, Damascus Township, with waterbound macadam. Length 3.35 miles. Cost $41,937.

Hocking County, Sect. E, of Lancaster-Logan Road, for constructing 30-ft. concrete arch bridge over Harpers Run. Cost $2,526.

Lawrence County, Sect. J. Ohio River Road, Union Township, paving with either bituminous macadam or reinforced concrete. Length 1.06 miles. Cost, with bituminous macadam, $14,517; reinforced concrete, $16,893. Sect. I, Ohio River Road, Hamilton and Upper Townships, with bituminous macadam, brick or concrete. Length 2.19 miles. Cost, bituminous macadam, $19,345; brick, $31,261; concrete, $30,334. Sect. D, of the Ironton-Miller Road, Upper Township, with bituminous macadam. Length 1 mile. Cost $12,033.

Logan County, Sect. D, Bellefontaine-Richwood Road. .34 mile. Village of West Mansfield, with concrete. Cost $6,337.

Mahoning County, Sect. O, Youngstown-Akron Road, Austintown Township. With brick. Length 1.72 miles. Cost $25,686. Sect. A, Youngstown-Lowellville Road, Poland Township, with brick. Length 2 miles. Cost $36,217.

Mercer County, Sect. B, Celina-Wabash Road, in village of Celina, with concrete; .50 mile. Cost $7,400.

Monroe County, Sect. E, Woodsville-Barnesville Road, in Center and Malaga Townships. Grading roadway. 3.3 miles. Cost $17,127.

Perry County, Section P, of the Newark-New Lexington Road in Reading, Hopewell and Thorn Townships, with waterbound macadam. 1.90 miles. Cost $24,179.

Pickaway County, Sect. L, Perry Township, Cincinnati-Zanesville Road, with either bituminous macadam or waterbound macadam. Length 2.63 miles. Cost, of bituminous macadam, $20,241. Waterbound macadam, $14,302.

Preble County, Sect. F, Dayton-Indianapolis Road, in Washington, Lanier and Twin Townships, grading and paving with bituminous macadam. Length 4.45 miles. Cost $38,427.

Putnam County, Sect. A, Findlay-Delphos Road, in Riley Township, paving with waterbound macadam. Length 1.47 miles. Cost $7,301. Sect. F, Ottawa-Findlay Road, Ottawa Township, with waterbound macadam. Length 2.15 miles. Cost $13,078. Sect. B, Findlay-Delphos Road, Sugar Creek Township, with reinforced concrete. Length .37 mile. Cost $6,940.

Ross County, Sect. O, Portsmouth-Columbus Road, in Scioto Township, with brick. Length .57 mile. Cost $9,684. Sect. A, Dayton-Chillicothe Road, Concord Township, with waterbound macadam. Length .78 mile. Cost $7,961.

Sandusky County, Sect. J, Lima-Sandusky Road, Townsend Township, with waterbound macadam. Length 2.16 miles. Cost $24,955.

Scioto County, Sect. L, Ohio River Road, Washington Township, with brick. Length .97 mile. Cost $22,332.

Vinton County, Sect. A, McArthur-Gallipolis Road, Vinton Township, with brick, waterbound macadam or concrete. Length 1.77 miles. Cost, brick, $19,432; waterbound macadam, $16,526; concrete, $17,444. Sect. G, of the McArthur-Logan Road, in Swan Township, constructing wooden superstructure for bridge over Brushy Fork. Cost $1,962.

Warren County, Sect. A, of the Dayton-Lebanon Road, in Clear Creek Township, paving with waterbound macadam. Length 2.48 miles. Cost $4,998.

Springfield, Ohio.—Reported desired until Aug. 17, by C. E. Ashburner, for paving portions of Euclid Avenue. Probable cost $36,000. M. J. Bahin, City Engineer.

Indiana.—By County Commissioners for constructing following roads:

Aug. 19:

Terre Haute, constructing gravel road in Sugar Creek Township.

Muncie, constructing a crushed stone road in Center Township.

Sept. 5:

Angola, constructing a road in Pleasant Township.

Akron, Mich.—Until Aug. 16 (readvertisement), by Cleveland Neal, Highway Commissioner Wisner Township at Akron, for constructing about 3½ miles of Class C State Reward Road. R. W. Roberts, Engr., Saginaw.

Royal Oak, Mich.—Until Aug. 19, by Maurice R. Blair, Village, Clk., for paving Washington, Avenue and Fourth Street, in all about 11,040 sq. yd. 7-in. reinforced concrete pavement. Southern Michigan Engineering Co., Royal Oak, Engrs.

Wyandotte, Mich.—Reported desired until Aug. 15, by Chas. H. Block, City Clk., for paving and curbing on eight streets.

Catlin, Ill.—Until Aug. 19, by Commissioners of Highways of Town, for approximately ¾ mile of 20-ft.-wide monolithic brick pavement, to consist of grading, trimming and shaping roadbed, roadside and ditches, constructing drainage, etc. W. H. Jones, Town Clk.

Chicago, Ill.—Until Aug. 18, by Henry A. Zender, Supt. Public Service, for constructing 23,806 ft. concrete roadway, known as Lincoln Highway, in township of Rich, advertised in the Engineering Record.

Illinois.—Until Aug. 16, by State Highway Commission, Springfield, for constructing following roads:

Albion, Edwards County, Sect. B, 1125 ft. brick. Engineer's estimate $2,618.

Whitehall, Greene County, Sect. B, 13,076 ft. oiled earth. Engineer's estimate $4,492.

Greenfield, Greene County, Sect. C, 13,950 ft. oiled earth. Engineer's estimate $4,529. Carrollton, Greene County, Sect. D, 10,575 ft. oiled earth. Engineer's estimate $4,515.

Marion, Ill.—Reported desired until Aug. 15, for paving 3 miles concrete road. P. B. Wilson, County Supt.

Grand Rapids, Minn.—Reported desired until Aug. 17 for constructing 1½ miles road No. 111. Frank Sherman, Co. Aud.

Hastings, Minn.—Reported desired until Aug. 15, for two miles grading and turnpiking and 7 bridges and culverts. P. A. Hoffman, Co. Aud.

Winona, Minn.—Reported desired until Aug. 18 for constructing State Road No. 7, turnpiking 20,000 lin. ft., graveling 6000 cu. yd., etc. W. C. Anding, Co. Aud.

Iola, Kan.—See "Reinforced Concrete."

Omaha, Neb.—Reported desired, until Aug. 28, by C. T. O'Connor, City Clk., for paving and curbing, etc., portions of Thirty-sixth, Tenth and other streets. Bids desired on asphalt, stone, brick block, macadam creosoted wood block, asphaltic concrete, or vertical fiber brick.

Laurel, Mont.—Until Aug. 15, by C. H. Bundy, City Clerk, for about 30,000 sq. yd. waterbound macadam.

Independence, Mo.—Until Aug. 21, by A. W. Mosley, Co. Surveyor and Ex-officio Highway Engr., for improving Swope Park-Hickman Mills Road, Sect. 13 and 14, to consist of 5130 sq. yd. concrete pavement, 12,000 cu. yd. overall, 4294 cu. yd. solid rock excavation, etc.

Poplar Bluffs, Mo.—Until Aug. 21, by city, for 7000 sq. yd. paving concrete with asphalt fill on Tenth and Kinzer Streets, to cost $10,000. Edward C. Thomas, City Engineer.

Dallas, Tex.—Until Aug. 16, by J. B. Winslett, City Secy., for seven paving jobs. Bids desired on vitrolithic, vitrified brick, Uvalde asphalt, asphalt concrete, and bitulithic. Bids also desired on concrete gutters.

Everett, Wash.—Reported desired, until Aug. 28, by Mae Weatherbee, Co. Aud., for graveling, etc., on 1 mile of Vernon Road. W. C. Bickford, County Engr.

Pullman, Wash.—Reported desired until Aug. 21, by County Commissioners, for grading, draining and graveling Permanent Highway No. 12, about 11 miles between La Crosse and Dusty.

Seattle, Wash.—Reported desired, until Aug. 28, by Byron Phelps, Co. Aud., for paving portion of Bond Road No. 11, Seattle-Duwamish Road. Probable cost, $35,000. A. P. Denton, Co. Engr.

San Bernardino, Cal.—Until Aug. 21, by J. H. Osborn, City Clerk, for paving about eight blocks on "B" Street with concrete.

Phoenix, Ariz.—Reported desired until Sept. 20, for 12,200 yd. pavement. J. B. Girand, City Engr.

Utah.—Until Aug. 17, by State Road Commission (E. R. Morgan, Secy.), Salt Lake City, for constructing two miles concrete pavement in Boxelder County. Also separate bids for paving State Street. Bids desired on concrete, reinforced or plain sheet asphalt, bitulithic, crushed stone or rock asphalt.

Kellogg, Idaho.—Until about Aug. 15, by J. Jones, City Clerk, for about 8300 sq. yd. reinforced concrete paving on Main and Division Streets, to cost $15,000. Fred W. Callaway, City Engineer.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Massachusetts.** — Contract awarded James E. Watkins, 10 Fern Avenue, Amesbury, for constructing sections of State highway in Reading (bids opened Aug. 1 by Massachusetts Highway Commission, Boston).

★**Connecticut.**—Contract awarded by Charles J. Bennett, State Highway Commissioner, Hartford, for constructing a section of asphalt paving in Naugatuck to Edward P. Tracy, 200 Olivia Avenue, Derby, at $17,000, and concrete and tar macadam pavement in Windsor Locks, to L. Suzio Construction Company, Colony Street, Meriden, at $12,000. See "Proposed Work."

Albany, N. Y.—Following are lowest of the bids opened Aug. 7 by State Commission of Highways, 55 Lancaster Street, Albany, for State Aid road work:

Road No. 5155, Albany, Guilderland, Albany County, 5.37 miles: F. B. Van Wagenen, Rondout, N. Y., $11,936.

Road No. 1054, Alden, Darien Center, Genesee County, 3.88 miles: Frank Van Horn, New York, N. Y., $20,275.

Road No. 5582, Leroy Pavilion, Part 2, Genesee County, 4.53 miles: M. J. Kidd, New York, N. Y., $44,893.

Road No. 1098, Eagle Bay-Sixth Lake, Hamilton County, 4.22 miles: R. A. Kelton, Albany, $35,020.

Road No. 6563, Lockport, McNalls, Niagara County, 5.07 miles: Frank D. Van Horn, New York, $62,709.

Road No. 986, Fosterdale, Mongaup Valley, Sullivan County, 10.97 miles: Frank D. Van Horn, New York, $34,102.

Road No. 1109, Cambridge, Ash Grove, Washington County, 2.09 miles: Lynde Construction Corporation, Albany, $18,982.

Repair Contracts as follows:

Road No. 1001, Broome County, 0.48 mile; Sherman Contracting Company, Inc., Oneonta, $14,267.

Road No. 995, Cayuga County, 2.75 miles: McGreevy, McGuigan & Baum; Elmira, $24,014.

Repair Contract 707, Clinton County 7.34 miles: R. A. Kelton, Albany, $17,215.

Repair Contract No. 998, Clinton County, 12.83 miles: Defiance Corporation, Ticonderoga, $4,664.

Repair Contract No. 1003, Cortland County, 0.42 mile; Nash & Griffin, Norwich, $4,942.

Repair Contract 959, Delaware County, 1.57 miles: General Pavement Corporation, New York, $35,621.

Repair Contract 941, Delaware County 5.77 miles: Richard Hopkins, Troy, $21,071.

Repair Contract 986, Duchess Count, 1.19 miles: Tnomas J. Martin, Beacon, $6,747.

Repair Contract 992, Erie County, 9.4 miles; Richard Hopkins, Troy, $58,465.

Repair Contract 997, Essex County, 23.68 miles: Defiance Corporation, Ticonderoga, $8,781.

Repair Contract 993, Monroe County, 1.5 miles: H. W. Roberts & Company, Utica, $14,327.

Repair Contract 937, Nassau County, 1.27 miles (no bids received).

Repair Contract 990, Niagara County, 2.20 miles: Charles E. Haney, Camillus, $12,901.

Repair Contract No. 999, Onondaga County, 2.64 miles (no bids received).

Repair Contract 983, Harry W. Roberts & Company, Utica, $21,527.

Repair Contract 1002, Onondaga County, 1.31 miles: F. H. Wells, Savannah, N. Y., $9,882.

Repair Contract No. 1004, Ontario County, 1 mile: McGreevey, McGuigan & Baum, Elmira, $7,039.

Repair Contract No. 994, Ontario County, 1.95 miles: Connors & Gallavan, Elmira, $11,163.

Repair Contract 996, Orange County, 1.84 miles; Jacob Stern, Stroudsburg, $23,506.

Repair Contract No. 818, St. Lawrence County, 5.50 miles: Lynden Construction Company, Albany, $9,085.

Repair Contract 1000, Saratoga County, 20.88 miles: Paul Schultz, Albany, $6,137.

New York, N. Y.—Following are four lowest bids opened Aug. 3 by Douglas Mathewson, President Bronx, for repaving:

Sheet asphalt, 17,800 sq. yd. on Union Avenue: Uvalde Asphalt Paving Company, 1 Broadway, $33,254; W. F. Presley, $35,-416; Barber Asphalt Paving Company, Woolworth Building, $37,159, and Asphalt Construction Company, Madison Avenue and 137th Street, $37,576.

Sheet asphalt, 12,290 sq. yd., and granite block, 220 sq. yd., on Crotona Avenue: Uvalde Asphalt Paving Company, 1 Broadway, $19,915; Barber Asphalt Paving Company, Woolworth Building, $21,-107; W. F. Presley, $21,599, and Asphalt Construction Company, Madison Avenue and 137th Street, $23,711.

Granite block on concrete foundation on Garrison Avenue, 6500 sq. yd.: Asphalt Construction Company, Madison Avenue and 137th Street, $26,257; J. Leopold, Woolworth Building, $26,332; M. Baird Contracting Company, $26,340, and Burnside Contracting Company, 270 Burnside Avenue, $29,780.

Regulating, grading, curbing, sidewalks, etc., in Gleason Avenue, 7400 cu. yd. earth excav., 34,500 cu. yd. filling, 33,300 sq. ft. two-course concrete sidewalk (including 1 year maintenance), etc.: F. Schneider, 1531 Westchester Avenue, $29,633; O. Daniels Company, Woolworth Building, $30,640; DiMenna & Del Balso, 391 East 149th Street, $31,463, and Burnside Contracting Company, 270 Burnside Avenue, $31,864.

Bound Brook, N. J.—Following are bids opened Aug. 1 for about 8000 sq. yd. of paving on Shunpike and Talmage Avenues: Antonio Celantano, Trenton, $2.637 per sq. yd. for Mack brick; Hickey & Houghton, Inc., Somerville, five bids, from $2.98 to $3.09, according to material; Louis J. Sieling, 171 Madison Avenue, New York, five bids, from $3.35 to $3.75 per sq. yd. F. A. Dunham-Clarin Co., Engineers, 409 Park Avenue, Plainfield.

Jersey City, N. J.—Lowest bids submitted Aug. 2 to Board of Chosen Freeholders for paving Hudson County Boulevard from Newark Avenue to Duncan Avenue, by W. T. S. Chrichfield, Fifth Street, Hoboken, at $52,000, and from Duncan Avenue to Newark & New York R. R., by Standard Bitulithic Co., 31 Clinton St., Newark, at $54,330.

Morristown, N. J.—Following bids opened recently by Board of Chosen Freeholders for constructing road from Whippany to Hanover: Miles-Tighe Co., Easton, Pa., $54,407; Gray Construction Co., Morristown, $55,832, and Osborne & Marsellis, Bellevue Avenue, Montclair, $56,746.

★**Mount Holly, N. J.**—Following bids opened by Board of Chosen Freeholders for reconstructing Mount Holly-Chambers Corner Road: Charles T. Eastburn Co., Bourse Street, Philadelphia, Pa., $30,301 (awarded contract); J. F. Shanley Co., 26 Exchange Place, Jersey City, $33,490; Paul J. Snyder Co., Bailey Block, Philadelphia, Pa., $31,497, and John M. Kelley Construction Co., $37,956.

★Contract awarded by Board of Chosen Freeholders to J. F. Shanley Co., 26 Exchange Place, Jersey City, at $15,038, for constructing Mount Holly - Lumberton Road. Other bids were: John L. Le Compte, Trenton, $16,433, and John M. Kelley Construction Co., $17,072 (bids opened July 31).

★**Trenton, N. J.**—Reported contract awarded by Board of Chosen Freeholders to Newton Paving Company, Trenton, for improving Lawrenceville-Princeton Road, at $130,615, probably with brick and warrenite.

★**Boyertown, Pa.**—Contract awarded by Borough Council to J. B. Trexler, Reading, at $19,000, for paving number of streets.

Lebanon, Pa.—Lowest bid submitted to City Council for paving Walnut Alley, Church Street, Willow Street and Doe Alley, by Dwyer & Co., Lebanon, at total of $14,181.

★**Midland, Pa.**—Contract awarded by Borough Council to Angela Cupani, Midland, at $10,592, for paving Midland Avenue.

★**Baltimore, Md.**—Contract awarded by Board of Awards to P. Reddington & Sons, 321 St. Paul Street, at $25,059, for paving several streets and alleys (bids opened Aug. 2).

★**Bluefield, W. Va.**—Contract awarded R. F. Baker, Bluefield, for approximately 15,000 sq. yd. bituminous macadam on concrete base, together with 14,000 lin. ft. curb, etc. H. P. Wiler, City Engineer.

★**Atlanta, Ga.**—Contract awarded by City Council to Gulf Contracting Co., Chattanooga, Tenn., for paving portion of Peachtree Street.

★**Arcadia, Fla.**—Contract for paving (bids opened July 24) awarded by City Council to Stidham & Hughes, Bartow, at following figures: 40,000 cu. yd. excav., 27 cts.; 68,000 sq. yd. base, 22 cts.; 90,000 sq. yd. scraifying, 5 cts.; 158,000 sq. yd. asphalt concrete paving, 69 cts.; two concrete bridges, 18-ft. span, $6,115; total, $145,395; to Fargo Construction Company, Jacksonville, Fla., 116,000 lin. ft. curb and gutter, at 40 cts. and 25,000 lin. ft. header at 17 cts.; total, $28,831. Cravens & Kimmel, Engineers, Room 5 Parker Building, Arcadia.

★**Akron, Ohio**—Contract awarded by Board of Control to Payne Engineering Company, Akron, at $14,000, for paving Oakland and Beechwood Streets.

★**Cincinnati, Ohio.**—City Board of Control awarded contract for paving Vine Street from Twelfth to Liberty Streets with wood block to M. F. Quill, 808 Provident Bank Building, at $29,354. (Bids opened July 17).

★**Cleveland, Ohio.**—Contract awarded by Board of Control to R. P. Burnett, 527 Society for Savings Building, for paving Abbey Avenue with dressed block Medina stone (bids opened July 26).

★**Piqua, Ohio**—Contract awarded by Board of Control to Andrews Paving Company, Hamilton, for paving Ash Street from Caldwell Street to Broadway.

Tiffin, Ohio.—Following bids opened Aug. 1 by Director Public Service for paving North Washington Street: John E. King, Tiffin, $10,531, and Modern Construction Co., Tiffin, $11,366.

★**Mount Vernon, Ind.**—Contract for 25,-595 sq. yd. brick paving on concrete base awarded James DeGolyer, Seymour, at $1.35 per sq. yd. Charles W. Miles, City Engineer.

★**Illinois.**—Contract awarded by State Highway Commission, Springfield, to Gund & Graham, Freeport, at $19,965, for constructing with waterbound macadam 2 sections state aid road near Amboy and Dixon, Lee County.

★**Milan, Ill.**—Contract awarded by City Council to Anton Swanson, Moline, for paving; estimated cost, $24,000.

★**Ridge Farm, Ill.**—Sell & Kollar, 106 S. Oak Street, Pana, secured contract, at about $70,760, for work in Elwood Township and village of Ridge Farms (bids opened July 21), involving 21,375 sq. yd. paving and 13,781 sq. yd. monolithic brick pavement, and 8934 cu. yd. excav., etc. W. D. Dillon, Danville, Engr.

★**Fort Scott, Kan.**—Contract awarded Thogmartin & Gardner, Fort Scott, for 6000 sq. yd. paving and guttering at $11,-429. R. H. Minturn, City Engineer. (Bids opened July 28).

★**Shubert, Neb.**—Contract awarded by City Council to Watts & Ammerman, Concordia, Kan., for constructing asphaltic pavement.

★**Billings, Mont.**—Contract for gravel bitulithic in Improvement District No. 146 awarded Warren Construction Company, Portland, Ore., at $64,433. E. M. Sneckerberger, City Engr.

★**Great Falls, Mont.**—Contract for paving (bids opened July 25 by City Council) awarded Montana Paving Company, Great Falls, at $29,260. L. B. Euensen, City Engineer.

★**Paragould, Ark.**—Contract awarded by city to Kaw Paving Co., Topeka, Kan., at $25,000, for paving 12,000 sq. yd. with asphaltic concrete.

★**Pine Bluff, Ark.**—Contract awarded for constructing 1½ miles asphaltic pavement, extending from Cherry Street to Pine Bluff County Club, to C. E. Philpot, Pine Bluff.

★**Bryan, Tex.**—City awarded contract to Kaw Paving Co., Topeka, Kan., for paving Lamar and Monroe Streets.

★**Dallas, Tex**—Contracts awarded by City Council for paving portions of North Street, to Standard Engineering Company, Dallas; Greenville Road, to Vitrolithic Construtcion Company, Dallas; grading Travis Street, to Henry Cullum, Dallas.

★**Shelton, Wash.**—Contract awarded Jacobs-Frank Taylor, New Kamilche, Wash., for constructing South Shore Road at $9,500 (bids opened Aug. 1). A. L. Ward, County Engineer.

★**Salt Lake City, Utah.**—Contracts for paving (bids opened July 5) awarded by city as follows: To J. W. Mellen, Salt Lake City, 12,000 sq. yd. concrete paving on Paving Extension 103, 21 S. Street, between Fifth and Ninth East Streets, and to P. J. Moran, 152 West Second Street, for Extension 132, 60,300 sq. yd. gravel bitulithic on Herbert and Michigan Avenues, between Eleventh and Twelfth Streets, and 12 East Street, between Yale and Michigan Avenues. Sylvester Q. Cannon, City Engineer.

★**Cincinnati, Ohio.**—Following are the unit figures on the four lowest bids received July 17 by Public Service Director Hornberger for improving Colerain Avenue from Hopple Street to Mill Creek by resurfacing with granite: (a) City Engineer's estimate, $85,775; (b) James Doherty, Jr., 2649 Dennis Street, $79,028 (awarded contract); (c) The Thurber & Browning Co., 4312 Spring Grove Avenue, $80,085; (d) Henkel & Sullivan, 710 Mercantile Library Building, $80,500; (e) Thomas Evans, 3515 Mooney Avenue, $81,368.

		(a)	*(b)	(c)	(d)	(e)
700	lin. ft. drains 12-in. pipe (I. C.)	$1.00	$1.00	$2.00	$1.00	$1.00
1	manhole complete	60.00	50.00	90.00	60.00	70.00
50	manholes readjusted	3.00	2.00	10.00	3.00	3.00
2	gutter inlets	30.00	2.00	25.00	25.00	30.00
4	inlets, Plan 1	40.00	25.00	40.00	35.00	35.00
45	inlets, Plan 3	45.00	35.00	60.00	40.00	45.00
16	inlets readjusted	5.00	10.00	10.00	5.00	5.00
8	standard traps	10.00	8.00	15.00	10.00	10.00
20,000	lb. castings	0.03	0.04	0.03	0.03	0.02
2,400	cu. yd. concrete, Class 3	5.00	4.50	6.00	4.00	4.85
50	cu. yd. reinforced concrete masonry	16.00	12.00	25.00	15.00	15.00
11,000	lin. ft. granite curb	1.00	1.00	1.20	1.00	1.00
400	lin. ft. circular curbs	1.60	1.20	1.60	1.40	1.50
200	lin. ft. curb reset and redressed	0.25	0.20	0.30	0.25	0.15
40	cu. yd. broken or crushed stone	2.00	1.00	2.00	0.02	0.01
4,000	sq. ft. cement walks	0.15	0.14	0.12	0.15	0.15
50	sq. yd. asphalt pavement	1.60	1.00	1.60	1.00	1.60
50	sq. yd. bowider repaving	0.60	0.60	0.60	0.50	0.40
100	sq. yd. brick repaving	0.60	0.60	0.60	0.50	0.50
7,000	sq. yd. granite pavement (F. F. & F. C.)	3.00	2.90	2.61	3.18	3.00
50	sq. yd. granite repaving	1.00	1.00	1.00	1.00	0.75
20,500	sq. yd. granite paving, old blocks redressed	1.60	1.53	1.25	1.55	1.55
2	inlets converted to manholes	35.00	50.00	40.00	35.00	40.00

RAILWAYS
Steam and Electric

PROPOSED WORK.

Womelsdorf, Pa.—The Womelsdorf, Richland & Myerstown Street Ry. Co. chartered to construct a line from Womelsdorf and Myerstown to Richland, distance 8 miles. Among those interested are: L. R. Valentine of Womelsdorf and A. C. Klopp of Sheridan.

Hagerstown, Md.—County Commissioners and the officials of the Baltimore & Ohio and the Western Maryland railroads are reported considering the construction of an underground passageway at Bissell near Security.

West Vivian, W. Va.—The electrification of about 15 miles of Norfolk & Western Ry., 10 miles from West Vivian to Farm, and 5 miles from Tug near Welch to Wilcoe, is contemplated. J. E. Crawford, Ch. Engr., Roanoke, Va.

Hillsborough, Fla.—Hillsborough Interurban Ry., incorporated in Florida to build a line from Tampa to Safety Harbor, through Hillsborough and Pinellas Counties. J. E. Winter, Vice-President, Tampa.

Leaksville, Miss.—Alabama & Mississippi R. R. (M. Lankford, Supt. Ways and Streets), Vinegar Bend, Ala., it is reported, will construct a line from Leakesville to Laurel, 60 miles.

Jackson, Tenn.—Preliminary steps being taken to construct the extension of the New Orleans, Mobile & Chicago R.R. from Middleton to Jackson, Tenn. W. F. Owen, Mobile, Ala., Receiver.

Lebanon, Tenn.—Election in the county to be held Aug. 24 to vote $150,000 bonds for constructing an electric railway. Address County Clerk.

Berea, Ohio.—Cleveland Southwestern & Columbus Electric Ry. has secured options for right-of-way for three-mile cutoff around Berea. Edwin F. Schneider, 525 Garfield Building, Cleveland, General Manager.

Cleveland, Ohio.—Nickle Plate R.R. (A. J. Himes, Engr. Grade Crossing Elimination, Cleveland, Ohio) has agreed to proceed with the elimination of grade crossings at Ivanhoe Road to cost the railroad $91,000, and Cleveland and East Cleveland about $16,000. Richard Collins, City Clerk.

Topeka, Kan.—The Leavenworth & Topeka R. R. has been purchased by Willard E. Winnes interests of Kansas City, Mo. The line will be electrified at once to give interurban service between Kansas City and Topeka. C. J. Smith, Kansas City, Mo., may be able to give information.

Lubbock, Tex.—Lubbock & Great Northern R.R. Co. incorporated with J. M. Elliott, S. S. Houston and others to construct a line from Lubbock to an intersection with Katy in Collingsworth County, traversing portions of Lubbock, Hale, Floyd, Briscoe and Hall counties. Principal office Lubbock.

Surveys about to be made by Santa Fé R.R. Co. for construction of a railroad from Lubbock through Brownfield and Terry County to a point in Gaines County.

Shattuck, Okla.—North Texas & Santa Fe R. R. (C. F. W. Felt, Ch. Engr., Chicago, Ill.), a subsidiary of the Atchison, Topeka & Santa Fe R. R., is reported to have applied for a charter to construct a railroad from Shattuck about 100 miles west through Libscomb, Ochiltree and Hansford Counties, Tex.

Burns, Ore.—Citizens voted $125,000 bonds for constructing a railroad. Address City Clerk.

Roseburg, Ore.—No bids opened July 25 by R. L. Whipple, City Recorder, for constructing about 30 miles of the Roseburg & Eastern R. R. Bids will not be opened until Sept. 5 or later, as soon as bonds have been sold.

Cummiskey, Cal.—Northwestern Pacific R. R. (J. W. Williams, Ch. Engr., San-Francisco), is surveying a line from Cummiskey to Marshall Summit, 20 miles.

Lindsay, Cal.—Contract to be let at once by Mindeler & Southern Ry. Co. (G. W. Harris, Chief Engineer, Lindsay), for constructing 11 miles of road from Lindsay to Porterville; probable cost, $400,000.

Redlands, Cal.—Atchison, Topeka & Santa Fe Ry. (C. F. W. Felt, Ch. Engr., Chicago, Ill.) is having surveys made for a line into Greenspot fruit district and later extended into Tucaipa Valley.

Visalia, Cal.—Pacific Electric Railway Company (G. E. Pillsbury, Ch. Engr., Los Angeles, Cal.) proposes constructing about 46 miles of line in Tulare County, extending from Exeter, through Lindsay, Strathmore, Porterville, Terra Bella and Ducor.

Douglas, Ariz.—Reported Phelps, Dodge & Company, contemplate extending the El Paso & Southwestern R. R. into Sonora from Douglas to tidewater on Gulf of California, via Cananea and Imuria, and have applied to Mexican government for concessions.

PRICES AND LETTINGS.

★Indicates award of contract.

★**Phillipsburg, N. J.**—Contract reported awarded Minneman - Sinn Contracting Co., Philadelphia, Pa., for extensive alterations and additional track space in the yards of the Pennsylvania Railroad.

★**Northumberland, Pa.**—Contract reported awarded by Pennsylvania R. R. to Brown-King Construction Company, Philadelphia, for improvements to the Northumberland yards, costing about $100,000, including construction of third track from West Departure yards to east end of Montandon, a distance of 6 miles.

★**Sebring, Fla.**—Contract for constructing an extension of the Haines City branch of the Atlantic Coast Line, reported awarded Wade, Clower & Wade, Jacksonville. Line will extend from Sebring to Immokalee, 80 miles, via Venus, Palmdale and Hall City, with a branch to Moorehaven, 20 miles. There will be a drawbridge over Caloosahatchee River.

★**Martin, Ky.**—Contract awarded Bates & Rogers Construction Companyv, Old Colony Building, Chicago, Ill., by Baltimore & Ohio R. R., for about 26 miles of line on "Long Fork R. R.," from Martin to Weeksbury, including grading, tunneling and masonry. Work includes 5 tunnels aggregating about 1700 ft.

★**McGregor, Iowa.**—Contract for terminal grading improvement for St. Paul R. R. at North McGregor awarded Morris, Shepard & Dougherty, St. Paul, Minn.

★**Spirit River, Alta.**—Contract awarded by Edmonton, Dunvegan & British Columbia R. R., to McPherson & Quigley, Adams Block, Edmonton, for constructing a line from Spirit River to west province border, 54 miles.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Boston, Mass.—Boston Wharf Company, 259 Summer Street, has applied for permit to erect 7-story concrete storage building on Midway Street, to cost $90,000.

Quincy Market Cold Storage & Warehouse Company, 133 Commercial Street, has purchased old T wharf property and will erect a 11-story cold storage plant costing $1,000,000.

New Bedford, Mass.—Charles T. Main, Boston, is architect for 175 x 80 ft. and 30 x 75 ft. addition to Rotch Mills.

Binghamton, N. Y.—Ballard Silk Mills Company (H. D. Ballard, Manager) plans erecting next spring a 50 x 200-ft. addition to its plant on Milford Street; cost approximately $75,000.

Wellsville, N. Y.—Moore Steam Turbine Corporation, Wellsville, has been organized to manufacture single and multistage steam turbine. Plans for a fireproof reinforced concrete factory, power house and testing plant have been prepared for which contract for erecting will be let at once.

Jersey City, N. J.—Wilson & Company, Jersey City, will erect four-story concrete fireproof addition equipped with a modern refrigerating plant.

Paterson, N. J.—Fred W. Wentworth, 140 Market Street, Paterson, retained to prepare plans for four-story, 75 x 310 ft., brick, mill construction, community factory to be erected on Gray Street and Beckwith Avenue for Paterson Industrial Development Company, care of John J. Fitzgerald, Secretary Paterson Chamber of Commerce; cost approximately $145,000.

Pittsburgh, Pa.—American Steel & Wire Company, Pennsylvania and Fifteenth Street, will erect addition to its Schoenberger plant, at Fourteenth and Pike Streets.

Sharon, Pa.—Reported Petroleum Iron Works of Petroelum, Ohio, contemplates doubling capacity of plant here.

New Castle, Del.—Delaware Shipbuilding & Engineering Company incorporated with a capital of $1,000,000 and intends erecting shipbuilding plant here. W. Leslie Cramer, Secretary, Board of Trade, New Castle, may be able to give further information.

Monroe, La.—St. Louis, Iron Mountain & Southern Railway (E. A. Headley, Ch. Engr., St. Louis, Mo.), contemplates erecting 15-stall roundhouse, machine and boiler shop, car repair shed and other facilities, to cost $150,000.

New Orleans, La. — See "Reinforced Concrete."

Ashtabula, Ohio.—Reported Ashtabula Hide & Leather Company, Main Street, will erect a three-story, 60 x 75 ft., brick addition.

Cincinnati, Ohio.—The Union Thread Co. contemplates extensive addition to its plant at Sixty-ninth Street and the Big Four tracks.

Cleveland, Ohio. — See "Steel Bridge Work."

Cleveland, Ohio.—Plans being prepared by C. E. Comstock, 110 West Fortieth Street, New York, N. Y., for five-story, 200 x 250 ft. plant to be erected on Chester Avenue and East Fortieth Street for Ward Baking Company; cost $150,000.

Lincoln Fireproof Storage Company, 5700 Euclid Avenue, contemplates erecting brick and concrete warehouse, probably six stories, on Detroit and Marlowe Avenues; cost about $85,000.

Reported Singer Sewing Machine Company, Lennox Building, contemplates erecting new plant.

Youngstown, Ohio. — Brier Hill Steel Company, Shannon and Division Streets, plans erecting two additional open-hearth furnaces to its present plant; estimated cost $700,000.

Chicago, Ill. — Illinois Smoked Meat Company, 2710 Poplar Avenue, purchased site on the South Side and will erect a factory and storage building to cost $170,000.

Reported Pyle National Electric Headlight Company, 900 S. Michigan Street, secured site at Kostner Avenue and Hirsch Street and will erect a plant to cost $250,000.

Minneapolis, Minn.—Reported International Harvester Company, 428 North First Street, will erect a five-story brick warehouse at 612 Washington Avenue North.

Newport, Minn. — Farmers Terminal Packing Company, 919 Commerce Building, St. Paul, plans erecting packing plant, to cost $432,000.

St. Paul, Minn.—Reported Northern Pacific Railroad (W. L. Darling, Ch. Engr., St. Paul) intends spending from $2,000,000 to $10,000,000 on a unit system plant on site bounded by Lexington Avenue, Northern Pacific right-of-way and Snelling Avenue, including a 125 x 500 ft. steel and forge shop, 123 x 300 ft. lumber mill, 125 x 500 ft. wheel plant and 180 x 600 ft. repair shop.

Reported Cement Products Exhibition Company of 208 S. La Salle Street, Chicago, Ill., will erect a $50,000 factory here.

Hanover, Mont.—Reported Three Forks Cement Company of Trident, Mont., recently purchased plant of Hanover Gypsum Company, and plans erecting $1,000,000 cement plant here.

Little Rock, Ark.—Arkansas Brick & Mfg. Company, 111 Center Street, and Clark Pressed Brick Company, consolidated with capital of $300,000, and will improve both plants and add new machinery.

Sapulpa, Okla.—St. Louis, San Francisco & Texas Railway (F. G. Jonah, Ch. Engr., St. Louis, Mo.), reported planning improvements to include 38-stall roundhouse, machine shop and trackage, costing $450,000.

Port Colborne, Ont. — International Nickel Company, 43 Exchange Place, New York, N. Y., has purchased a site of 400 acres at Port Colborne and intends erecting a plant and refinery, to cost $4,000,000.

Grand Rapids, Man.—See "Foundations, Piers and Dams."

PRICES AND LETTINGS.

★Indicates award of contract.

★**New York, N. Y.**—Contract awarded Turner Construction Company, 11 Broadway, New York, for erecting the Grading and Crushing Building, four story, 166 x 54 ft., for the Carborundum Company.

New York, N. Y.—See "Reinforced Concrete."

★**Jersey City, N. J.**—Contract awarded Turner Construction Company, 11 Broadway, New York, N. Y., for erecting a cold storage warehouse, seven story, 100 x 70 ft., for the Union Terminal Cold Storage Company.

★**Paulsboro, N. J.**—Contract awarded Turner Construction Company, 11 Broadway, New York, N. Y., for erecting a wax works and also for an oil building at the refinery of the Vacuum Oil Company at Bramell Point, Paulsboro. It is to be two story, 206 x 156 ft., and another building two story, 128 x 62 ft.

★**Harrisburg, Pa.**—Reported contract for erecting freight station for Pennsylvania Railroad awarded Warren, Moore & Company, Commercial Trust Building, Philadelphia, Pa.; cost $350,000.

Baltimore, Md.—See "Reinforced Concrete."

★**Canton, Ohio**—Contract for erecting warehouses and office for Wheeling & Lake Erie R.R., three story, 360 x 40 ft., with an L 80 x 24 ft., awarded Turner Construction Company, 11 Broadway, New York, N. Y. A. M. Allen & Company, Cleveland, and W. L. Rohbock, Chief Engineer, Architects.

★**St. Bernard, Ohio.**—The Ubiko Milling Co. awarded the contract for replacing buildings recently destroyed by fire to the Ferro Concrete Construction Co., Richmond & Harriet Streets, Cincinnati.

BUILDINGS Public and Private

PROPOSED WORK.

Boston, Mass.—Reported A. W. Perry, 453 Washington Street, purchased site at Oliver and Franklin Streets and intends erecting 7-story office building.

Blackall, Clepp & Whittemore, 20 Beacon Street, engaged to prepare plans for the school in Robert G. Shaw District, on Mount Vernon Street, West Roxbury.

Lawrence, Mass.—City Council appropriated $100,000 toward erecting Central Grammar School.

Lowell, Mass.—Kendall, Taylor & Co., Boston, are architects for the fireproof, 40 x 180 ft., hospital to be erected for the Lowell General Hospital; cost $125,000.

Providence, R. I.—See "Steel Bridge Work."

Brooklyn, N. Y.—Plans completed by Irving J. Feinberg, 423 Pennsylvania Avenue, for one-story, 50 x 93 ft., brick synagogue to be erected on Bedford and Snyder Avenues for Congregation Schwar Torah of Flatbush, 1935 Bedford Avenue; cost $50,000.

W. T. McCarthy, 16 Court Street, is architect for four-story apartment hotel to be erected on Livingston and Court Streets for Wolfinger & Lasberg; cost $200,000.

New York, N. Y.—Plans filed for new walls and new building addition, one story to three-story brick kitchen, dairy, etc., at St. Vincent's Hospital, 168 West Twelfth Street; cost $150,000. I. E. Ditmars, Architect, 111 Fifth Avenue; also for 13-story addition, etc., to 17-story fireproof office and loft building at Forty-fifth and Forty-sixth Streets and Depew Place, for New York Central R.R., Grand Central Terminal. Cost $1,500,000; Warren & Wetmore, Architects, 16 East Forty-seventh Street.

Plans filed for erecting following buildings: Six 6-story brick apartments at 211 West 146th Street and 210 West 147th Street for Open Stair Dwellings Company; total cost $660,000, H. A. Smith and W. P. Miller, Archts., 52 Vanderbilt Avenue; 6-story brick tenement at Fort Washington Avenue and 172d Street for Ecallaw Company, cost $75,000, E. H. Janes, Archt., 124 West 45th Street; 2-story brick church, Sunday school and reading room at 120 West 138th Street for Metropolitan Baptist Church, cost $60,000, Matthew W. Del Gaudio, Archt., 401 East Tremont Avenue; 6-story fireproof garage at 181st Street and Broadway for Robert Gordon Realty Company, cost $80,000, Rouse & Goldstone, Archts., 38 West Thirty-second Street; 2-story fireproof store and theater building at 701 West 181st Street for Madison Avenue Amusement Company, cost $300,000, Thomas W. Lamb, Archt., 644 Eighth Avenue; 6-story brick tenement at 169th Street and Shakespeare Avenue for Peerless American Products Company, Inc., cost $160,000, Titus de Bobula, Archt., 10 East Forty-third Street; two 5-story brick tenements at 183d Street and Tiebout Avenue for Tiebout Construction Company, cost $90,000, Lucian Pisciotta, Archt., 391 East 149th Street.

Atlantic City, N. J.—See "Steel Bridge Work."

Bayonne, N. J.—Plans completed for additions to High School and No. 3 School; also new school in Fifth Ward; total cost about $275,000. Address Board of Education.

Scotch Plains, N. J.—Plans prepared by W. F. Bower, 44 Harrison Street, East Orange, approved for proposed two-story, six-room school addition to be erected for Board of Education of Fanwood Township (Alfred D. Beeken, President); cost $50,000.

West Hoboken, N. J.—Council considering issuing $250,000 bonds for erecting new town hall.

Altoona, Pa.—Plans completed by D. G. Puderbaugh, Altoona, for four-story, brick and concrete addition to Mercy Hospital; cost $50,000. J. A. Elder, President Board of Directors.

Bradford, Pa.—Erection of a $100,000 Presbyterian Church contemplated.

Philadelphia, Pa.—Mayor Smith signed an ordinance appropriating $2,300,000 for improvements to Byberry Farms to be used as follows: $500,000 for erecting institution for feeble-minded; $300,000 for erecting building for care of tubercular patients and $1,500,000 toward erecting buildings, equipment and power plant, railroad sidings and other work in connection with necessary buildings for male department of Philadelphia Hospital for Insane.

Baltimore, Md.—Stanislaus Russell, 2900 Clifton Avenue, is architect for apartment building to be erected at Callow Avenue and Park Place for Royal Realty Corporation; cost $60,000.

Jacksonville, Fla.—School bonds for $500,000 will be sold Sept. 2 by F. A. Hathaway, Supt. Pub. Instructions, 415 Masonic Temple, Jacksonville.

Mobile, Ala.—Citizens Aug. 1 voted $150,000 bonds for erecting schools. Address Clerk Board of Revenue and Road Commissioners, Mobile.

Montgomery, Ala.—Erection of new city hall being considered. Address City Clerk.

Shelbyville, Ky.—Joseph & Joseph, Great Southern Building, Louisville, engaged to prepare plans for proposed high school.

Cincinnati, Ohio.—Zettel & Rapp, 607 Johnston Building, preparing plans for a gymnasium and swimming pool to be erected for the Working and Newsboys' Home, 518 West Ninth Street.

Cleveland, Ohio.—See "Reinforced Concrete."

Cleveland, Ohio.—W. E. Davis, City Commissioner of Heat and Light, approved Council ordinance authorizing issue of $1,750,000 bonds for enlarging municipal light plant at East Fifty-third Street and the Lake.

Albert Kahn, 58 Lafayette Building, Detroit, Mich., is architect for garage and service station to be erected at Detroit Avenue and West Sixty-fifth Street for Ford Motor Company; cost $110,000.

Bonds amounting to $2,000,000 for erecting public library sold. Carl Lorenz, Kinney & Levan Building, Secretary Library Board.

Reported Mrs. B. J. Russell, owner of Hotel Huron, 1144 Huron Road, plans erecting a twelve-story addition, costing about $125,000.

Columbus, Ohio.—Mayor approved an ordinance providing for a $1,000,000 bond issue for erection of a building for auditorium and exposition purposes and purchase of property for same.

Dayton, Ohio. — Tuberculosis Hospital bonds amounting to $50,000 sold. Walter H. Azling, County Clerk.

Norwood, Ohio.—Samuel Hannaford & Sons, Sixth and Vine Streets, Cincinnati, preparing plans for a new edifice for Norwood Baptist Church on Courtland Avenue; cost about $60,000.

Evansville, Ind.—City Council approved 1917 Budget recommended by Mayor Benjamin Bosse providing $50,000 for erecting municipal market house.

Quincy, Ill.—Bonds amounting to $75,000 reported sold for erecting Dewey School. Clyde Sears, Business Manager of Board of Education.

Appletown, Wis.—Trustees of Lawrence College purchased site at Fox River and John Street on which to erect proposed $100,000 girls' dormitory.

Jessup, Iowa.—Contract soon to be let for erecting school. Bonds for $85,000 have been sold. H. E. Netcott, Arch., Independence; R. L. Bordner, Secretary Board Education.

Sioux City, Iowa.—Site being considered for ten-story hotel which William Gordon, Grain Exchange Building, intends erecting, to cost approximately $500,000.

Minneapolis, Minn.—See "Steel Bridge Work."

St. Cloud, Minn.—Steps being taken to erect new city hall, central hose house, police station and jail. Address City Clerk.

St. Paul, Minn.—Erection of a $60,000 addition to Murray School on Commonwealth Avenue and Langford Street contemplated. Address Board of Education.

St. Paul, Minn.—See "Reinforced Concrete."

Clear Lake, S. D.—Buechner & Orth, Shubert Building, St. Paul, Minn., engaged by County Commissioners to prepare plans for $85,000 courthouse.

Texarkana, Ark.—Young Men's Business League reported interested in erecting seven or eight-story hotel here, to cost $250,000.

Austin, Tex.—Reported plans being prepared by Atlee B. Ayres of San Antonio, State Architect, for proposed fireproof state office building to be erected on site adjoining capitol grounds; appropriation $300,000.

Cleburne, Tex.—Santa Fe Railroad (F. M. Bisbee, Ch. Engr., western Lines, Amarillo, Tex.), contemplates erecting new passenger station here; cost, about $150,000.

Fort Worth, Tex.—Citizens voted $225,000 bonds for school additions. Address School Board.

Above school bonds will be sold Aug. 15 by School Board.

Houston, Tex.—Elks Lodge contemplates erecting $75,000 building.

Marlin, Tex.—Architect engaged to prepare plans for proposed $60,000 high school. Address Board of Education.

Port Arthur, Tex.—Reported plans approved for proposed Gates Memorial Library, which Mrs. J. Gates will erect; cost $100,000.

Ardmore, Okla.—Citizens July 31 voted $60,000 bonds to erect a building. G. H. Bruce, City Clerk.

Seattle, Wash.—Contract soon to be let by School Board (Reuben W. Jones, secretary) for erecting proposed two-story, eight-room brick unit for John B. Allen School; cost $75,000. Edgar Blair, 1426 Jackson Street, Architect.

Spokane, Wash.—Reported Western Union Life Insurance Company, Spokane, will erect an 8 or 10-story office building at Riverside and Madison Streets; cost $500,000.

Contract soon to be let by G. W. Duffey, City Clerk, for constructing proposed city crematory to consist of four brick and two steel-covered buildings. Cost between $25,000 and $30,000. A. W. Cowley, Spokane, Wash., Archt.

Tacoma, Wash.—Contract soon to be let by Heath & Gove, Archts., National Realty Building, for erecting four-story, 90 x 100 ft., brick business block on Broadway and Thirteenth Street for Feist & Bachrach; cost $55,000.

Portland, Ore.—Reported Whitehouse & Fouilhoux, Wilcox Building, engaged to prepare plans for building to be erected for medical department at University of Oregon; $50,000 available.

Portland, Ore. — Reported John V. Bennes, Chamber of Commerce Building, engaged to prepare plans for 5-story business building to be erected at Park and Morrison Streets for Hexter and Strause; cost $50,000.

Martinez, Cal.—Plans being prepared for grammar school for which bonds were recently voted; cost, $51,000.

San Mateo, Cal.—Captain John Barneson, Sixteenth Avenue, Homestead, plans erecting $50,000 mansion on site of present residence.

Visalia, Cal.—Ernest J. Kump, Rowell Building, Fresno, is architect for four-story and basement, 115 x 100 ft., brick and steel hotel to be erected at Church and Main Streets for J. S. Johnson.

St. John, N. B.—Reported County Council, of which J. J. Kelly, Prince William Street, St. John, is secretary, contemplates equipping a power house, laundry and lighting plant, to cost $50,000.

Toronto, Ont.—W. J. Statler, Ellicott Square, Buffalo, N. Y., reported interested in erecting $3,000,000 hotel here.

BIDS DESIRED.

Thomaston, Me.—Reported desired until Aug. 20 by Edw. F. Fassett, Archt., 95 Exchange Street, Portland, for erecting additions and alterations to State Prison, 2 stories, 57 x 75 ft., for State of Maine, care of George Oakley Curtis, State House, Augusta.

Rensselaer, N. Y.—Until Aug. 15, by City Clerk, for erecting a school to cost $75,000.

New Hartford, N. Y.—Reported desired until Aug. 15 by Walter G. Frank, Archt., Clarendon Building, Utica, for erecting a 2-story and basement high and grade school, 137 x 80 ft. Probable cost $75,000.

Dover, N. J.—Until Aug. 16 (extension of date from Aug. 9), by Board Education, for erecting high school according to plans by John T. Simpson, 620 Essex Building, Newark, and George W. Knight Company, Firemans Building, Engineer.

Hoboken, N. J.—Until Aug. 23 by the City Commissioners, for erecting additions, including heating, plumbing, etc., to Engine Houses Nos. 1, 2, 5 and 6 and Truck House No. 2.

Jersey City, N. J.—Until Aug. 16, by Board Education (G. Fred Ege, Secy.) for erecting School No. 16, at Washington and Sussex Streets.

Newark, N. J.—Until Aug. 30, by Board of Education (R. D. Argue, Secy.), for erecting additions to Charlton Street School. Bids will be received on work as a whole or separately on the different branches, including heating, plumbing, etc.

Perth Amboy, N. J.—Reported desired until Aug. 15, by Holmes & Winslow, Archts., 103 Park Avenue, New York, N. Y., for erecting 3-story, 50 x 100 ft., bank, store and office building, for Perth Amboy Savings Institution. Probable cost $125,000.

West Orange, N. J.—Until Aug. 14, by Board of Education, Gaston Street High School, for erecting a 10-room school on Eagle Rock Avenue and Valley Way. Dillon, McLellan & Beadle, Archts., 3 West Twenty-ninth Street, New York.

Philadelphia, Pa.—Reported desired until Aug. 31, for erecting a recreation building, and park improvement. Phillip H. Johnson, Archt., Land Title Bldg.

Shamokin Dam, Pa.—Until Aug. 14, by Board Education (Ira Heiser, Secy.), for erecting a high school.

Washington, D. C.—Reported desired until Aug. 15, by Wyatt & Knolting, Archts., Keyser Building, Baltimore, Md., for erecting a 9 story, 2 mezzanine and 4 basements, 351 x 180 x 70 ft., hotel and office building.

Asheville, N. C.—Until Aug. 15, by Board City Commissioners, for erecting high school. F. L. Conder, Secy. & Treas. of City.

Covington, Ky.—Until Aug. 24, by Samuel Hannaford & Sons, architects, Sixth and Vine Streets, Cincinnati, Ohio, for erecting a 3-story office building for the German Mutual Fire Insurance Company, at Pike Street and Madison Avenue; cost $100,000.

Circleville, Ohio.—Reported desired, until Aug. 17, for erecting high and grade school for Tuscarawas Township, at Circleville. Frank L. Packard, Archt., The Hayden Building, Columbus.

Lancaster, Ohio.—Until Aug. 16, by Edw. C. Kirn, Kirn Building, for erecting a new church edifice for Emanuel Evangelical Lutheran Church. D. Riebel & Sons, Archts., Columbus.

Toledo, Ohio.—Reported desired until Aug. 23 for erecting three-story and basement, 81 x 97 ft., administration building. Thomas F. Huber, 752 Spitzer Building.

West Park, Ohio.—Until Aug. 21, by Fred Feuchter, Village Clk., for erecting an engine house on Lorain Avenue. Separate bids for excavation, masonry, iron work, etc., carpentry, electrical work, heating, plumbing, etc.

Mancelona, Mich.—Until Aug. 15, by David A. Line, Clk. Mancelona Township at Mancelona, for furnishing material and erecting Carnegie library. Jens C. Peterson, Archt., State Bank Building, Traverse City.

Midland, Mich.—Until Aug. 15, by Board Education, E. P. Rice, Secy., for erecting, including heating and electric work, junior high school. Crowles & Mutscheller, Archts., Saginaw.

Sturgis, Mich.—Until Aug. 22, by J. H. Whitmer, Secy. Board of Education, for erecting high school. Separate bids for heating, plumbing and electrical work. Robinson & Campau, Archts., 450 Houseman Building, Grand Rapids.

Chicago, Ill.—Reported desired until Aug. 20, by Roy F. France, Archt., 155 N. Clark Street, for erecting addition to Lake View Hospital. Probable cost $70,000.

Chester, Iowa.—Until Aug. 31, by E. D. McWilliams, Secy. Chester Independent School Dist., for erecting a two-story brick school. Separate bids Sept. 14 for heating, ventilating, electric wiring, etc. F. H. Moose & Co., Archts., Rochester, Minn.

Dunning, Ill.—Until Aug. 15, by Board of Administration, Capitol Building, Springfield, for erecting kitchen, bakery and dining room building at the Chicago State Hospital, Dunning. Separate bids for heating, plumbing, wiring, etc.

Muscatine, Iowa.—Until Aug. 15, by Board of Education, for erecting an addition to the high school. Eckland, Dugard & Knapp, Architects, Moline, Ill.

Pella, Iowa.—Until Aug. 24, by Building Committee of Third Reform Church (D. De Bruin, Chmn.), for erecting an edifice. Jas. Verhey, Archt., Pella.

Madelia, Minn.—Until Aug. 21, for erecting a city hall and fire station. F. H. Hillesheim, City Clk.

Iola, Kan.—Until Aug. 18, by Board Education for erecting high school. Separate bids desired later for heating, plumbing, etc. T. W. Williamson & Co., 418 Central National Bank Bldg., Topeka, Archts.

Haverlock, Neb.—Until Aug. 31, by Board of Education, for erecting a high school. Separate bids on heating, plumbing, etc.; cost $50,000. W. F. Gernandt, Keeline Building, Omaha, Architect.

Winner, S. D.—Until Aug. 19, by Lloyd Mengel, Clk. Board Education, for erecting high and grade school. Separate bids for heating, plumbing, etc. Grabe & Hellberg, Archts., Columbus, Neb.

Dallas, Tex.—Reported desired until Aug. 26, by County Commissioners, for erecting courthouse.

Okmulgee, Okla.—Reported desired until Aug. 28, by C. W. Boree, County Clk., for erecting 4-story and basement, 100 x 108 ft., courthouse and jail. Probable cost $140,000. C. E. Hair and O. H. Tonini, Archts., 417 Terminal Building, Oklahoma.

Los Angeles, Cal.—Until Aug. 21, by County Board Supervisors (A. M. McPherrin, Secy.) for furnishing and installing electric passenger elevators, two electric freight elevators and two electric dumb waiters in the service building at the County Hospital.

Bruce Mines, Ont.—Until Aug. 16, by T. Sullivan, Secy. Pub. School Board, Bruce Mines, for erecting a school. Thos. R. Wilkes, Archt., 612 Queen St., Sault Ste. Marie, Ont.

PRICES AND LETTINGS.

★Indicates award of contract.

★Boston, Mass.—Contract for erecting addition to Hyde Park High School awarded John Bowen, Dudley Street, Roxbury, at $89,990.

★Mayor approved contract awarded McGahey & O'Connor, Cambridgeport, for erecting the municipal building in Roslindale at $121,897.

Newburyport, Mass.—Following are four lowest bids opened Aug. 1; by Supervising Architect, Washington, D. C., for constructing U. S. Post Office—(a) limestone, (b) sandstone: Freimeyer & Hanna, New York, N. Y., (a) $83,000, (b) $87,000; James A. Monroe, North Attleboro, (a) $86,240, (b) $88,240; E. T. Abbott Construction Company, 1133 Broadway, New York, N. Y., (a) $86,900, (b) $89,000; James Miles & Sons Company, Worcester, (a) $89,760, (b) $91,980.

★Walpole, Mass.—Contract for erecting an agricultural school (bids opened Aug. 1) awarded Dillon Brothers, Milford, at $49,453. Frederic W. Kingman, Director Norfolk County Agricultural School, Walpole.

★Bridgeport, Conn.—Contract in connection with erecting Wayne Street School awarded as follows: Masonry, Casey & Hurley, 120 Pequonnock Street, $63,314; carpentry, Schwartz Brothers, 95 River Street, $26,000; heating and plumbing, Richards & Chard, Bridgeport, $17,515.

★New Haven, Conn.—Contract awarded Sperry & Treat, 39 Church Street, for erecting Yale Armory; cost, $80,000.

★Connellsville, Pa.—Contracts for erecting High School awarded as follows: General contract, Lawrence & Critchfield, Somerset, $137,823; plumbing and heating, William Sellers, Connellsville, $11,200; wiring, Frank Sweeney, Connellsville, $3,359.

★Donora, Pa.—Contracts for erecting addition to First Street School reported awarded as follows: General contract, Donora Lumber Company, Meldon Avenue, $244,500; heating, Columbia Heating & Ventilating Company, Donora, $3,900; plumbing, W. H. Seibet, Donora, $2,182.

★Nesquehoning, Pa.—Contract awarded by Mauch Chunk Township School Board for erecting high school at Nesquehoning to Andrew J. Breslin of Summit Hill, at $59,892.

★Philadelphia, Pa.—Frank E. Wallace, 1210 Sansom Street, has contract for new chapel of the Mediator, at Fifty-first and Spruce Streets, to be erected for Church of the Holy Apostles; cost, $125,000.

★Washington, D. C.—George A. Fuller Company, Munsey Building, secured contract for erecting ten-story brick and stone addition to Powhatan Hotel at Eighteenth Street and Pennsylvania Avenue. Milburn, Heister & Company, Archts., Union Saving Bank Building.

★Contract awarded Boyle-Robertson Construction Company, Inc., 1516 H Street N. W. for erecting Methodist Church at Massachusetts Avenue and K Street N. W.; cost $250,000.

★Contract awarded by Mount Vernon Seminary for erecting school buildings to Boyle-Robertson Construction Company, 1516 H Street N. W. The main building will be two stories and basement, 216 x 236 ft.; separate building for power plant, laundry and garage; estimated cost $300,000. Wesley S. Bessell, Archt., 56 West Forty-fifth Street, New York, N. Y.

★Sparrows Point, Md.—Contract awarded by Maryland Steel Company to Charles L. Stockhausen Company, Marine Bank Building, Baltimore, for erecting 30 houses here; cost $90,000.

New Orleans, La.—Following are four lowest bids opened Aug. 2 by Supervising Architect, Washington, D. C., for remodeling U. S. Custom House: John G. Unkefer & Company, Minerva, Ohio, $313,000; Hanna & Mitchell, New Orleans, $344,972; Norman Kerr Company, New York, N. Y., $349,000; Lester F. Alexander, New Orleans, $368,960.

Lowest bid opened Aug. 2 by Supervising Architect, Washington, D. C., for installation of an electric freight elevator and remodeling 2 electric passenger elevators in the U. S. Custom House submitted by Otis Elevator Company, Washington, D. C., at $8,290.

★Alliance, Ohio.—Contract for erecting State Street School awarded Willing Brothers of Bellevue, at $54,569.

★Cincinnati, Ohio.—See "Steel Bridge Work."

★Massillon, Ohio. — Contract reported awarded by State Board of Administration, Columbus, for erecting new cottage at Massillon State Hospital to Cullen & Baughn of Hamilton at about $68,000.

★New Straitsville, Ohio.—Contract for erecting school awarded Taylor & Linn of Zanesville; cost $55,000. Allen & Mounts, Archts., Huntington Bank Building, Columbus.

★Anderson, Ind.—Contracts for erecting Y. M. C. A. building awarded as follows: General construction, P. H. Lorenz, Moline, Ill., $133,340; heating and electric wiring, Powell & Dorste, Anderson, $15,915; plumbing, G. A. Galahan, Muncie, $9,567.

★Union Grove, Wis.—Contract awarded by State Board of Control, Madison (M. J. Tappin, Secy.), to O. A. Dieman Company of Waukesha for erecting two hospital buildings, two silos and several minor buildings at new State Home for the Feeble Minded, at $138,900.

★Duluth, Minn. — Contract awarded George H. Lounsberry & Company, Duluth, at $103,000, for erecting brick and stone edifice at Twenty-third Avenue East and Fourth Street, for Pilgrim Congregational Church.

★Minot, N. D.—Contract for erecting high school awarded D. A. Dinnie of Minot, at $117,887.

★Webb City, Mo.—Contract awarded Smith & Woodling, Kansas City, Mo., for erecting the Jasper County Tuberculosis Hospital, west of Webb City, at $65,000, and Minor D. Woodling, Kansas City, heating, at $7,000. B. Hackett, Secretary Jasper County Tuberculosis Hospital Commissioners, Cartersville; Rose & Peterson, Archts., Kansas City, Kan.

★San Antonio, Tex. — Contracts for erecting club house for San Antonio Country Club awarded as follows: Bidders of San Antonio, general construction, Coleman & Jenkins, plumbing, West & Gutzeit; electrical work, Martin Wright; cost approximately $55,000.

★Sweetwater, Tex.—Contract for erecting court house awarded W. B. Berry & Company of Lufkin, at $89,340.

★Seattle, Wash.—Contract awarded Warrack Construction Company, Lyon Building, for erecting three-story, 120 x 120 ft., brick, concrete and mill garage at Eleventh Avenue and Pine Street for Kelly-Springfield Company; cost, $60,000. Julian T. Everett, Archt., Boston Block, Seattle.

Following are four lowest bids opened Aug. 2 by School Board (Reuben W. Jones, Clerk) for erecting addition to Madrona School: Syllassen & Sando, Downs Block, $53,549; MacRae Brothers, American Bank Building, $54,000; Kieburtz & Smith, Railway Exchange Building, $56,000; Jenkins & Jones, Transportation Building, $58,000.

★Vancouver, Wash.—Contract for constructing U. S. Post Office awarded Campbell Building Company of Utah, Salt Lake City, Utah, at $82,487.

★Portland, Ore. — Contract reported awarded by Lewis I. Thompson, Archt., Central Building, to Frank J. Leonard, Lewis Building, for erecting 3½-story, 225 x 225 ft., brick, tile and terra cotta building at Portland Union Stock Yards; cost about $150,000.

Los Angeles, Cal. — See "Reinforced Concrete."

San Francisco, Cal.—Lowest bid recently opened for erecting Central Emergency Hospital at Polk and Grove Streets in the Civic Center, submitted by Anderson & Ringrose, San Francisco, at $78,140.

★Salt Lake City, Utah.—Contracts for erecting Forest Dale School reported awarded as follows: General construction, J. H. Angell, Salt Lake City, $43,956; heating and ventilating, F. W. Spencer & Company, 359 South State Street, $10,038; plumbing, Will Reese Plumbing Company, Salt Lake City, $4,632.

★Dartmouth, N. S.—See "Foundations, Piers and Dams."

★Beauport, Que. — Contract awarded Edmond Belanger, 185 St. Marguerite Street, Quebec City, for erecting stone parish house; cost $80,000.

★Longue Pointe, Que.—Contract awarded J. A. Tessier, 656 Lafontaine Park Street, Montreal, for erecting brick and stone school for Catholic School Board; cost $95,000.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Onset, Mass.—Selectmen petitioned to construct a $10,000 wharf.

Hoboken, N. J.—Hoboken Land & Improvement Company, Newark Street, Hoboken, it is reported, will build two piers 600 ft. long and 120 ft. wide, of steel, double deck.

Punxsutawney, Pa.—Jefferson Electric Co. reported to be taking steps to construct a concrete dam across Mahoning Creek.

Philadelphia, Pa.—Art Jury of Philadelphia has approved plans for the pier to be erected on Delaware River at foot of Kenilworth Street. It is to be 180 ft. wide and 550 ft. long, and will have a main deck area of about 100,000 sq. ft. George E. Dateman, Director Public Works.

Beaufort, N. C.—Reported municipal officials decided to construct a sea wall in the harbor opposite the town. Address City Clerk.

Marion, N. C.—Western Carolina Power Company, it is reported, intends constructing a dam along Catawba River.

Raleigh, N. C.—Carolina Power & Light Co. reported planning construction of a hydroelectric plant on Yadkin River, 10 miles below Badin.

Raleigh, N. C.—Carolina Power & Light Company of Raleigh is reported contemplating constructing a dam and hydro-electric plant at Little Mill site on Beaver River.

Gulfport, Miss.—City Commissioners adopted plans prepared by H. W. Shaw, City Engineer, for a sea wall. Bids for bonds amounting to $200,000 will be received Sept. 5. City Engineer has been instructed to prepare detailed plans at once.

Dayton, Ohio.—Plans being prepared for the Steele dam estimated to cost $24,000.

Little Rock, Ark.—It is proposed to rebuild free bridge at foot of Main Street, a 4-span steel bridge with concrete foundation, to carry street car tracks between Little Rock and Argenta. H. S. Turner, County Clerk.

Beaumont, Tex.—Election to be held Sept. 5 to vote $230,000 harbor improvement bonds, work to include the completion of the unit No. 2, of the concrete wharf, building of 1000 ft., of quay wall, etc., also vote $100,000 bonds for improvements to waterworks.

Port Arthur, Tex.—Reported the Gulf Refining Company contemplates doubling capacity of the 1000-ft. concrete wharf.

Seattle, Wash.—Reported contract soon to be let by Pacific Construction Company, Railroad Avenue and Washington Street, for reconstructing Pier 11, foot of Wall Street, recently destroyed by fire. Plans provide for a new dock, about 400 ft. long, with sprinkler system, brick fire stops, etc.; cost, about $50,000.

Tacoma, Wash.—Reported Council contemplates constructing concrete dock at foot of Fifteenth Street to replace presen municipal dock; cost, $25,000. W. D. Nickeus, City Clerk.

Anaheim, Cal.—Formation of a protection district to construct a 6-ft. dike 50 ft. wide, along river for a distance of 10 miles contemplated, cost about $100,000. O. E. Stewart, City Engineer, interested.

Newport Beach, Cal.—Election will be held, probably in September, to vote $125,000 bonds for constructing a stone jetty wall on west side of entrance to bay and 2000 ft. into ocean and for certain dredging work in bay. Address City Clerk.

Pasadena, Cal.—T. D. Allin and Samuel B. Morris, Engineer of Public Works and Chief Engineer of City Water Department respectively, have made an inspection and are gathering data for a report on the feasibility of taking over the water rights of the Sespe River, Ventura County, held by Sespe Light & Power Company, for the purpose of constructing dams, reservoir and an aqueduct approximately 70 miles long, to supply water to Pasadena and perhaps to a number of neighboring towns.

Grand Rapids, Man.—Reported Manitoba Power, Pulp & Paper Company having plans prepared for a dam, docks and mills to cost $2,000,000.

BIDS DESIRED.

Chicopee, Mass.—Until Aug. 16, by Board Harbor and Land Commissioners, State House, Boston, for constructing 500 ft. of concrete retaining wall, with stone riprap, on Connecticut River, Chicopee. Wm. F. Williams, Ch. Engr. of Board.

Baltimore, Md.—Until Aug. 16, by Board of Awards, at office of City Register, for constructing a timber and steel addition to Loch Raven Dam. Walter F. Lee, Water Engr., City Hall.

Gulfport, Miss.—Until Sept. 5, for constructing sea wall. Cost, approximately $200,000.

St. Paul, Minn.—Until Aug. 31, by Oscar L. Taylor, Pres. St. Paul Athletic Club, excavating and foundations for clubhouse at Fourth and Cedar Streets; cost between $75,000 and $100,000.

St. Louis, Mo.—Until Aug. 22, by Board Public Service, for constructing retaining wall and for embankment on east railway approach of the Municipal Bridge.

PRICES AND LETTINGS.

★Indicates award of contract.

Albany, N. Y.—See "Steel Bridge Work."

★Watertown, N. Y.—Contract awarded Burns Brothers & Haley, Watertown, for constructing for Northern New York Utilities Co. a concrete dam on Beaver River, to cost $50,000.

★Linville, N. C.—Contract for constructing dam awarded A. J. Twiggs & Son, Augusta, Ga., at about $500,000.

★Cleveland, Ohio.—Contract for constructing stone superstructure of breakwater at Cleveland Harbor (bids opened July 11), awarded by U. S. Engineer Office to Edward Gillen Dock, Dredge & Constucting Co., Racine, Wis., at $50,375.

★Evansville, Ind.—Contract for completing dam No. 48 on Ohio River, 17 miles below Evansville, awarded McArthur Brothers, New York, N. Y., and Mason & Hanger Company, Richmond, Ky., at about $200,000.

★California.—Contract reported awarded by Northern Electric Company to Missouri Valley Bridge & Iron Company, Leavenworth, Kan., for constructing steel bridge over American River at Sacramento (construction of foundation and erection of steel work) consisting of three 200-ft. through pin connected spans resting on four concrete piers on pneumatic caissons and a through steel bridge over Feather River near Oroville to be two through plate connected spans 150 ft. long and one through plate girder span 50 ft. long on foundations already in place.

★San Diego, Cal.—Contract awarded H. G. Fenton, 705 Central Mortgage Building, at about $70,000 for certain repair work on the dam of the Seetwater Water Company, including construction of a new spillway, enlargement of one spillway, concrete protection work of foundations and abutment walls, and alterations providing for an emergency outlet requiring approximately 12,000 cu. yd. reinforced concrete, 250,000 lb. reinforcing steel, 13,000 bbl. cement, 12,500 cu. yd. crushed rock, etc. Contract for rebuilding south dike and replacing earthwork washed away, also involving about 7500 cu. yd. rock excav., awarded C. L. Hyde Construction Company, 333 Spreckles Building, at about $10,000.

★Dartmouth, N. S.—Contract for constructing a wharf and office building to cost $75,000, for Campagnie Francais des Telegraphique, Montreal, Que., awarded Standard Construction Company, Metropole Building.

★Moose Jaw, Sask.—C. W. McManus & Company, Moose Jaw, reported to have contract for constructing dam, timber and concrete, to cost $11,000.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Albany, N. Y.—State Canal Board, Albany, has approved plans for Contract 59 in Monroe County, estimated to cost $1,675,256; also excavating channel in Oswego River, from lower end of Lock No. 8 at Oswego to deep water, at an estimated cost of $25,280, and for completion of work in canal prism near junction lock at New London, estimated cost $57,050.

Brooklyn, N. Y.—Board of Estimate appropriated corporate stock amounting to $93,000 for part of the work of improving Dyker Beach by eliminating marshes.

New Smyrna, Fla.—L. Latrobe Bateman, Robert Ranson and Ernest H. Every, all of St. Augustine, have been appointed as commission to make a preliminary survey for the Lake Ashby Drainage District. Contract to be let as soon as surveys are completed.

Clarksdale, Miss.—Yazoo Mississippi Delta Levee Board sold $1,500,000 levee bonds. Address Clerk of the Board.

Van Wert, Ohio.—County ditch improvement bonds for $21,000 will be sold Sept. 2 by Wm. Klein, County Auditor.

Oskaloosa, Iowa.—Supervisors of Mahaska County sold $90,000 Skunk River drainage district bonds. Address County Clerk.

Curtis, Neb.—No bids received Aug 1 by Commissioners Frontier County Drainage District No. 1, Curtis, for from 40,000 to 80,000 cu. yd. of work. Estimated 15 cts. per cu. yd. Work may be done with teams or drag line. D. O. Nelson, President Board. Engineers, Towl Engineering Company, 1123 City Natl. Bank Bldg., Omaha.

Pine Bluff, Ark.—The Property Owners of Pine Bluff are considering the construction of a drainage canal. Miller Engineering Company of Little Rock submitted tentative plans; cost $150,000.

South Bend, Ark.—White, Humphreys & Tovey, Pine Bluff, preparing plans for a private drainage district for Frank C. Loudan's plantation; cost, $40,000.

Dallas, Tex.—County Commissioners granted petition for the organization of the levee improvement district to be known as Five Mile Level Improvement District; O. W. Finley of Ennis estimates cost at $90,000. Election will probably be held.

Waxahachie, Tex.—Attorney General has approved a bond issue of $121,000 for Ellis County Road Improvement District No. 2 for levee improvements.

Salem, Ore.—Reported State Highway Engineer John H. Lewis and John T. Whistler, U. S. Reclamation Service, are jointly preparing plans for 2 irrigation projects, one to drain swamp lands in Warner Valley and irrigate 27,000 acres, estimated to cost $1,726,000, and the other for irrigating 36,000 acres along White River above Deschutes, to cost $1,300,000.

Vale, Ore.—Warm Springs Irrigation District, it is reported, will hold an election Aug. 15 to vote $700,000 bonds for improving 30,000 acres of land in the district. Address Clerk of the District.

Chowchilla, Cal.—Contract will be let in about 3 months by O. A. Robertson, President U. S. Farm Land Company, Sacramento, for constructing ditches and levees along Sloughs and San Joaquin River, at a cost of $340,000. W. E. Hammatt, Engineer, Hearst Building, San Francisco.

Dawtelle, Cal.—Board of Trustees are reported considering building a storm drain system for carrying water from this city through Santa Monica and thence to the ocean; cost, $118,000.

Lindsay, Cal.—Contract will be let about Aug. 15 by Directors Lindsay-Stratmore Irrigation District for constructing the irrigation system.

Long Beach, Cal.—Election will probably be held to vote $300,000 bonds for constructing a waterway between inner harbor at San Pedro and inner harbor at Long Beach and for harbor improvements, also $500,000 for constructing a reinforced concrete horseshoe pier.

Los Angeles, Cal.—Because of a technical error, the $300,000 bond issue for constructing an irrigation distributing system in San Fernando Valley, and the $1,020,000 for acquiring and improving the domestic water systems in Hollywood must be revoted and new bids taken for construction work. Address Board Supervisors.

Modesto, Cal.—Waterford Irrigation District will hold an election to vote $12,000 bonds for constructing an irrigation system to serve about 14,000 acres and $254,000 for purchasing right of way for the main canal.

Pima, Ariz.—R. A. Hart of Salt Lake City, Utah, chief engineer of the western division of the Y. S. Commission of Drainage, is reported making a survey and estimate of cost of constructing a drainage system for the town.—Address the Mayor.

BIDS DESIRED.

Albany, N. Y.—Until Aug. 30, by W. W. Wotherspoon, Supt. Public Works, for Contract No. 135, Erie Canal, Sect. 3, excavating the point of land on south bank of the Mohawk River between Bridge and Dam No. 1, Canajoharie, and work incidental thereto.

New York, N. Y.—Until Aug. 16, by R. A. C. Smith, Commissioner of Docks, New York, for Contract No. 1524, for dredging at West 209th Street, Harlem River, Borough of Manhattan, in all about 49,000 cu. yd. Security $7,800.

Jersey City, N. J.—Until Aug. 15, by City Commissioners, for making borings in New York Bay at Caven Point, Jersey City. Michael I. Fagen, City Clk.

Miami, Fla.—Until Sept. 5, by U. S. Engineer Office, Jacksonville, for dredging and rock removal at Miami Harbor, Fla., advertised in Engineering Record.

Brazil, Ind.—Until Aug. 25, by Wm. S. Rawley, Drainage Commissioner, for constructing Mizer Ditch, 17 miles long and change channel of Eel River to reclaim several thousand acres of land in Owen, Greene and Clay Counties, between Clay City and Worthington. Probable cost $370,000. Bond issue of $250,000 to be sold as soon as contract is approved.

Glenwood, Iowa.—Reported desired until Aug. 24, by W. M. Moore, County Clk., for constructing drainage district requiring 116,476 cu. yd. excav. Main ditch to be handled with floating dredge. Work suitable for dragline dredge or dry-land excavator; probable cost $13,000. A. M. Jackson, Glenwood, Engr.

Benson, Minn.—Until Aug. 21, by D. P. Carney, Co. Aud., for furnishing material and constructing Ditch No. 13, to consist of Sect. 1, 13,300-ft. open ditch, 44,995 cu. yd. excav., 36-ft. metal culvert, 24-ft. pile bridge with 16-ft. roadway. Estimated cost $5,334. Sect. 2, 25,593 ft. 4 to 14-in. tile. Estimated cost $9,156.

Buffalo, Minn.—Until Sept. 2, by John A. Berg, County Aud., for constructing County Ditch No. 31 and County Ditch No. 28, to consist of Ditch 31, main ditch. 67,051 cu. yd. excav; Lateral No. 1, 7408 cu. yd; Lateral No. 2, excav. 5578 cu. yd. Total cost $9,604. County Ditch No. 28, Lateral No. 1, 4921 cu. yd. excav. Lateral No. 2, 3356 cu. yd. Estimated cost $4,227.

Foley, Minn.—Reported desired until Aug. 30, for 48,780 cu. yd. ditch excavation. J. E. Kasner, Co. Aud.

Madelia, Minn.—Reported desired until Aug. 15, for constructing Ditch No. 11; probable cost $79,205. J. C. Jensen, Co. Aud.

Morris, Minn.—Until Aug. 22, by C. R. Wollthan, Co. Aud., for constructing Ditch No. 25, to consist of Main Ditch, 2800 ft. 8 to 22-in. tile, 28,815 ft. open ditch 6 to 10-ft. bottom, 116,411 cu. yd. and several branches. Total cost $29,806.

Rushville, Neb.—Reported desired until Aug. 15, by Horseshoe Lake Drainage Dist., for cleaning watercourse and ditch construction; probable cost $20,000. P. E. Brown, 206 North Elm Street, Gordon, Neb., Engr. in Charge.

PRICES AND LETTINGS.

★Indicates award of contract.

Boston, Mass.—Following are bids opened Aug. 1 by Harbor & Land Commission, Boston, for dredging 67,000 yd. of material in Cotuit Harbor, Barnstable and Popponesset Bay, Barnstable, Mass.: Bay State Dredging Company, Boston, 46.7 cts. per. cu. yd.; J. S. Packard Dredging Company, Providence, R. I., 49.7 cts., and John R Burke, Devonshire Street, Boston, 53 cts. All bids rejected.

★Trenton, N. J.—Contract awarded by Board of Commerce and Navigation, State House, Trenton, to Hill Dredging Corporation, Atlantic and Somerset Streets, Atlantic City, for dredging a section of proposed Inland Waterway from Cape May to Bay Head, N. J., in Barnegat Bay, at 28.75 cts. per cu. yd. About 51,000 cu. yd. to be removed.

★Baltimore, Md.—Contract for dredging in Susquehanna River (bids opened by U. S. Engineer July 11), awarded Dorsey & Miller, Washington, D. C., at $11,375.

Rock Island, Ill.—Two lowest bids opened Aug. 1 by City for constructing the southwest drain, extending from Eleventh Street and Twelfth Avenue to the river, submitted by P. F. Trenkenschuh, Rock Island, for the segment block at $61,465, and by Independent Construction Company, Davenport, Iowa, at $67,184, for reinforced concrete construction. There are three sections requiring 1848 ft. 42 in., 2,217 ft. 5 x 5 ft. and 696 ft. 7 x 19 in. tile, also about 6700 cu. yd. rock excav.

★Racine, Wis.—Reported contract for constructing 75,862 ft. of tile laterals in connection with the Root River drainage project awarded by Peter Myers, Attorney for District to National Drain Tile Company, Terra Haute, Ind., at $22,950, including labor and materials and construction of bulkheads at outlets.

★Fergus Falls, Minn.—Contract for constructing Ditch No. 56 (bids opened Aug. 4) awarded Denniston Tile Works, Fergus Falls, at $17,995. William Lincoln, County Auditor.

★Clinton, Mo.—Reported contract awarded by Board of Directors of the Pioneer Drainage District to A. V. Wills & Son, St. Louis, Mo., for digging the drainage ditch, at approximately $49,000.

★Pecos, Tex.—Contract awarded by Directors of Irrigation District No. 1 to A. D. Jamison, Grand Falls, Tex., to construct an irrigation system in Upper Yoyah Valley, to cost approximately $124,700.

★Port Arthur, Tex.—Contract awarded Southern Dredging Company, American National Insurance Building, Galveston, for the extension of the 25-foot channel from the Gulf Company's turning basin to the bridge over Taylor's Bayou, including about 165,000 cu. yd. excavation.

★San Jose, Cal.—Contract for constructing drainage system (bids opened July 15) awarded by H. L. Haehl, Engineer, to Contra Costa Construction Company, Oakland, at $19,630.

TUNNELS AND SUBWAYS

PROPOSED WORK.

Huntington, W. Va.—Plans are reported being prepared for a subway which it is proposed constructing in Fifth Avenue, from Twenty-second to Twenty-fourth Streets, at a cost of $25,000; the construction of a viaduct at this point costing $54,000, is under consideration. The Baltimore & Ohio and the Chespapeake & Ohio Railroads are interested. John Sanborn, Asst. City Engineer.

Sandusky, Ohio.—City Commission passed ordinance to issue $42,500 to defray city's portion of the cost of Camp Street subway.

New Castle, Ind.—Public Service Commission of Indiana, at Indianapolis, has ordered the separation of grade crossings by construction of subways on New York Central, Chicago, Lake Shore and South Bend Railway (James K. Gray, Supt., Michigan City, Ind.), and Chicago, South Bend and Northern Ry. (C. D. Emmons, Gen Mgr., South Bend, Ind.), in vicinity of New Castle.

Astoria, Ore.—Water Commission intends constructing a tunnel to extend water service to Uppertown; cost $40,000.

MISCELLANEOUS

PROPOSED WORK.

Transmission Line—Johnstown, Pa.—Dale Light & Power Company, Johnstown, will extend transmission lines into the city.

Garbage Disposal—Reading, Pa.—Council is considering constructing a plant for the disposal of garbage. Address City Clerk.

Garbage Disposal Plant—Griffin, Ga.—City is considering constructing a garbage disposal plant. Address City Clerk.

Transmission Line—Pendleton, Ind.—Board of Electric Light Commissioners contemplates erecting 5 miles of transmission lines into the country this fall. Alva Apple, Supt.

Transmission Line — Plymouth, Ind.—Plymouth Electric Light & Power Company contemplates constructing a 13,200 volt transmission line to Hamlet, a distance of about 6 miles.

Transmission Line—Spring Valley, Ill.—Spring Valley Utilities Company contemplates extending the 33,000 volt transmission line. R. W. Brown, Secretary.

BIDS DESIRED.

Terminal Contract No. 31, Albany, N. Y.—See "Steel Bridge Work."

Electrical Winches—Brooklyn, N. Y.—Until Aug. 15, by R. A. C. Smith, Commissioner of Docks, New York, for furnishing and installing six portable electric winches with appurtenances on Pier near foot of Thirty-fifth Street, Borough of Brooklyn. Security $6,800.

Asphalt—New York, N. Y.—Until Aug. 16, by Marcus M. Marks, Manhattan, Borough President, for furnishing and delivering 600 tons refined asphalt and 2000 cu. yd. binder stone.

Fire Escapes—Rochester, N. Y.—Until Aug. 18, by Board Education, J. S. Mullan, Secy., for installing fire escapes on Schools Nos. 7, 8, 9, 19 and 31.

Garbage Disposal Plant—Reading, Pa.—Reported desired until Aug. 22, by City Clerk, for sewage and garbage disposal plant.

Chimney—Los Angeles, Cal.—Until Aug. 28, by Board of Supervisors (A. M. McPherron, Clk.), for erecting a circular reinforced concrete chimney, 130 ft. hiigh, at County Hospital, Mission Road and Sichel Street. J. Schulz, Consulting Engr., Wright & Callender Building.

Stone—Portland, Ore.—Until Aug. 28, by U. S. Engr. Office, Second Dist., Portland, for stone for jetty construction at mouth of Columbia River.

Street Flushing Machine—Idaho Falls, Idaho.—Until Aug. 18, by George B. Riches, City Clerk, for furnishing f.o.b. cars one street flushing machine, either automatic or motor pump pressure, and either horse driven or motor driven tank to have capacity not less than 600 gal.

PRICES AND LETTINGS.

★Indicates award of contract.

★Transmission Line — ★Northampton, Mass.—Contract awarded J. G. White Engineering Corporation, New York, N. Y., by Northampton Electric Lighting Company of Boston, for the engineering and construction work involved in the installation of a substation at Northampton of 5000 kva. capacity, 13,000 to 2300 volts alternating current, and the erection of a double circuit heavy copper transmission line between Northampton and East Hampton.

★Power Plant Equipment—Batavia, N. Y.—Contract for new 200 kw. electric generating outfit at the city power plant, awarded Ames Iron Works, and will consist of a una-flow engine, directly connected to a General Electric generator in accordance with plans and specifications of Chester & Fleming, Engineers, Pittsburgh; contract for surface condenser and equipment for this outfit also awarded Worthington Engineering Corporation, and contract for two belt-driven generators awarded General Electric Company, Schenectady, N. Y.

Proposals

For Proposals Advertised See Pages 43, 44 and 45.

WATER WORKS AND SEWERAGE SYSTEMS.

Close. Bids — Record. See Eng.

Aug. 14. Toledo, Ohio..... Aug. 5
Adv. Aug. 5, 12.
Aug. 14. Stamford, Conn..... Aug. 5
Adv. Aug. 5.
Aug. 14. New Toronto, Ont..... Aug. 12
Aug. 14. Waterloo, Iowa..... Aug. 12
Aug. 15. Kennedy, Tex. ..... Jul. 22
Aug. 15. Savannah, Ga. ..... Jul. 22
Adv. Jul. 22, 29.
Aug. 15. Irvington, N. Y..... Jul. 29
Adv. July 29, Aug. 5.
Aug. 15. Richmond, Va. ..... Jul. 29
Aug. 15. Chino, Cal..... Jul. 29
Aug. 15. East New Market, Md.. Jul. 29
Adv. July 29, Aug. 5.
Aug. 15. Assiniboia, Sask..... Jul. 29
Adv. July 29, Aug. 5.
Aug. 15. Drummondville, Que..... Aug. 5
Aug. 15. Rocky River, Ohio..... Aug. 5
Aug. 15. Mansfield, Ohio..... Aug. 5
Aug. 15. Spooner, Minn..... Aug. 5
Aug. 15. Salem, Ohio..... Aug. 12
Aug. 15. Granite City, Ill..... Aug. 12
Adv. Aug. 12.
Aug. 15. New York, N. Y..... Aug. 12
Aug. 15. Scotland Neck, N. C.... Aug. 12
Adv. Aug. 12.
Aug. 15. Johnson City, Tenn..... Aug. 12
Aug. 16. Winnebago, Wis. ..... Jul. 22
Aug. 16. Fargo, N. D..... Jul. 22
Adv. Jul. 22, 29.
Aug. 16. Greenville, Ohio ..... Jul. 29
Aug. 16. Schenectady, N. Y..... Aug. 5
Adv. Aug. 5.
Aug. 16. Dover, Ohio..... Aug. 5
(3 proposals) Adv. Aug. 5.
Aug. 16. Greenfield, Ohio..... Aug. 5
Aug. 16. Hoboken, N. J.....July 29
Adv. July 29, Aug. 5.
Aug. 16. New Bedford, Mass..... Aug. 12
Aug. 16. Hartford, Conn..... Aug. 12
Aug. 16. Boston, Mass..... Aug. 12
Aug. 16. New Hampton, Iowa..... Aug. 12
Aug. 17. Colby, Wis. ..... Jul. 29
Aug. 17. Glendive, Mont..... Aug. 12
Aug. 17. New York, N. Y..... Aug. 12
Aug.18. Kaukauna, Wis..... Jul. 29
Aug. 18. Ravenna, Ohio..... Aug. 5
(3 proposals) Adv. Aug. 5.
Aug. 18. Panama ..... Aug. 5
Aug. 18. Glasford, Ill..... Aug. 12
Aug. 18. London, Ont..... Aug. 12
Aug. 18. Philadelphia, Pa..... Aug. 12
Aug. 18. Chicago, Ill. ..... Aug. 12
Aug. 18. New York, N. Y..... Aug. 12
Aug. 19. Medina, O..... Aug. 5
Adv. Aug. 5, 12.
Aug. 20. Duquoin, Ill. ..... Aug. 12
Aug. 21. Lovell, Wyo..... Aug. 5
Aug. 21. Pitman, N. J..... Aug. 5
Adv. Aug. 5.
Aug. 21. Bellwood, Pa..... Aug. 12
Aug. 21. Fulton, N. Y..... Aug. 12
Aug. 21. Stuart, Iowa..... Aug. 12
Aug. 21. Highland Park, Mich.... Aug. 12
(2 Props.) Adv. Aug. 12.
Aug. 23. Olean, N. Y..... Aug. 12
Aug. 23. East View, N. Y..... Aug. 12
Adv. Aug. 12.
Aug. 24. Anthon, Iowa..... Aug. 5
Adv. Aug. 5, 12.
Aug. 24. Barry, Ill..... Aug. 12
Aug. 25. Clintonville, Wis..... Aug. 5
Aug. 26. Great Lakes, Ill..... Aug. 5
Aug. 26. Belle Fourche, S. D..... Aug. 12
Aug. 28. Madison, Wis. ..... Aug. 12
Aug. 29. Hamilton, Ohio..... Aug. 5
Aug. 31. Boston, Mass..... Jul. 29
Aug. 31. West Park, Ohio..... Aug. 12
Aug. 31. Chicago, Ill..... Aug. 12
Adv. Aug. 12.
Sep. 5. Washington, D. C..... Aug. 12
Adv. Aug. 12.
Sep. 5. New York, N. Y..... Aug. 12
Adv. Aug. 12.
Sep. 5. Beardstown, Ill. ..... Aug. 12
Adv. Aug. 12.
Sept. 6. Wilmington, Del..... Aug. 5
Adv. Aug. 5.
Sep. 8. Evanston, Ill..... Aug. 12
Adv. Aug. 12.

STEEL BRIDGE WORK.

Aug. 15. Petersburg, Va. ..... Jul. 8
Adv. Jul. 8, 15.
Aug. 15. Brownsville, Ky..... Aug. 12
Aug. 17. Ray, Ariz. ..... Jul. 22
Aug. 17. Betzwood, Pa..... Aug. 5
Adv. Aug. 5.
Aug. 19. Dakota City, Neb..... Jul. 29
Aug. 20. Thomaston, Me..... Aug. 12
Aug. 21. Selma, Ala. ..... Jul. 29
Aug. 21. California ..... Aug. 5
Aug. 21. Crosby, N. D..... Aug. 12
Adv. Aug. 12.
Aug. 22. Steubenville, Ohio..... Aug. 5
Aug. 22. Missoula, Mont..... Aug. 12
Aug. 22. Grafton, W. Va..... Aug. 12
Aug. 28. Chatom, Ala..... Aug. 5
Aug. 31. Kansas City, Mo..... Aug. 12
Sep. 6. Albany, N. Y..... Aug. 12
Adv. Aug. 12.

REINFORCED CONCRETE.

Aug. 15. Minneapolis, Minn. ..... Jul. 22
Aug. 15. Washington, D. C..... Jul. 29
Aug. 15. New Richland, Minn..... Jul. 29
Aug. 15. Woonsocket, R. I..... Jul. 29
Adv. Jul. 29.
Aug. 15. Hastings, Minn..... Aug. 5
Aug. 15. Jamestown, N. D.....Aug. 5
Aug. 15. Illinois ..... Aug. 12
Aug. 16. Buckhannon, W. Va..... Jul. 29
Aug. 16. Cincinnati, Ohio..... Aug. 12
Aug. 16. Cleveland, Ohio .....Aug. 12
Aug. 17. Buckhannon, W. Va..... Aug. 5
Aug. 17. Dallas, Ore..... Aug. 5
Aug. 18. Topeka, Kan..... Aug. 5
Aug. 18. Belleville, Kan..... Aug. 12
Aug. 18. Illinois ..... Aug. 12
Aug. 19. Kizer, Tenn..... Aug. 12
Aug. 19. Illinois ..... Aug. 12
Aug. 21. McConnellsburg, Pa..... Aug. 5
Aug. 21. Crosby, N. D..... Aug. 12
Adv. Aug. 12.
Aug. 21. Jacksonville, Fla..... Aug. 12
Aug. 21. Bemidji, Minn. ..... Aug. 12
Aug. 21. Worthington, Minn. ..... Aug. 12
Aug. 21. Waseca, Minn. ..... Aug. 12
Aug. 22. South Bend, Wash..... Aug. 5
Aug. 22. Iola, Kan..... Aug. 12
Aug. 22. Westfield, Mass. ..... Aug. 12
Adv. Aug. 12.
Aug. 23. Hamilton, Ohio..... Aug. 5
Aug. 23. St. Cloud, Minn..... Aug. 12
Aug. 24. Franklin, Pa..... Aug. 12
Aug. 24. Eufaula, Ala..... Aug. 12
Sep. 2. Berkeley Springs, W. Va. Aug. 12

ROADS AND PAVING.

Aug. 14. Birmingham, Ala. ..... Jul. 8
Adv. Jul. 15, 22.
Aug. 14. Albany, N. Y..... Jul. 29
Adv. Jul. 29 to Aug. 12.
Aug. 14. Morristown, N. J..... Jul. 29
Adv. Jul. 29, Aug. 5.
Aug. 15. Lebanon, Ohio..... Jul. 29
Aug. 15. Keyser, W. Va..... Jul. 29
Aug. 15. Vallejo, Cal. ..... Jul. 29
Adv. Jul. 29, Aug. 5.
Aug. 15. Embreeville, Pa..... Aug. 5
Aug. 15. Greenwich, Conn..... Aug. 5
Adv. Aug. 5, 12.
Aug. 15. Montclair, N. J..... Aug. 5
Adv. Aug. 5, 12.
Aug. 15. Covington, Ky..... Aug. 5
Aug. 15. Rensselaer, N. Y..... Aug. 5
Adv. Aug. 5, 12.
Aug. 15. Marion, Ill..... Aug. 12
Aug. 15. Albemarle, N. C..... Aug. 12
Aug. 15. New Brighton, S. I., N. Y. ..... Aug. 12
Aug. 15. Columbus, Ohio ..... Aug. 12
Aug. 15. Hastings, Minn. ..... Aug. 12
Aug. 15. Wyandotte, Mich. ..... Aug. 12
Aug. 15. Laurel, Mont. ..... Aug. 12
Aug. 15. Pittsburgh, Pa. ..... Aug. 12
Aug. 16. Bay Minette, Ala..... Jul. 22
Aug. 16. Albany, N. Y..... Jul. 29
Adv. Jul. 29 to Aug. 12.
Aug. 16. Paterson, N. J..... Jul. 29
Aug. 16. Schenectady, N. Y..... Aug. 5
Adv. Aug. 5.
Aug. 16. Baltimore, Md..... Aug. 12
Aug. 16. Covington, Ky..... Aug. 12
Aug. 16. New York, N. Y..... Aug. 12
Aug. 16. Dallas, Tex..... Aug. 12
Aug. 16. Illinois ..... Aug. 12
Aug. 17. Brentwood, Pa..... Aug. 12
Aug. 17. Elizabeth, N. J..... Aug. 12
Aug. 17. Ohio ..... Aug. 12
Aug. 17. Utah ..... Aug. 12
Aug. 17. Paducah, Ky..... Aug. 12
Adv. Aug. 12.
Aug. 17. Suffolk, Va..... Aug. 12
Aug. 17. Grand Rapids, Minn..... Aug. 12
Aug. 17. Long Island City, L. I., N. Y. ..... Aug. 12
Aug. 17. Springfield, Ohio ..... Aug. 12
Aug. 18. Albany, N. Y..... Jul. 29
Adv. Jul. 29 to Aug. 12.
Aug. 18. Butler, Pa..... Jul. 29
Aug. 18. Boston, Mass..... Aug. 12
Aug. 18. Winona, Minn. ..... Aug. 12
Aug. 18. Chicago, Ill. ..... Aug. 12
Aug. 18. Cincinnati, Ohio ..... Aug. 12
Aug. 19. Indiana ..... Aug. 5
Aug. 19. Sandusky, Ohio..... Aug. 5
Aug. 19. Catlin, Ill..... Aug. 12
Aug. 19. Royal Oak, Mich..... Aug. 12
Aug. 19. Indiana ..... Aug. 12
Aug. 20. Salt Lake City, Utah.... Jul. 29
Aug. 21. Colfax, Wash..... Jul. 29
Aug. 21. Los Angeles, Cal..... Jul. 29
Aug. 21. San Bernardino, Cal..... Aug. 12
Aug. 21. Pullman, Wash..... Aug. 12
Aug. 21. Stacy, N. C..... Aug. 12
Aug. 21. Independence, Mo..... Aug. 12
Aug. 21. Poplar Bluffs, Mo..... Aug. 12
Aug. 21. Lock Haven, Pa..... Aug. 12
Adv. Aug. 12.
Aug. 22. Rockville, Md..... Aug. 12
Adv. Aug. 12.
Aug. 22. Omaha, Neb..... Aug. 12
Aug. 22. Montclair, N. J..... Aug. 12
Adv. Aug. 12.
Aug. 23. Woodbury, N. J..... Aug. 12
Aug. 24. East Cleveland, Ohio.... Aug. 12
Aug. 25. Clarksville, Tex..... Aug. 5
Aug. 25. London, Ohio ..... Aug. 5
Aug. 26. Center, Ala..... Aug. 5
Aug. 28. Everett, Wash..... Aug. 12
Aug. 28. Lafayette, Ala..... Aug. 12
Aug. 28. New Orleans, La..... Aug. 12
Aug. 28. Seattle, Wash..... Aug. 12
Aug. 28. Lakewood, Ohio. ..... Aug. 12
Aug. 29. Maryland ..... Aug. 12
Adv. Aug. 12.
Aug. 29. Boise, Idaho ..... Aug. 12
Aug. 31. Lewisburg, W. Va..... Aug. 12
Sept. 1. Globe, Ariz..... Jul. 29
Sept. 1. Indiana ..... Aug. 5
Sep. 5. Indiana ..... Aug. 12
Sep. 6. Cleveland, Ohio ..... Aug. 12
Adv. Aug. 12.
Sept. 6. Mt. Holly, N. J..... Aug. 5
Adv. Aug. 5.
Sept. 11. Birmingham, Ala. ..... Jul. 29
Adv. Jul. 29.
Sep. 20. Phoenix, Ariz..... Aug. 12
——. Ocean City, N. J..... Jul. 15
Adv. Jul. 15.

INDUSTRIAL PLANTS AND WAREHOUSES.

Sept. 2. Pekin, China..... Aug. 5

BUILDINGS.

Public and Private.

Aug. 15. Charleston, W. Va..... Jul. 22
Aug. 15. Hixton, Wis. ..... Jul. 29
Aug. 15. Tekamah, Neb. ..... Jul. 29
Aug. 15. Cobleskill, N. Y..... Aug. 5
Adv. Aug. 5, 12.
Aug. 15. Florence, Ala..... Aug. 5
Aug. 15. Midland, Mich..... Aug. 12
Aug. 15. Rensselaer, N. Y..... Aug. 12
Aug. 15. Ashville, N. C..... Aug. 12
Aug. 15. Mancelona, Mich..... Aug. 12
Aug. 15. Muscatine, Iowa..... Aug. 12
Aug. 15. Madelia, Minn. ..... Aug. 12
Aug. 15. Perth Amboy, N. J..... Aug. 12
Aug. 15. Washington, D. C..... Aug. 12
Aug. 15. New Hartford, N. Y..... Aug. 12
Aug. 15. Dunning, Ill. ..... Aug. 12
Aug. 16. Newark, Ohio..... Jul. 15
Adv. Jul. 15.
Aug. 16. Charleston, W. Va..... Jul. 22
Aug. 16. Savannah, Ga. ..... Jul. 29
Aug. 16. Madison, W. Va..... Jul. 29
Aug. 16. Savannah, Ga..... Aug. 5
Aug. 16. Struthers, Ohio..... Aug. 5
Aug. 16. The Pas, Man..... Aug. 5
Aug. 16. Bruce Mines, Ont..... Aug. 12
Aug. 16. Dover, N. J..... Aug. 12
Aug. 16. Lancaster, Ohio..... Aug. 12
Aug. 16. Jersey City, N. J..... Aug. 12
Aug. 17. Ridgewood, N. J..... Jul. 22
Aug. 17. Fort William, Ont. ..... Jul. 29
Aug. 17. Portland, Me..... Jul. 29
Aug. 17. Covington, Ky..... Jul. 29
Aug. 17. Circleville, Ohio..... Aug. 12
Aug. 18. Eaton, Ind..... Aug. 5
Aug. 18. Hilliards, Ohio..... Aug. 5
Aug. 18. Niobrara, Neb..... Aug. 5
Aug. 18. Iola, Kan..... Aug. 12
Aug. 19. Winner, S. D..... Aug. 12
Aug. 20. Chicago, Ill. ..... Aug. 12
Aug. 20. Thomaston, Me. ..... Aug. 12
Aug. 21. Winnipeg, Man. ..... Jul. 22
Aug. 21. Buffalo, N. Y..... Jul. 22
Adv. Jul. 22 to Aug. 12.
Aug. 21. Los Angeles, Cal..... Aug. 12
Aug. 21. West Park, Ohio..... Aug. 12
Aug. 21. Benson, Minn. ..... Aug. 12
Aug. 21. Madelia, Minn. ..... Aug. 12
Aug. 22. Sturgis, Mich..... Aug. 12
Aug. 22. Morris, Minn. ..... Aug. 12
Aug. 23. West Liberty, W. Va.... Jul. 29
Aug. 23. Toledo, Ohio ..... Aug. 12
Aug. 23. Hoboken, N. J..... Aug. 12
Aug. 24. Ft. Dodge, Iowa..... Aug. 5
Aug. 24. Cincinnati, Ohio..... Aug. 12
Aug. 25. Ashland, Ohio ..... Jul. 22
Adv. Jul. 22, 29.
Aug. 26. Eaton, Ohio..... Aug. 5
Aug. 26. Dallas, Tex..... Aug. 12
Aug. 28. Nashville, Tenn. ..... Jul. 8
Aug. 28. Okmulgee, Okla. ..... Aug. 12
Aug. 30. Newark, N. J..... Aug. 12
Aug. 31. St. Paul, Minn..... Aug. 12
Aug. 31. Philadelphia, Pa..... Aug. 12
Aug. 31. Havelock, Neb. ..... Aug. 12
Aug. 31. Chester, Iowa ..... Aug. 12
Sept. 1. Mitchell, S. D..... Aug. 5
Sept. 2. Huntington, Ind..... Aug. 5
Sep. 2. Jacksonville, Fla..... Aug. 12
Sep. 2. Buffalo, Minn. ..... Aug. 12
Sept. 7. Athens, Ala..... Aug. 5
Adv. Aug. 5.
Sept. 12. Orlando, Fla..... Aug. 5
Adv. Aug. 5, 12.
Sept. 12. Warrenton, Va. ..... Jul. 29

FOUNDATIONS, PIERS AND DAMS.

Aug. 14. Wheeling, W. Va..... Jul. 29
Adv. Jul. 29 to Aug. 12.
Aug. 18. Erie, Pa..... Aug. 5
Aug. 22. Steubenville, Ohio..... Aug. 5
Adv. Aug. 5.
Aug. 22. St. Louis, Mo..... Aug. 12
Sep. 5. Gulfport, Miss..... Aug. 12
Sep. 16. Chicopee, Mass..... Aug. 12
Sep. 16. Baltimore, Md..... Aug. 12
Sep. 6. Albany, N. Y..... Aug. 12
Adv. Aug. 12.
Sept. 25. Houston, Tex..... Aug. 5

EXCAVATION, DREDGING AND DRAINAGE.

Aug. 14. Malta, Mont. ..... Jul. 15
Adv. Jul. 15.
Aug. 15. Buffalo, N. Y..... Jul. 22
Adv. Jul. 22 to Aug. 12.
Aug. 15. Jamestown, N. D..... Jul. 29
Aug. 15. Fort Madison, Iowa..... Jul. 29
Adv. Jul. 29.
Aug. 15. Webster City, Iowa..... Aug. 5
Aug. 15. St. James, Minn..... Aug. 5
Aug. 15. Gordon, Neb..... Aug. 5
Aug. 15. Rushville, Neb..... Aug. 12
Aug. 16. Powell, Wyo. ..... Jul. 22
Aug. 16. New York, N. Y..... Aug. 12
Aug. 16. Jersey City, N. J..... Aug. 12
Aug. 18. Washington, D. C..... Jul. 15
Adv. Jul. 15.
Aug. 21. Marshall, Minn..... Aug. 5
Aug. 21. Rock Island, Ill..... Aug. 12
Aug. 22. Richfield, Utah..... Aug. 5
Aug. 24. Glenwood, Iowa..... Aug. 12
Aug. 25. Brazil, Ind. ..... Aug. 12
Aug. 26. Riverside, Cal. ..... Jul. 22
Aug. 30. Albany, N. Y..... Aug. 12
Aug. 30. Foley, Minn..... Aug. 12
Sep. 5. Miami, Fla..... Aug. 12
Adv. Aug. 12.
—— Rock Island, Ill..... Aug. 5
Adv. Aug. 5, 12.

MISCELLANEOUS.

Aug. 15. Iron Fence, Charleston, S. C..... Aug. 5
Aug. 15. New Philadelphia, Ohio... Aug. 5
Adv. Aug. 5.
Aug. 15. Electrical Winches—Brooklyn, N. Y..... Aug. 12
Aug. 16. Asphalt—New York, N. Y. ..... Aug. 12
Aug. 17. Conduit and steam pipe line, Central Islip, N. Y.. Aug. 5
Adv. Aug. 5, 12.
Aug. 18. Refuse Destructor, New Rochelle, N. Y..... Aug. 5
Adv. Aug. 5.
Aug. 18. Fire Escapes — Rochester, N. Y..... Aug. 12
Aug. 18. Street Flushing Machines, Idaho Falls, Idaho..... Aug. 12
Aug 22. Garbage Disposal—Reading, Pa..... Aug. 12
Aug. 23. Purchase of Locomotives, Panama ..... Jun. 24
Adv. Jul. 1.
Aug. 23. Engine—Panama ..... Jul. 15
Adv. Jul. 15.
Aug. 28. Chimney — Los Angeles, Cal. ..... Aug. 12
Aug. 28. Stone—Portland, Ore.... Aug. 12
Aug. 31. Iron and Steel, Dallas, Tex. ..... Aug. 5
Adv. Aug. 5, 12.
Sep. 6. State Canal Work, Terminal Contract 31, Albany, N. Y..... Aug. 12
Adv. Aug. 12.
Sept. 13. Traveling Cranes, New Orleans, La. ..... Jul. 29
Sept. 14. Cement, Savannah, Ga.... Aug. 5

SEARCHLIGHT SECTION

Official Proposal Announcements

Price, $2.40 an inch.—Copy can be received until Thursday 10 a. m. for issue mailed the next morning

Bids open August 14, 16 and 18, 1916.

HIGHWAY WORK

OFFICE OF THE STATE COMMISSION OF HIGHWAYS,
ALBANY, N. Y.

Sealed proposals will be received by the undersigned at their office, No. 55 Lancaster Street, Albany, N. Y., at 1 o'clock p. m., on Monday, the 14th day of August, 1916, for the construction of highways in the following counties:

Albany	(approx. 0.10)
Broome	(approx. 4.70)
Cayuga	(approx. 5.45)
Cortland	(approx. 6.07)
Delaware	(approx. 6.51)
Erie	(three highways—3.54; 0.91; 6.03)
Essex	(approx. 4.95)
Fulton	(approx. 2.80)
Hamilton	(approx. 6.74)
Herkimer	(approx. 5.84)
Jefferson	(approx. 5.03)
Montgomery	(approx. 2.49)
Niagara	(approx. 2.38)
Oneida	(approx. 6.15)
Ontario	(approx. 3.95)
Oswego	(approx. 0.57)
Rensselaer	(approx. 7.20)
Rockland	(approx. 8.62)
Schenectady	(approx. 1.95)
Seneca	(two highways—3.67; 0.24)
Tioga	(approx. 6.00)
Tompkins	(approx. 5.86)
Ulster	(approx. 3.12)
Washington	(approx. 1.43)

Sealed proposals will also be received at 1 o'clock p. m., on Wednesday, the 16th day of August, 1916, for the construction of the following highways:

Allegheny	(approx. 9.07)
Broome	(approx. 6.93)
Cattaraugus	(approx. 4.73)
Delaware	(approx. 3.39)
Erie	(three highways—3.18; 1.12; 5.09)
Franklin	(approx. 1.99)
Fulton	(approx. 2.90)
Herkimer	(approx. 5.67)
Jefferson	(approx. 4.05)
Monroe	(approx. 3.69)
Niagara	(approx. 0.61)
Oneida	(approx. 5.74)
Ontario	(approx. 2.26)
Orleans	(approx. 1.32)
Oswego	(approx. 6.36)
Rensselaer	(approx. 4.87)
St. Lawrence	(approx. 4.60)
Schenectady	(approx. 6.33)
Schuyler	(approx. 3.01)
Seneca	(approx. 4.89)
Tioga	(approx. 5.50)
Tompkins	(approx. 3.38)
Ulster	(approx. 0.55)
Washington	(approx. 4.58)
Westchester	(approx. 2.74)

Sealed proposals will also be received at 1 o'clock p. m., on Friday, the 18th day of August, 1916, for the construction of the following highways:

Broome	(approx. 5.35)
Cattaraugus	(approx. 2.17)
Chautauqua	(two highways—0.74, 3.90)
Delaware	(approx. 4.31)
Erie	(three highways—3.75; 4.50; 5.17)
Franklin	(approx. 10.36)
Fulton	(approx. 3.74)
Montgomery	(approx. 2.70)
Nassau	(approx. 3.38)
Ontario	(approx. 0.82)
Oswego	(approx. 0.36)
Otsego	(approx. 8.13)
Rensselaer	(approx. 6.34)
St. Lawrence	(approx. 9.12)
Saratoga	(approx. 1.10)
Schoharie	(approx. 2.73)
Seneca	(two highways—2.13 and 2.63)
Tompkins	(two highways—0.43 and 0.61)
Ulster	(approx. 3.17)
Washington	(approx. 6.98)
Wayne	(approx. 1.88)
Westchester	(approx. 1.74)

Maps, plans, specifications and estimates may be seen and proposal forms obtained at the office of the Commission in Albany, N. Y., and also at the office of the division engineers in whose division the roads are to be improved. The addresses of the division engineers and the counties in which they are in charge will be furnished on request.

The especial attention of bidders is called to "General Information for Bidders" on the itemized proposal specifications and contract agreement.

EDWIN DUFFEY,
Commissioner.

I. J. MORRIS,
Secretary.

Bids open August 22, 1916.

TWO CONCRETE BRIDGES

WESTFIELD, MASS.

Sealed proposals will be received by the Town Engineer at his office, Town Hall, Westfield, Mass., until 11 A. M. of Tuesday, August 22, 1916, for building the reinforced concrete superstructures and the concrete foundations of Cowles Bridge over Little River and Loomis Street Bridge over Munn's Brook and for the removal of the present structure of Cowles Bridge.

Cowles Bridge will be, approximately, 150 feet long between abutments by 42 feet wide over all, and will consist of two arch spans each about 53 feet long in the clear, and one girder span about 28 feet in length. Loomis Street Bridge will be, approximately, 80 feet long between abutments by 22 feet wide over all, and will consist of two girder spans each about 36 feet long in the clear.

Plans, specifications, form of proposal, contract and bond may be obtained on and after August 14 at the office of the Town Engineer, and also at the office of Fay, Spofford and Thorndike, consulting engineers, 308 Boylston Street, Boston, Mass., upon deposit of five dollars, which deposit will be refunded upon the return of the plans and papers in proper condition.

Each proposal must be accompanied by a certified check for $1,000, payable to the Town of Westfield. A bond of an approved surety company for $5,000 will be required for the satisfactory performance of the contract.

Bids must be enclosed in sealed envelopes, marked—"Bid on Cowles Bridge and Loomis Street Bridge." Bids will not be received for each bridge separately. The Board of Selectmen reserves the right to reject any or all proposals and award the contract as it deems best.

DEXTER A. SNOW,
CHARLES L. HOUGHTON,
LOUIS L. KEEFE,
Board of Selectmen.

JOHN L. HYDE,
Town Engineer.

August 9, 1916.

Bids open August 15, 1916.

CONCRETE PAVEMENT

GREENWICH, CONN.

Sealed proposals for about 8000 sq. yd. of reinforced concrete pavement will be received by the Highway Commission of the Town of Greenwich, Conn., at the Borough Court Room, in the Town Hall, until 5:30 P.M. on Tuesday, August 15, 1916.

Specifications, general and detail plans can be seen and blank form of proposal obtained at the office of the Engineer, Room 5, Greenwich Trust Co. Building, Greenwich, Conn. The right is reserved to reject all bids.

LUKE VINCENT LOCKWOOD,
Chairman.
WILLIAM F. DECKER,
ROBERT L. CHAMBERLAIN,
JOHN MAHER,
F. HARRIS NICHOLS,
NATHANIEL A. KNAPP,
Highway Commission.

Aug. 1, 1916.

U. S. Engineer Office, Dallas, Tex.—Sealed proposals for furnishing iron and steel will be received here until 12 M. Aug. 31, 1916, and then publicly opened. Information on application.

Bids open August 22, 1916.

INFORMATION FOR CONTRACTORS.

STATE AID HIGHWAY

ROCKVILLE, MD.

Sealed proposals, for macadam or concrete construction, addressed to the County Commissioners of Montgomery County, and endorsed "Proposals for building a section of State Aid Highway in Montgomery County," upon or along the Glenmont-Colesville road, between Glenmont and Colesville, for a distance of about three (3) miles, will be received by the County Commissioners of Montgomery County, at their office, Rockville, Maryland, until twelve o'clock M. of the 22nd day of August, 1916, and at that time and place will be publicly opened and read.

All bids must be made upon blank forms to be obtained of the State Roads Commisison, at its office, 601 Garrett Building, Baltimore, Maryland, must give the prices proposed both in writing and figures and must be signed by the bidder, with his address.

Each bid must be accompanied by a certified check for Two Hundred Dollars ($200.00), payable to the Treasurer of Montgomery County, said check to be returned to the bidder unless he fails to execute the contract should it be awarded to him.

Plans can be seen and forms of specifications and contract may be obtained on cash payment of One ($1.00) Dollar, at the office of the State Roads Commission, Baltimore, Md.

The Commissioners of Montgomery County reserve the right to reject any and all proposals.

By order of the Board.

JOHN R. LEWIS, President.
BERRY E. CLARK, Clerk.

Bids open August 17, 1916.

NOTICE TO CONTRACTORS.

STREET AND SIDEWALK CONSTRUCTION

PADUCAH, KY.

Sealed proposals for street and sidewalk construction will be received by the Commissioner of Public Works of the City of Paducah, at his office in the City Hall, until 10:00 A. M., Standard Time, on Thursday, August 17th, when they will be publicly opened.

The approximate quantities are:

600 cu. yds. concrete in pavement foundation.
5,500 sq. yds. creosoted wood block pavement.
132,000 sq. ft. concrete sidewalks.
12,000 sq. ft. concrete driveways.
19,000 lin. ft. granite curbing.
22,000 lin. ft. concrete gutters.

This work will be let in five contracts, one for the street paving and four for the sidewalks. Each bid must be accompanied by a certified check for fifty dollars ($50.00). The successful bidder will be required to give bond equal in amount to forty (40%) per cent of the contract price. A five-year maintenance bond in the sum of twenty-five (25%) per cent of the cost of the work will be required at the time of acceptance of the work.

Plans and specifications may be seen at the office of the said Commissioner and copies of the specifications will be mailed on request.

The right is reserved to reject any or all proposals and to waive informalities.

L. A. WASHINGTON,
Commissioner of Public Works.

Bids open August 29, 1916.

NOTICE TO CONTRACTORS.
STATE OF MARYLAND.

STATE ROADS COMMISSION

BALTIMORE, MD.

Sealed proposals for building two sections of State Highway, as follows:

Contract No. H-17—HARFORD COUNTY: One section from Forest Hill to Ramsey's Corner, about 6.1 miles in length. (Concrete or Macadam Class "C.")

Contract No. S-9—SOMERSET COUNTY: One section from Costen to Pocomoke, about 2.35 miles in length. (Concrete or Bituminous Concrete.)

will be received by the State Roads Commission, at its office, 601 Garrett Building, Baltimore, Maryland, until 12 M. on the 29th day of August, 1916, at which time and place they will be publicly opened and read.

Bids must be made upon the blank form contained in the book of specifications. Specifications and plans will be furnished by the Commission upon application and cash payment of $1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check for the sum of Five Hundred ($500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond, and comply with the Acts of the General Assembly of Maryland, respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 3rd day of August, 1916.

F. H. ZOUCK, Chairman.
CLYDE H. WILSON, Secretary.

Bids open August 15, 1916.

PAVING AND CURBING BELLEVUE AVE.

MONTCLAIR, N. J.

Sealed bids will be received by the Town Clerk for the paving and curbing of Bellevue Avenue from Park Street to Upper Mountain Avenue, a total distance of three thousand (3000') lineal feet, more or less.

The paving will consist of a two-inch amiesite pavement on the old telford base and on a new telford base where no base now exists, all in accordance with the contract, plans and specifications therefor on file in the office of Edgar S. Closson, Town Engineer, and there to be seen.

Each bidder will be required to use the form of bid on file in the office of the Town Engineer and all bids not made on such form will be rejected.

Each bid must be accompanied by a forfeit of three thousand dollars ($3,000) to insure the execution of the contract and bond by the successful bidder within two (2) weeks after the award shall have been made.

All bids must be in by Tuesday, August 15, 1916, at 8 P. M., at which time the Board of Commissioners will meet in the Municipal Building to consider the same.

The Board of Commissioners reserves the right to reject all bids or to award the contract to the lowest bidder or bidders who furnish satisfactory evidence of their ability to carry out the contract as regards time, quality of work to be done and materials to be furnished.

By order of the Board of Commissioners.

(Signed) HENRY WARE JONES,
Acting Town Clerk.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., August 1, 1916.—Sealed proposals will be opened in this office at 3 p. m., September 12, 1916, for the construction, complete, of the United States post office at Orlando, Fla. Drawings and specifications may be obtained from the custodian of site at Orlando, Fla., or at this office, in the discretion of the Supervising Architect, Jas. A. Wetmore, Acting Supervising Architect.

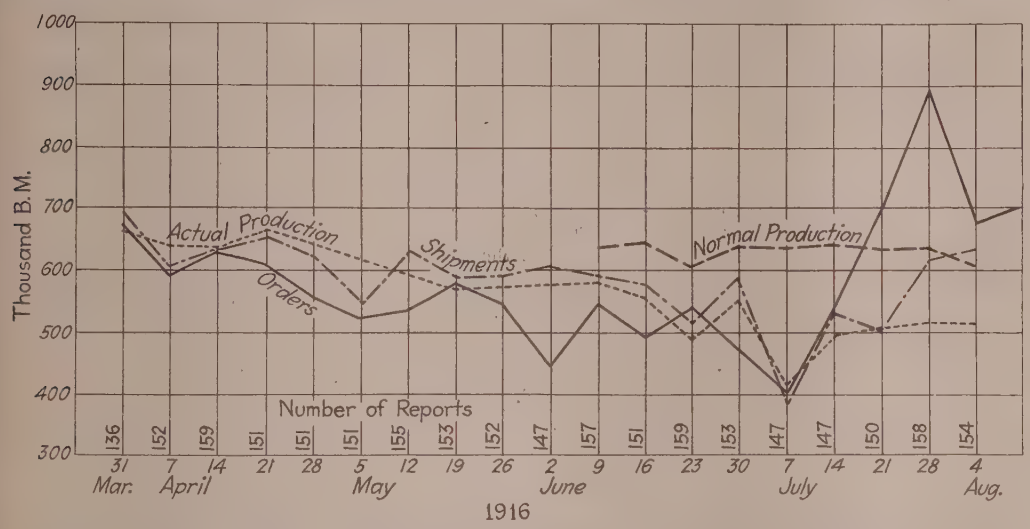
Crop Reports Less Favorable, But Business Prospects Are Excellent

Lumber and Export Steel in Demand, While Growth of New Financing Will Bear Watching by Contractors

IN SPITE of less favorable crop reports and of labor troubles, including those on the railroads, the outlook for a large volume of general business during the remainder of the year is excellent. At present, high prices have put even weak firms on their feet and failures are at the lowest point since 1906. Dividend payments for August are expected to be 25 per cent larger than last year. New incorporations for the first seven months of 1916 have, however, tripled those of 1915, and contractors who take work for new companies to extend more than a year from the present time will not be lacking in judgment if they make certain of the financial strength of such clients. Meanwhile, factory construction is doubling in value that of last year, and residential building has shown a gain of 40 per cent compared with a year ago.

Lumber Buying Grows

In the material markets the lumber and steel situations are of interest. Conditions in the lumber industry at the end of June indicated a renewed buying movement, as was pointed out by the Engineering Record at that time. That this movement has set in is brought out by the accompanying chart, which shows the weekly cuts, orders and shipments, as of the average mill reporting, for about 150 mills producing yellow pine. As yellow-pine products comprise more than one-third of all the lumber products of the country, and as these mills are representative, the course of the lumber industry from the early part of April through the May and June decline to the present increased volume of business is fairly well reflected in this chart. When the mills found their stocks increasing — and by the end of May mill stocks of yellow pine were somewhat larger than in the winter of 1915 —production was naturally curtailed until it fell 15 per cent or more below the ordinary weekly output of the average mill reported. This normal output is indicated on the chart only for June and July. Because of this curtailment mill stocks are again declining as lumber-yard stocks are replenished. Further, it must be borne in mind that residential building, which consumes a larger share of lumber than any other kind of construction, becomes and continues active later in periods prosperity than almost any other class of construction. Probably the lumber industry has still before it the greater part of this demand.



SHARP INCREASE IN LUMBER ORDERS AFTER DECLINING PRICES HAD CAUSED REDUCTION IN MILL OUTPUT

Renewed Steel Demand

So far from terminating, foreign steel orders are now said to have reached 25 per cent of the country's steel output. The production of steel-making iron is always less in the summer because of hot weather and repairs to furnaces, and it will be September before maximum production can be resumed. Meanwhile some interests are said to be having difficulty in buying steel to cover a flood of orders for large-caliber shells. It is reported that government inquiries for shipbuilding steel have met with no response, and there is even talk of an iron famine. Steel bars, plates and shapes have been advanced $2 a ton by the leading interest. It is pointed out further that the Entente Allies without our steel would be unable to match, much less surpass, the German production of war steel, and that it is only policy for the Allies to foster in this country a considerable capacity for making munitions. This is true even were they able to dispense with us except as a source of raw material, as their industries are short of labor and ours comparatively unhampered. Had the Allies no reserve manufacturing capacity here to draw on, serious labor troubles, such as have threatened England, might leave them at the mercy of their enemies.

For these reasons it would not be wise for structural steel contractors to count on any reduction in the demand for finished export steel until the end of the war is actually in sight. And if this demand continues, the price and availability of structural steel from the consumer's viewpoint are scarcely apt to improve.

Buildings

Building work as noted in this issue includes among the larger items those noted below:

Contracts awarded:	Kind of Building	Cost
New York City	Hotel	$1,000,000
Cincinnati, Ohio	Boys' home	200,000
San Francisco	Office building	1,750,000
Bids opened:		
Milton, Mass	School	174,000
Portland, Ore.	Post office	762,000
Bids desired:		
Philadelphia, Pa	Arsenal	200,000
Cincinnati, Ohio	Y. M. C. A. building	500,000
Proposed work:		
New York City	Office building	300,000
Jacksonville, Fla	Railroad station	2,000,000
Defiance, Ohio	High school	200,000
Chicago, Ill	Office building	3,500,000
Chicago, Ill	Skating rink	400,000
St. Paul, Minn	Hospital	400,000
Minneapolis, Minn	School buildings	204,000
Toronto, Ont	Hotel	2,000,000

Roads and Paving

The following road work is noted in this issue:

Contracts awarded:	Kind	Cost
Newark, N. J	Grading	$147,000
Toledo, Ohio	Paving	135,000
New Smyrna, Fla	Highways	288,000
Pascagoula, Miss	Highways	100,000
Richmond, Ind	Highways	149,000
Hanford, Cal.	Asphalt road	58,000
Bids opened:		
Uniontown, Pa.	Brick roads	155,000
Bids desired:		
Seattle, Wash	Brick	60,000
Proposed work:		
Richmond, Ind.	Bonds sold	130,000
Monroe, La	Bonds sold	500,000
Idaho	State highways	532,000
Modesto, Cal.	County highways	1,483,000

Waterworks and Sewers

A contract for constructing the sewage disposal works at Lexington, Ky., has been awarded at $207,000. The lowest bid received for constructing section 7 of the Calumet intercepting sewer in Chicago was $900,000. Bids are desired at Shreveport, La., for constructing and equipping a waterworks system and filtration plant. Waterworks construction costing $200,000 is proposed at Tulsa, Okla. The building of a second sand filter plant to cost $1,500,000 has been recommended at Cleveland, and Akron, Ohio, is planning a trunk sewer system to cost $200,000. Waterworks improvements contemplated at Alma, Mich., will amount to $60,000.

Miscellaneous Headings

A track-laying contract on the New York City subways has been awarded at $288,000. A low bid of $93,000 was received for furnishing and erecting structural steel for the large storehouse to be built by New York City on Blackwell's Island. Bids are desired at Buffalo for constructing the piers and the steelwork for a large bascule bridge. A railroad subway contract is to be let Aug. 30 in connection with the new union station at Chicago. A measure permitting the Western & Atlantic Railroad to issue $10,000,000 bonds for extensions has been approved by a committee of the Georgia state senate. Bonds have been voted for constructing a $1,200,000 viaduct at Akron, Ohio. It is reported that a $1,500,000 power plant and smelter will be built at Sudbury, Ont. In addition, news of the following reinforced-concrete construction is noted in this issue:

Contracts awarded:	Kind of Structure	Cost
Kansas City, Mo	Building	$500,000
Kansas City, Mo	Elevator	100,000
Kansas City, Mo	Building	160,000
Bids desired:		
Moncton, N. B	Elevator	250,000
Proposed work:		
Washington, D. C	Bridge	1,250,000
Chicago, Ill	Hotel	650,000

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Thomaston, Conn.—C. H. Preston, Jr., of Waterbury, engaged to design and have charge of construction of a sewerage system.

Herkimer, N. Y.—The increasing of the water supply is under consideration. Address Secretary Municipal Commission.

Niagara Falls, N. Y.—City Council authorized a $72,000 bond issue to cover laying of an emergency feed main from the municipal water station at Buffalo Avenue to city water station in Sugar Street.

Watertown, N. Y.—Enlarging filtration plant at a cost of $50,000 is under consideration. Address Mayor.

Ogdensburg, N. J.—Mayor and Council have decided to install a water system consisting of driven well, a pumping station, and a reservoir; estimated cost $25,000.

Toms River, N. J.—Township Committee will hold an election Aug. 28 to vote on constructing sewers costing $50,000. Charles Vosbury, Camden, Engineer.

Whitehouse, N. J. — Clinton Township Committee granted to Clinton Water Co. a 50-year franchise for piping streets to convey water to Lebanon.

Reynoldsville, Pa.—Borough Council reported to have petitioned Public Service Commission, Harrisburg, for permission to build a municipal water plant.

South Bethlehem, Pa. — Plans prepared by H. J. Hirst, Philadelphia, for a sewage disposal plant, contract for which will soon be let by Borough Council. Address Borough Clerk.

Wilkesbarre, Pa.—Ashley Borough Council, Hanover Township, Commissioners are considering the construction of a sewage disposal plant. City Engineer of Wilkesbarre may be able to give information.

Brunswick, Md.—Norton, Bird & Whitman, Munsey Bldg., Baltimore, are engineers for improvements contemploted to water works. An election will probably be held in the fall to vote bonds for this improvement. Jacob H. Fry, Clerk.

Sisterville, W. Va.—Citizens voted $30,000 bonds for a filtration plant. Plans are being prepared. C. E. Lindsley, Water Commissioner.

Wheeling, W. Va.—Citizens recently voted $30,000 filtration plant bonds. Address City Clerk.

Augusta, Ga.—The Mayor in a special message to Council recommends the issuing of bonds for completion of additional settling basin for water works any laying another water main from reservoir to the city.

Knoxville, Tenn.—Election to be held on $225,000 waterworks bonds has been extended from Sept. 9 to Sept. 30. Address City Clerk.

Irvine, Ky.—Council passed ordinance authorizing granting a franchise to construct water works. Probable cost, $60,000. Address City Clerk.

Akron, Ohio—City Engineer Zeisloft is planning a new system of trunk sewers from East Akron downtown, to cost $200,000.

Canton, Ohio.—All bids opened Aug. 14 by County Commissioners for furnishing materials and laying No. 2 vitr. pipe sewer, etc., in Canton Massillon Road, Perry Township, about 4050 ft., exceeded engineer's estimate. W. C. Schick, County Clerk.

Cleveland, Ohio.—Charles P. Jaeger, City Commissioner of Water, recommends construction of a second rapid sand filtration plant, capacity 150,000,000 gal. per 24 hr., to be put into operation before Jan. 1; cost about $1,500,000, exclusive of the site.

Cuyahoga Falls, Ohio.—Citizens Aug. 8 voted $60,000 bonds for constructing sewers. R. W. Pratt, Consulting Engineer, Hippodrome Bldg., Cleveland.

Alma, Mich.—It is proposed to improve the waterworks by installing 4 10-in. x 100 ft. wells, a circular pump well or receiving basin, capacity 300,000 gals., 2 motor-driven centrifugal service pumps 600 gals. per minute, and extend mains; cost $60,000. W. J. Shinnan & Co., Engrs., Toledo, Ohio. Carl E. Gallagher, City Clerk.

Flint, Mich.—Citizens voted Aug. 10 $400,000 bonds for constructing filtration plant. D. E. Newcomb, City Clerk.

Paw Paw, Mich.—Construction of a filtration plant is under consideration. D. P. Smith, City Engineer.

Cairo, Ill.—Construction of a sewerage system is under consideration. J. H. Connell, City Clk.

Fisher, Ill.—Village considering installation of water works system in connection with municipal electric light plant. A. L. Baker, engineer in charge.

Ladd, Ill.—Contract will be let about Sept. 15 by Henry Dwyers, Village Clerk, for sinking a 16-in. well costing $8,000. P. V. Green, Engineer, Chicago, Ill.

Streator, Ill.—Election will probably be held to vote $19,500 bonds for sewer improvements. Address City Clerk.

Altoona, Wis.—Reported contract soon to be let for installing and operating water works. A. J. Hayden, City Clerk.

Chilton, Wis.—Water works bonds for $45,000 will be sold Aug. 29 by A. J. Pfeffer, City Clerk.

Milton, Iowa.—Plans being prepared by Herbert Miller, Des Moines, for waterworks. Address City Clerk.

Chaska, Minn.—The extending of the water works system at a cost of $15,000 is under consideration. Address City Clk.

New Ulm, Minn.—Contract soon to be let by city for grading, water works extension, sewer extension, and curbing and guttering. Address City Clk.

St. Paul, Minn.—Commissioner of Public Works has asked Council for $240,000 for sewer construction and repairs for year 1917.

Mayor approved ordinance to construct relief sewers in Capitol and Snelling Avenues and Minnehaha Street, estimated to cost $31,610, and in Brimhall and Snelling Avenues and Palace Street, estimated to cost $11,522.

Geuda Springs, Kan.—It is proposed to construct water works costing $25,000. Benham Engineering Co., Oklahoma, Okla., Engrs. Russell L. Ward, City Clerk.

Hardin, Mont.—Contract soon to be let for constructing trunk line sewer to cost $30,000, and lateral sewer $12,000. A. L. Mitchell, Mayor.

Joliet, Mont.—Election to be held Aug. 25 to vote $22,000 bonds for purchase of plant and system of the Joliet Water Co. Address City Clerk.

Argenta, Ark.—Waterworks Improvement Dist. No. 2 formed for the purpose of taking over property of Arkansas Water Co. in Argenta. It planned to take over the water system and spend about $200,000 in extensions and improvements.

Huntsville, Tex.—The Attorney General has approved $22,500 bond issue for sewer improvements and extensions. Address City Clerk.

Kingsville, Tex.—Contract soon to be let for furnishing and installing one 500 gal. per minute deep well pump with electric motor and 100 lin. ft. of pit casing; contracts also soon to be let for furnishing goose necks with corporation cocks, curb cocks, three-quarter inch w. i. pipe, meters and meter boxes for approximately 1000 house connections. Henry C. Porter, City Engineer.

Maypearl, Tex.—Election to be held Sept. 9 to vote $7,000 bonds for water system. Address Mayor.

Sweetwater, Tex.—Attorney General has approved the $50,000 bond issue to construct a sewage disposal plant. Address City Clerk.

Wharton, Tex.—City Officials reported considering sewage disposal. Address Mayor.

Bartlesville, Okla.—The $25,000 sewer bonds carried. Address City Clerk.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Tulsa, Okla.—It is proposed to construct water works costing $200,000, to include 1,000,000 gal. clearwater basin, 2,000,000 gal. coagulating basin and 6,000,000 gal. filtration plant and auxiliary. Contract will be let about Oct. 15. Citizens Aug. 1 voted $50,000 water main bonds and $180,000 filtration bonds. Stevens & Stiles, Engineers, Commerce Building, Kansas City, Mo.

Davenport, Wash.—Reported City Council will construct $4,000 municipal well to supply the city. About $3,000 will be spent in pumping equipment. Address City Clerk.

Seattle, Wash.—City Council adopted a report urging construction of an additional reservoir at Volunteer Park, 50,000,000 gal. storage capacity, construction of a reservoir at Swan Lake, new reservoirs in West Seattle and the construction of a steel pipe line from Swan Lake to Seattle. L. B. Youngs, Supt. of Water.

City Council adopted resolution providing for installation of sewers in Thirty-ninth Avenue, south from Genesee Street to Conover Way. A. H. Dimock, City Engineer.

Ashland, Ore.—Contract soon to be let for construction of a sewer system in the district north of the railroad tracks, between Laurel and Hilman Streets. Address City Recorder.

Oregon City, Ore.—Reported citizens authorized issue of $18,000 municipal water works bonds. Address City Clerk.

Portland, Ore.—Contract soon to be let for constructing sewers in East Forty-fourth, East Forty-fifth, East Davis and East Pine Streets and Montgomery Drive, with all appurtenances. A. L. Barbur, City Auditor.

Silverton, Ore.—Election to be held Aug. 25 to vote on an auxiliary waterworks to cost $21,000. C. S. Blanding, Engineer, Silverton; Mark Paulson, Recorder.

Glendale, Cal.—City will purchase about 1000 tons of c. i. pipe. Address City Clerk.

Coalinga, Cal.—Citizens Aug. 7 voted against improving water works. Claude T. Walker, City Clerk.

Ione, Cal.—Town officials reported to be taking steps to install a sewer system. Address Town Clk.

Los Angeles, Cal.—City Council voted to appropriate $25,000 for purchase of equipment and organizing a working force for the construction of an outfall sewer and sewage disposal plant at Hyperion. Homer Hamlin, City Engr.

Contract will be let early in September by City Council for constructing Florence Avenue sewer system. Probable cost, $100,000. Hower Hamlein, City Engr.

Ocean Beach, Cal.—Citizens petitioned City Council to call an election to vote bonds for constructing a sewerage system and a large septic tank. George Cromwell, City Engr., San Diego, may be able to give information.

Logan, Utah.—Citizens will vote Sept. 2 on $70,000 bonds for improvements to water system.

Glenns Ferry, Idaho.—See "Buildings."

Rougemont, Que.—Fabius Riel, waterworks engineer, is preparing plans for a new plant to include concrete reservoir, 60,000 gal. capacity, concrete dam, 11 x 40, and 6-in. mains.

Sherbrooke, Que.—Thomas Tremblay, City Engineer, is preparing plans for concrete and brick trunk sewers; cost, $45,000.

York, Ont.—York Township Council has directed Frank Barber, Township Engineer, to prepare plans and specifications for a 34-in. water main from Duplex Avenue to Keele Street on Englinton Avenue, and a 12-in. main from city limits to Weston, etc.

BIDS DESIRED.

Boston, Mass.—Until Aug. 21, by Edw. F. Murphy, Commissioner Public Works, for constructing pipe surface drains in Moraine and Halifax Streets, West Roxbury.

Bridgeport, Conn.—Until Sept. 6 by Bernard Keating, Secy. Paving and Sewer Commission, Room 22, City Hall, for about 9,400 ft. 60, 66 and 72 in. sewer in Railroad and Bostwick Avenues, advertised in Engineering Record.

Brooklyn, N. Y.—Until Aug. 23, by L. H. Pounds, Boro Pres., for constructing sewers in Bay, Thirty-fifth, East Fourth, Fifty-sixth and a number of other streets. Security $9,150.

Fulton, N. Y.—Later official reports state until Aug. 28, by C. Milton Allen, City Clk., for constructing storm water sewers and appurtenances on east side from 60-in. diam. to 15-in. and will be approximately 4700 ft. long. Arthur T. Wiltsie, Pres. Board Pub. Works.

New York, N. Y.—Until Aug. 23, by Marcus M. Marks, Pres. Manhattan Borough, for alteration and improvement to sewers in Twenty-second Street between Fifth and Sixth Avenues, and constructing sewer in Wadsworth Terrace between 190th Street and Fairview Avenue. Security $7,800.

Olean, N. Y.—Reported desired until Aug. 23, by E. E. Allen, Supt. of Streets, for 13,250 ft. of 10 to 15 in. sanitary sewers.

Bayonne, N. J.—Until Aug. 29, for laying water mains and appurtenances in Hudson Boulevard, between Eleventh, Twelfth, Nineteenth, Twentieth, Fifty-first and Fifty-second Streets; will require 885 lin. ft. c.-i. pipe, boxes and covers, sleeves, etc. Wm. P. Lee, City Clerk.

Bogota, N. J.—Until Aug. 25, by Borough Council, for furnishing material and constructing about 4 miles vitr. sewers 8 and 10-in. with Y branches, manholes, etc. Harlan P. Ross, Borough Clk.

New Brunswick, N. J.—Until Aug. 22, by City Commissioners, for constructing a motor driven centrifugal pumping unit of 3,000,000 gal. capacity and two motor driven centrifugal units of 6,000,000 gal. capacity. Asher Atkinson, City Engineer, 40 Paterson Street, New Brunswick. Eugene J. McLaughlin, City Clerk.

Muncy, Pa.—Until Aug. 21, by Frank Smith, Secy. State Board of Public Charities, Bulletin Bldg., Philadelphia, for water supply system and sewage disposal plant for four cottages at Industrial Home for Women.

Scranton, Pa.—Until Aug. 22, by J. G. Hayes, Dir. Dept. Public Works, for constructing sewers. Probable cost, $15,000.

South Bethlehem, Pa.—Until Sept. 18, by Borough (B. H. Birkley, Chmn. Sewer Committee), for constructing intercepting sewer, treatment, works, etc., advertised in Engineering Record.

Baltimore, Md.—Until Aug. 23, by Board of Awards, care of City Register, for furnishing brass pipe fittings for Water Department, advertised in Engineering Record. Walter E. Lee, Water Engineer.

Washington, D. C.—By Bureau Supplies and Accounts Navy Dept., Washington, D. C., for Sch. 9, Philadelphia, Pa., 15,900 lb. pipe and tubing; Sch. 9991, 3,000 lb. extra heavy w. i. pipe; Sch. 9996, Puget Sound, Wash., miscellaneous composition angle and globe valves, 54 composition gate valves, etc.

West Point, Va.—Reported desired until Aug. 25, by H. R. McCanna, Town Clerk, for furnishing material for water works extension, sewer extension and sidewalks, to include 90 tons 4 and 6 in. Class B c. i. pipe, 26,254 ft. 12, 10 and 8 in. terra cotta pipe, 975 bbls. cement, etc. J. B. McCrary Co., Engrs., Atlanta, Ga.

Natchitoches, La.—Until Sept. 1, by James A. Wetmore, Supervising Archt., Treas. Dept., Washington, D. C., for new septic tank, etc., at U. S. post office, Natchitoches.

Shreveport, La.—Until Sept. 5, by City Commission, for water works pumping station and filtration plant, advertised in Engineering Record. John B. Hawley, Consulting Engineer, City Hall.

Cincinnati, Ohio.—Reported desired until Sept. 1, by John H. Allen, President Longview Hospital Bldg. Commission, for furnishing galvanized wrought iron pipe, screw and tees, iron couplings, gate valves, bell and spigot, c. i. water pipe.

Menominee, Mich.—Until Aug. 26, by H. H. Blunder, Secy. Board Public Works, for two low service pumping units, advertised in Engineering Record. Burns & McDonnell, Engrs., Kansas City, Mo.

Fond du Lac, Wis.—Until Aug. 25, by City Clerk, for furnishing 13,900 ft. 4 to 12-in. Class C water pipe and specials.

Cashton, Wis.—Reported desired until Aug. 21, for constructing sewage disposal plant. H. Hegge, Village Clk.

Eldon, Iowa.—Until Aug. 21 (readvertisement) by H. E. Ritz, City Clerk, for constructing a sewer system, advertised in Engineering Record.

Washington, Iowa.—Until Aug. 25, by Sam Kellogg, City Clerk, for constructing a 1,000,000-gal. concrete reservoir, advertised in Engineering Record.

Chaska, Minn.—Until Sept. 1, by J. M. Aretz, City Clk., for constructing waterworks system to consist of approximately 8770 ft. 8, 6 and 4 in. pipe, together with valves, hydrants, etc., 100,000 gal. capacity concrete reservoir, electric pumping machinery, etc.

Claremont, Minn.—Until Aug. 30, by Village Council, for constructing sanitary sewer system, and disposal plant. J. F. Druar, Consulting Engr., 312-16 Commercial Bldg., St. Paul. A. C. Hinckley, Village Recorder.

Janesville, Minn.—Until Aug. 31, by R. R. Brown, Village Recorder, for furnishing material and constructing a system of sewers comprising about 34,000 ft. 8, 10 and 12-in. pipe and about 65 manholes, an Imhoff tank about 10 x 22 ft. with cylindrical sludge well about 22 ft. deep and 15 ft. in diam., and a sludge bed about 20 x 30 ft. Also for a storm sewer 3800 ft., 12, 15, 24 and 30-in. vitr. pipe and 14 manholes, advertised in Engineering Record.

Kasson, Minn.—Until Aug. 23, by W. D. Ringland, Village Recorder, for constructing three sanitary sewers.

New Ulm, Minn.—Until Aug. 28, by Wm. Backer, City Clk., for constructing water mains, placing gates, fire hydrants, and approximately 3000 ft. of main for waterworks extension, also for constructing storm and sanitary sewers, approximately 2170 lin. ft. from 18 to 24 in. L. M. Morelius, City Engr.

Scotia, Neb.—Reported desired until Aug. 30 by H. L. Miller, City Clerk, for constructing waterworks and electric light plant; probable cost $15,000.

Mandon, N. D.—Reported desired until Aug. 24, for constructing sewers in several streets, together with manholes, etc. W. H. Seitz, City Auditor.

Sheridan, Mont.—Until Aug. 28, by Frank Carey, Town Clerk, for constructing waterworks, advertised in the Engineering Record.

Chillicothe, Mo.—Reported desired until Aug. 24, by Board Public Works (J. S. Ryan, Secy.), for waterworks improvement to consist of one centrifugal fire pump, 1 motor-driven triplex pump, capacity 10,000 bbl. per hour.

St. Louis, Mo.—See "Reinforced Concrete."

Morris, Okla.—Until Aug. 21, by City Clerk, for furnishing material and constructing a 4-in. water pipe line from city of Okmulgee to pumping station at Morris, consisting of 15,208 ft.

Spokane, Wash.—Until Aug. 24, by C. T. Bogart, City Purchasing Agent, the Mayor and the City Clerk, for 30,000 ft. 6-in. c.-i. pipe, Class B, to be American Waterworks Specification.

Covina, Cal.—Until Aug. 22, by Board City Trustees, for furnishing and laying 9340 ft. 12-in. No. 14 steel riveted pipe together with all specials, furnishing f.o.b. Covina, 23,940 ft. 4, 6 and 8-in. pipe fire hydrants, together with all specials, etc., for water system. F. E. Trask, Engr., 616 Union Oil Bldg., Los Angeles.

Fresno, Cal.—Until Sept. 5, by W. H. Ryan, City Clk., for constructing intercepting and outfall sanitary sewer system involving approximately 52,400 ft. 16 to 60-in. pipe, and about 50 manholes. Alternate bids desired for brick, monolithic and reinforced concrete pipe, for larger sizes of vitr. clay and plain concrete pipe and for smaller sizes. Probable cost, $400,000. B. E. Cronkite, City Engr. Olmsted & Gillelen, Consulting Engr., 1112 Hollingworth Bldg., Los Angeles.

Los Angeles, Cal.—Until Aug. 24, by Board of Education (W. M. Sheldon, Secy.), for constructing a drainage system at the Owenslough High School.

Los Angeles, Cal.—Until Aug. 28, by Board Supervisors (A. M. McPherrin, Clk.), for furnishing approximately 7244 tons riveted steel pipe for irrigation system in San Fernando Valley for Los Angeles County Waterworks, Dist. No. 3. Wm. Mullholland, Ch. Engr. of Board Pub. Service, 502 Knickerbocker Bldg.

Aylmer, Que.—Until Aug. 24, by Chairman of Water Committee, for constructing a mechanical filter plant. H. Sexsmith, Secy.-Treas.

PRICES AND LETTINGS.

★Indicates award of contract.

★Batavia, N. Y.—Contract for rebuilding sewage pump station which was destroyed by an explosion has been awarded by the city to Warsaw Construction Company, Warsaw. Chester & Fleming, Engineers, Pittsburgh, Pa.

★Oxford, N. Y.—Contract for constructing water supply for New York State Women's Relief Corps. Home (bids opened Aug. 8), awarded Suburban Engineering Company, New York. J. S. Graham, Supt.

Hoboken, N. J.—Lowest bid opened Aug. 2 by City Commissioners for reconstructing Adams Street and Newark Street sewers submitted by Thomas Cavanagh, 211 Highwood Avenue, Weehawken, at $66,130.

★Takoma Park, Md.—Contracts in connection with the enlargement of the water works have been awarded as follows: Installing of new oil engine in place of gasoline engine in pumping engine on S.lgo

Creek to Mietz & Weiss Co., 138 Mott St., New York, N. Y., at $1,859, and for new water tower in North Takoma, lower than present tower, to Chicago Bridge & Iron Works, Chicago, Ill., capacity 100,000 gals., at $4,200 (bids opened July 31 by Ben. G. Davis, Town Clk., Takoma Park, D. C.).

★**Williamsburg, Va.** — Contract for water and sewer systems awarded as follows: Water system to Noland-Clifford Company, Newport News, at $13,186 and sewer system to Wingo & Deaner, Richmond, at $10,178.

★**Quitman, S. C.**—Contract awarded by Trustees of the Agricultural High School to W. H. Patten & Son, Shubuta, Miss., for constructing electric light plant and water system.

★**Lexington, Ky.** — Following are four lowest bids opened Aug. 8 by Mayor for constructing sewage disposal works; Sullivan Construction Co., Lexington, $207,-184 (awarded contract); Sullivan, Long & Hegarty and Case & Cathrow, Bessemer, Ala., $211,642; F. S. Moudy & Co., Chattanooga, Tenn., $216,277, and The Suburban Engineering Co., New York, N. Y., $217,731.

★**Portsmouth, Ohio.**—Following are two bids opened July 1 by Ralph Calvert, Service Director, for constructing a sewerage system: A. E. Miller Construction Co., Portsmouth, $35,742 (awarded contract), and L. Monroe & Sons Co., Portsmouth, $41,524.

★**South Charleston, Ohio.**—Contract for constructing water works awarded Charles M. Kelso Company, Dayton, for all work except 4-in. main and standpipe. An additional $10,000 bond will have to be issued before this part of the contract is awarded.

★**Upper Sandusky, Ohio.**—Contract for gas engine driven fire pump awarded by the local water company to Goulds Mfg. Company of Seneca Falls, N. Y. Chester & Fleming, Hydraulic Engineers, Pittsburgh, Pa.

★**Albert Lee, Minn.**—Contract for furnishing about 5556 lin. ft. 6 to 10-in. vitri. pipe sewer awarded Ilstrup & Olson, Minneapolis, at $13,161. C. J. Dudley, City Clerk.

★**Kildeer, N. D.**—Contract awarded Haggart Construction Company, Fargo, for constructing waterworks (bids opened Aug. 1). R. C. Pinkham, City Clk.

★**Glasgow, Mont.**—Contract for constructing water works and electric light plant (bids opened Aug. 9) awarded by City to C. H. Kelley, Kalispell, Mont., at $26,630. Other bids: George W. Kemper, Minot, N. D., $28,314, and Standard Engineering Corporation, Helena, $28,908. W. B. Shoemaker, City Clerk.

★**Great Falls, Mont.**—Contract awarded by city for constructing sewer system in Third South from Thirteenth to Thirty-second Streets, to Hoyt-Hayden, Great Falls, at $11,856.62.

★**Itasca, Tex.** — Contract awarded by City Council to Emerson & Hannon, Dallas, for constructing a sewer system to cost $11,002.

★**London, Ont.**—Contract awarded Arnott Construction Co., Toronto, for sewage filtration building, 180 x 60, detritus tanks and filter beds, all reinforced concrete construction, to cost $50,000. Chipman & Power, Mail Bldg., Toronto, engineers in charge.

★**Sault Ste. Marie, Ont.**—The Algoma Steel Corporation awarded contracts to the Turbine Equipment Co. of Toronto for a 15,000,000-gal. pump (centrifugal).

★**Stratford, Ont.**—Contract awarded Chicago Bridge & Iron Works, 37 Van Buren Street, Chicago, Ill., for a steel water tower, to cost $23,000.

STEEL BRIDGE WORK

PROPOSED WORK.

Binghamton, N. Y.—The Binghamton Light, Heat & Power Company has secured site bordering on Susquehanna River near Johnson City on which the company will erect a power plant, 60 x 80 ft., brick with steel frame; brick stack, 200 ft. high and 12 ft. diam. at top. W. S. Barstow & Company, Inc., 50 Pine Street, New York, N. Y., will have charge of engineering and construction.

Asheville, N. C.—Petitions have been filed with County Commissioners for construction of overhead bridge at site of Gorman bridge at Craggy, recently decently destroyed. Address County Clerk.

Gastonia, N. C.—County Commissioners will issue $100,000 bonds for reconstructing all bridges destroyed by recent flood. Address County Clerk.

Mount Holly, N. C. — Mecklenburg County (Charlotte County seat) and Gaston County (Gastonia County seat) plan to reconstruct bridge at Mount Holly Ferry; estimated cost $15,000.

Americus, Ga.—President signed bill authorizing Commissioners of Sumter County to construct bridge across Flint River at Huguenins Ferry.

Newton, N. C.—Commissioners of Catawba County appropriated $50,000 toward reconstructing four bridges on the Catawba River, including Lookout Bridge, destroyed by floods recently. John Holler, Catawba, is Chmn. Commission.

Jacksonville, Fla.—The bridge across St. John River to South Jacksonville is to be bascule type, double arm, with 322 ft. clearance. Plans being prepared by Harrington, Howard & Ash, Kansas City, Mo.

Akron, Ohio—Citizens voted $1,200,000 bonds for constructing viaduct connecting North Main Street and North Hill. Address County Clerk.

Cleveland, Ohio.—Plans prepared by Forest City Engineering Company, 512 Hippodrome Building, for three-story, 120 x 120 ft., steel, reinforced concrete and terra cotta printing plant at West Third Street and Lakeside Avenue for Gilman Printing Company (A. S. Gilman, President); cost about $125,000.

Columbus, Ohio.—Ordinance passed by Council authorizing $25,000 bond issue to put in a new under-construction and floor in the Rich Street Bridge.

Knoxville, Tenn.—The bridge across South Ry. tracks at State Street is in a tentative stage. A reinforced concrete viaduct on steel piers is proposed, 1400 ft. long, costing $120,000. Right of way will have to be secured and bonds sold before work is started. D. B. Merriweather, Chief Engineer of Railroad at Knoxville.

St. Paul, Minn.—City Commissioners has reported to City Council an estimate for bridge work and repairs on steel bridges in the city for the year 1917 to cost $72,000.

Caddo, Okla.—Contract will be let in September by County Commissioners for constructing 16 steel bridges; estimated cost $80,000.

Chickasha, Okla.—Contract will soon be let by County Commissioners for $15,600 worth of bridge and culvert work and $10,000 of road grading.

El Reno, Okla.—County Commissioners will spend $25,000 for constructing and repairing bridges. Address County Engineer.

La Grande, Ore.—Oregon-Washington R. R. & Navigation Company, Portland, having plans prepared for overhead bridge at La Grande in place of proposed concrete subway.

Los Angeles, Cal.—Plans being prepared for three-story, steel frame, brick and reinforced concrete addition to office building of Southern California Edison Company at Fourth and Los Angeles Streets. H. W. Dennis, 329 San Fernando Bldg., Chief Engineer.

Santa Barbara, Cal.—See "Reinforced Concrete."

Twin Falls, Idaho.—Citizens of Highway District No. 1 voted $36,000 bonds for constructing bridge.

Toronto, Ont.—George B. Post & Sons, 101 Park Avenue, New York, N. Y., are architects for 14-story fireproof stone, steel and brick hotel, to be erected for York Hotel Company; cost $2,000,000.

BIDS DESIRED.

Buffalo, N. Y.—Until Sept. 12, by Commissioner Public Works, for constructing substructure and superstructure of a bascule bridge over Buffalo River at Abbott Road, advertised in Engineering Record.

Newark, N. J.—Until Aug. 31, by Board Street & Water Commissioners for constructing a steel railroad bridge over tracks C. R. R. New Jersey at Port Street, advertised in the Engineering Record.

Norfolk, Va.—Until Sept. 2, by Bureau Yards & Docks, Navy Dept., Washington, D. C., for a steel frame building on wood piles and concrete foundations with reinforced concrete roof and mold loft floor, slab concrete and plaster hollow terra cotta tile curtain walls and approximately 60 per cent steel sash for wall areas of the Navy Yard, Norfolk.

Miami, Fla.—Until Aug. 26, by Board County Commissioners (Z. T. Merritt, Chmn.), for installing steel work and cells in County Jail.

Croswell, Mich.—Until Aug. 28, by Geo. A. Kerslake, City Clk., for constructing a riveted Pratt truss bridge, one span, 128 ft. long, with 16-ft. concrete faced driveway, also two reinforced concrete piers.

Decorah, Iowa.—Until Aug. 21, by Oscar Winger, Co. Aud., for two bridges in Milton Township: Tangen Bridge, steel pony, 60-ft. span, concrete floor, 16-ft. roadway, reinforced concrete abutments. Estimated cost, $4,200. Trapp Bridge, steel pony truss 50-ft. span, concrete floor, 16-ft. roadway, reinforced concrete abutments. Estimated cost, $4,300. Old Mission bridge, Washington Township, steel high truss 100-ft. span, wood floor, 16-ft. roadway, reinforced concrete abutments. Estimated cost, $5,175. W. M. Lee, County Engr.

Austin, Minn.—Until Aug. 31, by County Board, for furnishing material and constructing Bridge 1949, a 90-ft. span, Bridge No. 19, one 40-ft. steel through girder span, Bridge No. 18, one 40-ft. steel through girder span, and a number of other bridges throughout the county. O. J. Simmons, Co. Aud.

Linton, N. D.—Reported desired until Aug. 21, by John R. Snyder, Co. Aud., for constructing 8 bridges, steel I beam, four 20, one 26, and one 30, and one 50 ft. steel truss bridge.

Ste. Martine, Que.—Until Aug. 28, by Nap Mallette, Secy.-Treas., for constructing steel bridge over the Chateguay River, near Church, in this parish, superstructure to consist of two spans 200 ft. in clear, face to face of abutments, and pier in cement. Each bid shall stipulate the cost of pier and abutments; that of approach and hand rail, also that of superstructure.

Dunrea, Man.—Until Aug. 23, by J. H. Putman, Secy.-Treas. for constructing a bridge over McKinnon's Ravine. Bids to include alternate pirces for reinforced concrete bridge, and for a 40-ft. steel Pratt truss with steel I-beam approaches.

Panama.—Until Aug. 29, by Earl I. Brown, General Purchasing Officer, Panama Canal, Washington, D. C., for Cir. No. 1070, steel cylinders for Pier No. 6, and other miscellaneous supplies.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Rutland, Vt.**—Contract awarded by Howe Scale Company to Berlin Construction Company, Berlin, Conn., for erecting two-story, 60 x 204 ft. brick and steel assembling room and machine shop; cost $50,000.

Blackwells Island, N. Y.—Following are four lowest bids opened Aug. 14 by John A. Kingsbury, Commissioner Charities, New York, for furnishing material and erecting structural steel work for nine-story and basement fireproof elevator storehouse on Blackwells Island, N. Y. City: Snare & Triest Co., Woolworth Building, $93,360; Uris Iron Works, 521 West Twenty-sixth Street, $99,985; Passaic Structural Steel Co., 30 Church Street, $101,800, and Millikin Bros., 111 Broadway, $102,900.

★**Cranford, N. J.**—Contract awarded by Board of Chosen Freeholders at Elizabeth to Logan Construction Company, 13 Park Row, New York, N. Y., at $14,217, for constructing bridge at Springfield Avenue, Cranford.

★**Newark, N. J.**—Contract awarded Aug. 9 by Commissioners of Essex and Hudson Counties to George Befumo, Newark, at $10,000 for repairing Jackson Street Bridge.

★**Newark, N. J.**—See "Paving and Roads."

★**Bethlehem, Pa.**—Contracts awarded by Commissioners of Lehigh and Northampton Counties to Horseheads Construction Company, Horseheads, N. Y., at $6,893, for repairing bridge between Bethlehem and South Bethlehem.

Uniontown, Pa.—Following lowest bids submitted Aug. 11 to County Commissioners for constructing bridges: By Louis Costa, Dickerson Run, for bridge over Georges Creek near Smithfield, Georges Township, at $4,494 and by Brooke & Cornish, Uniontown, for bridge over Bull Run near South Brownsville in Luzerne Township, at $9,203.

★**Newman, Ga.**—Contract awarded International Steel & Iron Construction Company, Evansville, Ind., for constructing a steel bridge across Charrahoochie River at Moores Ferry on Newman and Carrollton Roads (bids opened Aug. 4). T. G. Farmer, Clerk Commission of Roads and Revenues.

★**Akron, Ohio.**—Contract for constructing bridge over canal on West Exchange Street (bids opened Aug. 7) awarded P. T. McCourt Company, Akron, at $15,126. Other bidders: D. E. Bowen, S. Akron, $15,326, and Cavanaugh Linn Company, Cleveland, $15,612. U. G. High, Clerk County Commissioners.

Illinois.—See "Paving and Roads."

★**Ellendale, N. D.**—Contract for constructing steel bridge over James River (bids opened Aug. 8) awarded by County Commissioners to Great Northern Bridge Company, Minneapolis, Minn., at $12,500. C. C. Mispeldt, County Auditor.

★**Miles City, Mont.**—Contract for constructing steel bridge over Sunday Creek (bids opened Aug. 12 by County Commissioners) awarded by J. H. Robling, County Clerk, to Security Bridge Co., Billings, at $6,843.

★**Seattle, Wash.**—Beers Building Company, L. C. Smith Building, has sublet contract to Poole-Dean Company, Portland, Ore., for constructing steel superstructure on city bridge at Fremont, over Lake Washington Government Canal.

★**Placerville, Cal.**—Contract awarded by County Commissioners to Jenkins & Wells, Sacramento, at $9,830, for constructing Coloma bridge over American River. A. V. Saph, Berkeley, Engineer.

★**Winslow, Ariz.**—Contracts awarded by Co. Supervisors at Holbrook to Mesmer & Rice, Los Angeles, Cal., for constructing bridge over Little Colorado River, at Winslow, $30,000, and to Omaha Structural Steel Works, Omaha, Neb., for eight other steel bridges, at $40,000.

REINFORCED CONCRETE

PROPOSED WORK.

New York, N. Y.—Plans being prepared by A. Wallace McCrea, 23 East Fifteenth Street, for six-story, 36 x 100 ft., reinforced concrete garage, to cost about $60,000.

Nashville, Tenn.—Plans completed for reinforced concrete building for Little Sisters of the Poor to replace structure in East Nashville, destroyed by fire; cost $100,000.

Plans being prepared by Marr & Holman, Stahlman Building, for reinforced concrete moving picture theater to be erected for Crescent Amusement Company; cost about $100,000.

Columbus, Ohio.—County Commissioners plan to construct reinforced concrete bridge at Third Street over Olentangy River; cost about $80,000. Address County Clerk.

Elwood, Ind.—County Engineer at Anderson will prepare plans for two concrete bridges, one 125 ft. long, on North Anderson Street and another 80 ft. long on Main Street. Address County Clerk.

Algona, Iowa.—Contract will soon be let by Board of County Supervisors for constructing 16 concrete bridges and culverts. D. L. Leffert, County Engineer.

Clarinda, Iowa—Plans being prepared by State Highway Commission, Des Moines, for reinforced concrete arch bridge, to be constructed near Clarinda, consisting of one 60-ft. span, two 50-ft. spans and two 40-ft. spans. T. W. Taggart, County Engineer.

Independence, Iowa.—Surveys completed for proposed concrete arch bridge to replace present steel bridge over Wapsipinicon River. R. W. Gerahart, County Engineer.

Minneapolis, Minn.—Pillsbury Flour Mills Co., Metropolitan Life Bldg., will erect nine-story, 150 x 233-ft. reinforced concrete warehouse, mill and mixing house at east side mills; cost $200,000.

Oklahoma, Okla.—Contract will be let about Oct. 1 by County Commissioners for constructing steel or concrete bridges on state and county roads; estimated cost $75,000. Address County Clerk.

Seattle, Wash.—Port of Seattle Commission (C. E. Remsberg, Secretary) instructed G. F. Nicholson, Chief Engineer, to prepare plans for doubling capacity of West Hanford Street grain elevator of reinforced concrete construction, including 30 storage bins; estimated cost about $125,000. Reported contract for construction will be let early in September.

Santa Barbara, Cal.—Contract will soon be let by Board of Supervisors for constructing reinforced concrete bridge across Arroyo Burro Modoc Road; estimated cost $5,000.

Safford, Ariz.—Gila Valley Milling Company (Leo Goldschmidt of Tucson, President) contemplates erecting 150-bbl. capacity flour mill and 100,000-bu. capacity elevator, both of concrete construction.

London, Ont.—London Rolling Mills Company (Frank White, manager) plans erecting a reinforced concrete addition, to cost $50,000; also intends installing new machinery.

Toronto, Ont.—Adams Harness Company, 204 King Street East, considering plans for reinforced concrete factory to cost $80,000.

BIDS DESIRED.

Ithaca, N. Y.—Reported desired until Aug. 23, by W. O. Kerr, Clk., Board Pub. Wks., for constructing a 120-ft. steel or reinforced concrete bridge; probable cost $9,000.

Peekskill, N. Y.—Until Aug. 31, by State Board of Armory Comrs. (John H. Coffey, Sr., Clk.), 158 State Street, Albany, for erecting a concrete storage house at State Camp of Instructions in Westchester County, and vicinity of Peekskill, advertised in Engineering Record.

Flemington, N. J.—Until Aug. 24, by John Johnson, Dir. Board Freeholders, for constructing two reinforced concrete bridges, one across Swan Creek, Lambertsville, and the other on Mt. Airy Road.

North Plainfield, N. J.—Until Aug. 22, for constructing culverts as follows: Over Green Brook, between Union and Somerset Counties, steel beam and concrete deck culvert and for reinforced concrete arch culvert. Joshua Doughty, Engr. Somerset County, Somerville; Jacob L. Bauer, Engr. Union County, Elizabeth.

Philadelphia, Pa.—Reported desired until Aug. 22, for erecting 5-story reinforced concrete and brick 75 x 330 ft., one story 125 x 300 ft., and one story 85 x 300 ft. factory building at Wissahickon and Hunting Park Avenue for E. G. Burd Mfg. Co. Ballinger & Perrot, Archts., 1211 Arch Street.

York, Pa.—Until Sept. 5, by County Commissioners for constructing reinforced concrete arch bridge over South branch of Codorus Creek, on Logansville Road, and concrete arch bridge over Kreutz Creek; stone arch bridge over Otter Creek.

Middlebourne, W. Va.—Until Sept. 1 by Clerk County Court, Middlebourne, for constructing three concrete bridges, two approximately 60-ft. spans and one concreet arch, two 45-ft. spans.

Florence, S. C.—Until Sept. 7, by J. B. McBride, County Supervisors, for erecting a brick and concrete jail for Florence County. W. J. Wilkins & Co., Williamson Bldg., Florence, Archts.

Clearwater, Fla.—Until Sept. 5, County Commissioners (C. W. Wiecking, Clk.), Clearwater, for constructing Scherzer rolling lift bridge across Anclote River, to consist of 57-ft. span, two reinforced concrete approaches, two twin spans, 16-ft. roadway, and 43-ft. clear span. J. B. McCrary Co., Engrs., Third National Bank Bldg., Atlanta, Ga.

Wapakoneta, Ohio.—Until Aug. 21, by Board County Commissioners for constructing a number of concrete bridges throughout the county. F. W. Langhorst, Co. Aud.

Ann Arbor, Mich.—Until Sept. 6, by City Clerk, for constructing a 2-span arch reinforced concrete bridge over Huron River at Broadway, to have a total length of 170 ft. and width of 50 ft.; also bids for disposal of the present 2-span through steel truss bridge, to be replaced by the concrete bridge; also bids for a reinforced concrete park bridge, single arch, 50 ft. long by 6 ft. wide. Manley Osgood, City Engineer.

Michigan.—Until Sept. 9, by Frank F. Rogers, State Highway Comn., Lansing, for constructing trunk line bridge No. 66, crossing Huron River at French Landing Station, Wabash Railroad, in Van Buren Township, Wayne County.

Logan, Iowa—Reported desired until Aug. 22, by County Auditor, for constructing highway bridge at Woodbine. Alternative bids desired on one 150-ft. steel truss span, with two 32-ft. approach spans, 20-ft. roadway, concrete floor and substructure. Estimated cost, $17,500. 180-ft. reinforced concrete Marsh Rainbow arch, 20-ft. roadway. Estimated cost, $23,000. And reinforced concrete cantilever deck girder bridge having a channel span 50 ft. and two 30-ft. approach spans, 20-ft. roadway. Estimated cost, $9,000. A. W. Gaines, County Engr.

Tipton, Iowa.—Until Aug. 22, by T. C. Moffitt, Co. Aud., for constructing 37 reinforced concrete bridges and culverts. H. L. Phelps, Co. Engr.

Benson, Minn.—Reported desired until Aug. 24, for constructing 30 ft. bridge beam span, reinforced concrete floor and abutments over Mud Creek. D. P. Carney, Co. Aud.

Clara City, Minn.—Reported desired until Aug. 29, for constructing 40 ft. reinforced concrete girder bridge 18 ft. roadway. G. A. Leipold, Village Clk.

Manhattan, Kan.—Until Sept. 12, by Geo. H. Hungerford, County Clk., for constructing two 260 ft. span bridges across the Blue River, with rubble concrete abutments. Also one rubble concrete pier at Garrison. J. E. Williams, County Engr., Westmoreland.

St. Louis, Mo.—Until Sept. 1, by City Clerk, for material and constructing a reinforced concrete conduit between Baden and Bissell Point; also for furnishing and delivering at City Pipe Yard 1800 tons more or less 6, 12, 20, 30 and 36-in. c. i. coated water pipe.

Washington.—Until Sept. 6, by James Allen, State Highway Commissioner, Olympia, for constructing a reinforced concrete bridge on the Inland Empire Highway, over Little Pend O'Reille River at Arden.

Los Angeles, Cal.—Until Sept. 19, by John Parkinson, Archt., Security Bldg., for general contract, plumbing, heating, elevators, etc., for a two-story and basement reinforced concrete and timber produce market building, office, bank and restaurant building, 1635 x 40 ft. and two six-story and basement reinforced concrete wholesale produce warehouses with considerable steel sash, one 1314 x 100 ft. and one 1291 x 100 ft. at Seventh Street and Central Avenue, for Los Angeles Terminal Company (Benj. Johnson, General Manager); probable cost, $3,500,000.

Transcona, Man.—Until Aug. 24, by F. P. Gutelius, Gen. Mgr. of the Canadian Government Railways, addressed to J. W. Pugsley, Secy. Dept. Ry. & Canals, Ottawa, Ont., for reinforced concrete grain elevator at Transcona, to have capacity of 1,000,000 bu.; probable cost $250,000.

PRICES AND LETTINGS.

★Indicates award of contract.

★Portageville, N. Y.—Following are bids opened Aug. 12 by Town Superintendent Genessee Falls and Portage for constructing a reinforced concrete arch bridge over Gennessee River at Portageville (a) Bridge complete, with parapet walls, (b) bridge complete, with pipe railings; (c) lamp standards. Cleveland & Sons Co., Brockport, N. Y. (awarded contract, (a) $24,720; (b) $23,888; (c) 48 cts.; New Port Construction Co., Herkimer, N. Y. (a) $26,517, (b) $24,853, (c) 50 cts.; Concrete Steel Co., West, Va. (a) $24,940; E. J. Doyle, Albany, N. Y., retained as consulting engineer for town of Genesee Falls and Portage.

★Raleigh, N. C.—Contract for constructing the Martin Street viaduct awarded Raleigh Engineering & Construction Company, Raleigh, at $30,601.

★Ayersville, Ga.—Contract awarded R. B. Tufts, Atlanta, for constructing 15,000 to 20,000 yd. concrete on Southern Railway.

★Dayton, Ohio.—Contract awarded by County Commissioners to F. E. Smith, Richmond, Ind., for substructure of new upper Miamisburg bridge at $49,512.

★Indianapolis, Ind. — Contract reported awarded by Pittsburgh, Cincinnati, Chicago & St. Louis R. R. to Dunn & McCarthy, Chicago, Ill., for constructing a bridge over Arlington Avenue, consisting of 8 solid reinforced concrete balustrades, acting as continuous through girders 37 ft. between the supports. About 80 tons of steel will be required and about 800 cu. yd. concrete masonry.

★Oswego, Kan.—Contract awarded Topeka Bridge & Iron Co., Topeka, for constructing 5 reinforced concrete arch bridges (bids opened Aug. 9 by Fairfax Barnes, County Clk.).

★Kansas City, Mo.—Contract awarded Gray Construction Company, Kansas City, for erecting reinforced concrete building at Twentieth and Wyandotte Streets for Lee Mercantile Company; cost $500,000.

★Reported Lehrack Contracting & Engineering Company, Kansas City, secured contract to erect 1500-barrel capacity elevator of reinforced concrete and brick for Midland Milling Company, including an engine room, boiler house and handling house with a capacity of 80,000 bu.; cost $100,000.

★Contract awarded George L. Brown & Son, 1300 Rialto Building, for erecting six-story and basement, 75 x 142 ft., reinforced concrete building for Kansas City Paper House; cost $160,000.

★Los Angeles, Cal.—Contract awarded Los Angeles Planing Mill Company, 1812 Industrial Street, for erecting a five-story and basement reinforced concrete and brick service building, 80 x 100 ft., at County Hospital, at $54,715. J. Schulz, Engineer, Wright & Callender Building.

★Santa Barbara, Cal.—Contracts awarded by Board of Supervisors (bids opened Aug. 4) to William Ledbetter, 651 Pacific Electric Bldg., Los Angeles, for constructing three reinforced concrete bridges across Zaca Creek on line of State Highway, at total of $20,305.

ROADS AND PAVING

PROPOSED WORK.

Massachusetts.—State Highway Commission, Boston, will pave with bituminous macadam and concrete on a stone foundation on Main Street, town of Walpole, about 10,000 sq. yd. A. W. Dean, State Engr., Boston.

Camden, N. J.—City Council plans paving Princess Avenue with asphalt on 8-in. foundation and constructing culverts, sewers or drains in Twenty-seventh Street. W. D. Brown, City Clerk.

Somerville, N. J.—Board of Chosen Freeholders will spend about $37,000 of State money for improving nine roads in county. Address County Clerk.

Trenton, N. J.—City Council will sell $66,000 paving bonds. Address City Clerk.

Du Bois, Pa.—City Council authorized issuing $13,500 bonds for repaving West Long Street from Main Street to Brady Street. Address City Clerk.

Ferndale, Pa.—Borough Council passed ordinance for grading and paving Henry Street and Glenwood Avenue. Address Borough Clerk.

Philadelphia, Pa. — Board of Public Works will soon let contract for repaving Richmond Street, Venango Street and Point Breeze Avenue with asphalt and vitrified brick gutter.

Uniontown, Pa.—County Commissioners adopted resolutions for constructing 2 miles of road in Henry Clay Township and 1¾ miles of road in Jefferson Township. Address County Clerk.

Fayetteville, N. C.—County Commissioners sold $25,000 road bonds. Address County Clerk.

Lakeland, Fla.—Coutny Commissioners sold $1,500,000 good road bonds.

Palatka, Fla. — Bonds for Road and Bridge District No. 3 for $80,350 have been sold by County Commissioners. The road is to be sand asphalt, about 21 miles long and will extend from Rodman to Orange Springs.

Baton Rouge, La.—Citizens of Third Ward will vote Sept. 26 on $130,000 road bonds. Address President of Police Jury.

Lake Charles, La.—Election will be held Sept. 12 to vote $900,000 bonds for constructing 130 miles of gravel roads and 70 miles of improved earth roads. Address President of Police Jury.

Monroe, La.—Police Jury sold $500,000 road bonds. Address President Police Jury.

New Roads, La.—Election will soon be held to vote $176,000 good road bonds. Address President of Police Jury.

Opelousas, La.—First Road Dist. bonds for $18,500 will be sold Sept. 4. J. J. Healey, Clk. Police Jury, Parish of St. Landry.

Holly Springs, Miss.—Contract will be let in October by the Marianna Road District Commission for constructing about 15 miles of roads. Walter G. Kirkpatrick, Engineer, 704 Farley Bldg., Birmingham, Ala.

Jackson, Miss.—Board of County Supervisors will issue $70,000 bonds for constructing highways in newly formed road district. Address Clerk of Supervisors.

Liberty, Miss.—Board of Supervisors plans to issue $100,000 road bonds. Address County Clerk.

Raymond, Miss.—County Commissioners authorized issuing $70,000 bonds for constructing good roads. Address County Clerk.

Akron, Ohio.—Road bonds for $20,529 will be sold Sept. 5 by Board County Commissioners. Hugh G. High, Clk.

Bellefontaine, Ohio. — Citizens voted Aug. 8 $20,000 street improvement bonds. Clair A. Inkeep, Dir. Public Service.

Bryan, Ohio.—City Council sold $14,000 street improvement bonds. Address City Clk.

Cincinnati, Ohio.—City Council passed ordinance for improving Jones Street from Armory Avenue to Liberty Street by paving with asphalt or bitulithic. Address City Clerk.

City Council will authorize $75,000 worth of bonds for the Park Department. Practically the entire sum will be spent on road construction and improvements.

City Council passed ordinance authorizing issuing $57,700 bonds for improving Eureka Terrace, Warsaw Avenue, Elland Avenue and other streets. Address Fred Schneller, City Clerk.

Cleveland, Ohio.—Street improvement bonds for $342,000 will be sold Aug. 28 by C. J. Neal, Director of Finance.

Cleveland Heights (P. O., Warrensville), Ohio.—Paving bonds for $114,220 will be sold Sept. 18, by H. H. Canfield, Village Clerk.

Defiance, Ohio.—Road bonds for $19,500 will be sold Aug. 28 by Roger Daoust, County Auditor.

Marysville, Ohio.—Highway improvement bonds for $14,000 will be sold Sept. 4 by Ivan T. Southard, Village Clk.

Port Clinton, Ohio.—City Council sold $11,000 street improvement bonds. Address City Clerk.

Uhrichsville, Ohio.—City Council passed resolution for paving Deersville Avenue and constructing sanitary sewer in Scott, Bank and High Streets. Estimated cost of improvements $17,500. Address City Clerk.

Xenia, Ohio.—City Council will issue $10,000 in bonds for improving East Main Street. Address City Clerk.

New Albany, Ind.—County Commissioners sold $12,800 bonds for constructing proposed Pearl Street and Bono Road Highway in New Albany Township. Address County Clerk.

Richmond, Ind.—County Commissioners sold $74,050 road bonds. Address County Clerk.

Duluth, Minn.—County Commissioners will spend about $56,000 improving Ashland-Washburn Road, Enterprise Road and Cherryville Road. Address County Clerk.

St. Paul Minn. — An appropriation of $180,000 has been asked for repairing and constructing streets for 1917. Address City Clerk.

Carterville, Mo.—It is proposed to pave about 12 blocks on Main Street with concrete. A. M. Baird, City Clerk.

Lake Village, Ark.—County Commissioners considering constructing 46 miles highway through the county connecting road from Pine Bluff on the north and the Louisiana State Highway on the south. Estimated cost $256,000.

Newport, Ark.—State Highway Engineer, Little Rock, has completed survey for road between Newport and Grubbs, about 16 miles.

Dallas, Tex.—City Council will widen Young Street from Akard to Poydras Street at cost of $30,000. Address City Clerk.

Street Commissioner approved petitions for paving Ballard, Peak, Hibernia and other streets. Address Street Commissioner.

City Council granted petitions for paving Ash Lane and Gould Street with vibrolithic. Address City Clerk.

Fort Worth, Tex.—City Commissioner authorized paving Grainger Street from Rosedale to Magnolia Street. Address City Clerk.

Petitions have been received by City Commission for paving Travis Avenue from Leuda to Pennsylvania Street. Address City Clerk.

Caddo, Okla. — County Commissioners will spend about $20,000 on road grading during latter part of September. Address County Engineer.

El Reno, Okla.—Contract will be let about Sept. 15 by County Commissioners for road grading; estimated cost $10,000.

Shawnee, Okla.—See "Water Works and Sewerage Systems."

Seattle, Wash. — Arthur P. Denton, County Engineer, has completed plans for grading and graveling of Bothell-Kirkland Road between Bothell and Juanita; estimated cost $30,000.

City Council adopted resolutions providing for paving Westlake Avenue N., Sixty-first Avenue S. W. and Fifth Avenue. A. H. Dimock, City Engineer.

Sumner, Wash.—Reported City Council will soon let contract for paving about 15 blocks. Address City Clerk.

Astoria, Ore.—Contract will soon be let for improving Fourteenth, Duane and Jerome Avenues by hard-surfacing. Olof Anderson, City Auditor.

Astoria, Ore.—Reported City Council plans hardsurfacing Klatskanie Avenue and Ninth Street. Olof Anderson, City Auditor.

Eugene, Ore.—Work will be started at once on construction of Cushman-Florence Road; estimated cost $12,000. H. W. Libby, County Engineer.

Reported County Commissioners will construct by day labor 2¼ miles of Pacific Highway between Latham and Divide. Stacey M. Russell, County Clerk.

County Commissioners will soon let contract for macadamizing 8895 ft. of road leading from Firth Street to Wendling branch of N. P., 5830 ft. of Eugene-Elmira Road and new road around Cape Horn in the Lake Creek Valley. Stacey M. Russell, County Clerk.

McMinnville, Ore.—Contract will soon be let by County Commissioners for paving 1½ miles of Portland-Tillamook Road; estimated cost $15,000; also mile of highway leading into Gopher Valley District.

Roseburg, Ore.—Reported County Court has appropriated $13,500 for constructing 1½ miles for road in Gardiner leading from business district to Southern Pacific depot. Frank Cain, County Engineer.

Chino, Cal.—Paul C. Kressly, City Engineer, Inglewood, engaged to prepare plans and specifications for streets and roads to be constructed under a $75,000 bond issue recently voted. Address City Clerk.

Fowler, Cal.—Contract will soon be let for constructing concrete pavement on Eighth Street. C. P. Jansen, Engineer, Fresno. Address City Clerk.

Los Angeles, Cal.—Contract will be let about Sept. 15 for paving with asphalt on Arcadia Street, Boyle Avenue and other streets. H. Z. Osborne, Jr., City Engineer's Office.

Modesto, Cal.—Board of County Supervisors has approved preliminary plans for system of highways, having total length of 126,144 miles to be constructed at an estimated cost of $1,482,850. Pavements will consist of 4-in. concrete base, asphaltic oil and screenings surface.

Santa Barbara, Cal.—Contract will be let about Sept. 7, by A. Christine Holmberg, Clk. of Council, for paving portions of Anacapa Street, 5 in. concrete base and 1½-in. wearing surface and about Sept. 21, about 2 miles on Mission Road 4-in. concerte base, oil and acreening wearing surface and about ¾ of mile 6-in. vitr. pipe sanitary sewers, etc. A. C. Cook, City Engr.

BIDS DESIRED.

Boston, Mass.—Until Aug. 21, by Edw. F Murphy, Commissioner Public Works, for paving with granite block pavement in portions of Amory Street, and Washington Street, West Roxbury.

Brooklyn, N. Y.—Until Aug. 23, by L. H. Pounds, Borough President, for paving portions of Douglas, East Thirty-fourth, Elmore Place and a number of other streets, and constructing cement sidewalks on Dahlgren Place, Newport, Hinsdale and other streets, in all about 72,880 ft. cement sidewalk, 14,962 sq. yds. asphalt paving, together with curbing, etc. Security $32,400.

Hackensack, N. J.—Until Sept. 5, by Joint Road Committee of Hudson and Bergen Counties at Hackensack, for improving Belleville Turnpike. T. J. Wasser, County Engr.

Plainfield, N. J.—Until Sept. 5, for macadamizing certain streets with permanent and durable macadam. John J. Carroll, City Clerk.

Fallston, Pa.—Until Aug. 22, by Town Council (Chas. Moore, Secy.) for grading, curbing and paving in all about 8000 sq. yd. Carl S. Donaldson, Engr., Beaver Falls.

Hughesville, Pa.—Reported desired until Sept. 4, for 5000 sq. yd. permanent pavement. W. C. Fulmer, Borough Secy.

Pittsburgh, Pa.—Until Aug. 24, by City Controller, for grading, paving and curbing portions of Pine Ridge Street, Mount Vernon, Gerenet, Collier and a number of other streets.

West View, Pa.—Until Aug. 22, by C. A. McClain, Borough Clk., for grading, curbing and paving Park Ave., Martsolf Ave., Highland Ave. and other streets, in all about 6080 sq. yd. paving, etc.

Baltimore, Md.—Until Aug. 23, by Board of Awards, care of City Register, for grading and paving with cement concrete a number of alleys.

Centerville, Md.—Until Aug. 22, by County Commissioners, for constructing a section of State Aid Highway in Queen Annes County, along the Church Hill-Sudlersville Road, a distance of about 5.21 miles. Also same time and place, separate bids for a section of the Centerville-Queenstown Road, a distance of about 5.42 miles.

Huntington, W. Va.—Until Aug. 22, by City Commissioners for grading, curbing and paving sections of Thirty-first, Virginia Avenue and other streets. A. B. Maupin, City Engr.

Friars Point, Miss.—Until Sept. 4, by Board County Supervisors (T. S. Adderholt, Pres.), for constructing approximately 80 miles of gravel roads in Coahoma County. L. W. Washburn, Engr., Clarksdale.

Holly Springs, Miss.—Until Sept. 5 by the Holly Springs and Mt. Pleasant Commissioners, for 2 miles concrete roads, 34 miles graveled roads, 35 miles sand clay roads, 2670 cu. yd. bridge concrete, 900 lin. ft. creosoted pine bridges and 8500 lin. ft. pipe culverts. Appropriation, $262,000. For specifications address Walter G. Kirkpatrick, engineer, 704 Farley Bldg., Birmingham, Ala.

Until Sept. 3, by the Byhalia Road District Commissioners, for constructing 9.9 miles roads, including 79,000 cu. yd. earth excavating, with 15 M ft. culverts and bridges. Plans and specifications on file in office of Chancery Clerk. S. W. McClesky, Engr., 11 South Second Street, Memphis, Tenn.

Louisville, Ky.—Until Aug. 25, by Board Public Works, for reconstructing Jefferson Street with wooden blocks, portions of Second Street with asphalt, Eighth Street with vitr. brick, Lyons with bituminous concrete, and a number of alleys with vitr. block. Estimated cost approximately $48,000.

Columbus, Ohio.—Until Aug. 30, by County Commissioners (John Scott, Clk.) for improving and macadamizing Jewell Road, Truro Township, Gerard Avenue Road and Indianaola Road, in Clinton Township, Clouse Road in Plain Township, and Fairview Avenue and Barbee Road in Franklin Township.

Kenton, Ohio.—Reported desired until Aug. 30, by U. J. Pfeiffer, County Commissioner, for 15.9 miles loose stone macadam on Keeley Schwemmer and Woodfree Turnpike. J. S. Wetherill, County Engineer.

Norwalk, Ohio.—Until Aug. 22, by County Commissioners for Cleryville Road, No. 88, from pavement at Chicago Junction Village to the county line, a distance of about 4 miles; also for Old State Road, No. 52, from north line of Fairfield Township, a distance of about 2½ miles. C. E. Bloomer, Co. Aud.

Xenia, Ohio.—Until Aug. 29, by D. W. Whitmer, Service Director for paving with brick, sheet asphalt, asphaltic concrete, 5 miles; cost $80,000. J. P. Schumaker, City Engineer.

Indiana.—By County Commissioners, for constructing county road as follows:

Until Aug. 29:

Rushville, 15,320 ft. road in Posey Township, and 13,045 ft. in Walker Township. Allen R. Holden, Co. Aud.

Until Aug. 31:

Winchester, for constructing two stone roads in White River Township. C. E. Tillson, Co. Aud.

Until Sept. 1:

Fort Wayne, constructing macadam roads in Jackson, Wayne and Monroe Townships and one in Madison and Jefferson Townships.

Until Sept. 4:

Valparaiso, constructing gravel road in Center Township.

Jeffersonville, crushed stone and screening road in Utica Township. G. W. Stoner, Co. Aud.

Greensburg, constructing roads in Washington and Adams Townships. John C. Barbe, Co. Aud.

Nashville, constructing three gravel roads, one in Washington and two in Van Buren Townships. Oliver Morrison, Co. Aud.

Newport, for constructing gravel road in Eugene Township. Roy Slater, Co. Aud.

Until Sept. 5:

Angola, constructing road on De Kalb, Steuben County line. F. C. Dewey, Co. Aud.

Cannelton, stone road in Oil Township. M. C. Conway, Co. Aud.

Until Sept. 7:

Warsaw, constructing macadam roads in Jefferson, Van Buren and Scott Townships. V. D. Mock, Co. Aud.

Aurora, Ill.—Until Aug. 23, by Board Local Improvements for asphalt paving on several streets, advertised in Engineering Record. M. J. Tarble, City Engineer.

Knoxville, Ill.—Reported desired until Aug. 28, for 10,000 sq. ft. cement walk. Charles Hoffman, Chmn. Street and Walks Commission.

Wheaton, Ill.—Until Sept. 1, by Board Local Improvements for paving, to consist of approximately 13,000 sq. yd. bituminous bound macadam pavement, 12,000 lin. ft. concrete curb and gutter. Le Verne J. Ruddock, City Hall, City Engr.

Denison, Iowa.—Reported desired until Aug. 31, by City Clerk, for 10,000 sq. yd. 7-in. concrete paving and 5174 lin. ft. concrete curb. Frank Woolston, City Engr.

Sioux City, Iowa.—Reported desired until Sept. 1, by City Clerk, for 25,000 sq. yd. concrete paving, and 10,000 ft. curbing. T. H. Johnson, City Engr.

Pittsburg, Kan.—Until Aug. 23 by Leonard Boyd, County Clerk, for 22,400 sq. yd. paving, brick, concrete or asphalt and 16,500 lin. ft. combined curb and gutter. L. E. Curfman, City Engr.

Bismarck, N. D.—Until Aug. 28, by Bd. City Commissioners for paving in Dists. Nos. 1 and 2, in all about, in Dist. No. 1, 41,224 sq. yd. paving, 5775 lin. ft. straight concrete curb, 2667 sq. yd. alley paving, together with manholes, etc.; Dist. No. 2, 144,400 sq. yd. street paving, 5000 sq. yd. alley returns, 64,784 lin. ft. straight concrete curb, 7125 lin. ft. curved concrete curb, 21,500 cu. yd. earth excav., together with manholes, etc. R. H. Thistlethwaite, City Aud.

Independence, Mo.—Until Aug. 21, by County Surveyor, for improvements to the Swope Park Hickman Road, Mills Road, in all about 5130 sq. yd. concrete paving, 4294 cu. yd. solid rock excav., 12,000 sq. yd. plain concrete, etc.

Kansas City, Mo.—Until Aug. 23, by T. C. Harrington, Secy. Board Park Commissioners, for paving with bituminous macadam portions of Belmont Avenue and Ward Parkway, and for concrete combined curb and gutter and catch basins on Belmont Avenue and concrete gutter on Ward Parkway.

Wilburton, Okla.—Until Aug. 28, by County Commissioners (S. W. Brooks, Chairman), for constructing Blue Mountain Road in Damon Township, Latimer County, advertised in the Engineering Record.

Seattle, Wash.—Reported desired until Aug. 29, by Byron Phelps, County Aud., for constructing extension of East Marginay Way from city limits to Duwamish. Bids desired on either No. 1 or No. 2, brick block on Monolithic type on 6-in. concrete base or brick block on 6-in. base. Probable cost $60,000. A. P. Denton, County Engr.

Los Angeles, Cal.—Until Aug. 23, by Harbor Commission (C. H. Matson, Secy.) for constructing about 50,000 sq. ft. concrete base pavement with asphalt or bitulithic surface at San Pedro Harbor.

Newport Beach, Cal.—Until Aug. 25 by City Trustee (Claude M. Cargo, Clk.) for constructing concrete paving, cement curb, cement walks on First, Second and Third and a number of other streets.

Riverside, Cal.—Until Aug. 23, by County Highway Commission, for grading and constructing 2.85 miles of concrete pavement, 18 ft. wide on Route 1, East from Orange County Line, involving approximately 15,048 lin. ft. shaping roadbed, 2972 cu. yd. concrete, etc.

Santa Barbara, Cal.—Until Aug. 21, by Board County Supervisors (C. A. Hunt, Clk.), for constructing 4.18 miles of Harris Station Lompoc Road. Also grading and paving 18,750 sq. ft. of Los Olivas Street.

Until about Sept. 1, by City Council, for 2500 lin. ft. of asphalt paving on Micheltorena St., between State and Canal Sts. Probable cost $15,000. Address City Clerk.

San Jose, Cal.—Reported desired until Aug. 21, for paving portions of San Martin and Campbell Avenues with concrete. Address County Clk.

Stockton, Cal.—Reported desired until Aug. 22, by G. W. Pulich, City Clerk, for grading, curbing and paving Scott Avenue, Van Buren and Monroe Streets, with asphaltic concrete.

Ventura, Cal.—Until Sept. 8, by Board Supervisors (J. B. McCloskey, Clk.), for grading and constructing culverts and paving approximately 220,000 sq. ft. Main Street and Telegraph Road in Santa Paula.

Phoenix, Ariz.—Reported desired until Sept. 20, for 12,200 sq. yd. pavement. J. B. Girard, City Engr.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Boston, Mass.—Lowest bid opened Aug. 14 by Edward F. Murphy, Commissioner Public Works, for paving on 18 streets, submitted by Bernard E. Grant, 83 Court Street, as follows: Group I, $177,196; Group II, $186,375; Group III, (I and II combined), $362,365.

★**Newark, N. J.**—Contract awarded by Commissioners of Essex and Hudson Counties to R. S. Emmer, Newark, at $8,300 for repairing Lincoln Highway Bridge, including repaving draw span and part of two fixed spans. (Bids opened Aug. 9.)

★**New Brunswick, N. J.** — Contracts awarded by City Commission for paving as follows: (price given per sq. yd.). T. H. Riddle, 102 Church Street, George Street, $2.70, Elm Row, Redmond Street, Carroll Place, Bayard Street, with Warrenite, $1.77, and Spring Street with vitrified brick, $2.70; Utility Construction Co., 46 Paterson Street, Commercial Avenue, with Warrenite, $1.82; Abraham Jelin, 4 Paterson Street, Burnet Street, with vitrified brick, $2.65. Bids opened Aug. 1.

Morristown, N. J.—Following lowest bids opened Aug. 7 by Board of Chosen Freeholders for constructing roads: H. B. Sproul Construction Co., for Boonton Township Road from Washington Street bridge to canal bridge at foot of Main Street, 2886 ft. long, with Topeka upon concrete and hill brick finish, $26,717; West Main Street from Rockaway River to town line, 2112 ft., Topeka surface on concrete foundation, $15,962, and North Main Street, from Main Street to town line, 1740 ft., Topeka surface concrete foundation, $14,895. Salmon Bros., Main Street, Netcong, for Boonton and Parsipany Road, 9928 ft., penetrating surface and hillside brick, $50,065 and Port Morris Netcong Road, 3665 ft., amiesite upon macadam, $29,182. Gray Construction Co., Morristown, Madison Avenue, 2031 ft., from South Street, amiesite on telford macadam, $19,416. John B. Gougherty, 89 Mill Street, Morristown, for Morris Avenue, from Washington headquarters to town line, 1998 ft. amiesite, $22,419; Highway Improvement & Repair Co., for East Blackwell Street from White bridge in Dover to Canal bridge in Randolph Township, $30,992, and Sussex Turnpike, in Roxbury Township, from Central R. R. at Kenvil to Newton Turnpike, 6081 ft., Warrenite and brick upon concrete foundation, $36,467; Weldon Contracting Co., Rahway, for Morristown and Mendham Road, from Morristown line to Lade's Mill Road, 17,642 ft., amiesite upon Telford base, $100,910; S. B. Twining Co., for Mendham and Ralston Road from Mendham to Pennsylvania and New Jersey R. R., 8089 ft., amiesite upon Telford macadam, $42,181; Hickey & Houghton, for Summit Avenue, Chatham, 2115 ft., amiesite upon Telford macadam base, $16,072; M. Irving Demarest, Sewaren, Sussex Turnpike Mine Hill, 3864 ft., in Randolph Township, crushed stone concrete pavement, $23,397.

★**West Hoboken, N. J.**—Contract awarded by Board of Council to Clinton Contracting Co., West Hoboken, for repairing Savoy Street. (Bids opened Aug. 9.)

★**Dunmore, Pa.**—Contracts awarded by Street and Bridge Committee to Sweeney Bros., Dunmore, for paving Drinker and Larch Streets at $24,282 and $16,386 respectively.

★**Lebanon, Pa.**—Contract awarded by City Council to Dwyer Company, Philadelphia, at $14,181, for paving Walnut Alley, Church St., Willow St. and Doe Alley.

Uniontown, Pa.—Following are lowest bids submitted to County Commissioners for constructing roads: By Bell Bockel-Bockel Company, Ltd., Altoona, for 4075 lin. ft. brick road in Luzerne Township, at $24,570, and for 15,840 lin. ft. brick road in German Township at $78,496, and by Hoblitzell & Price, Uniontown, for 9239 lin. ft. brick road in Redstone Township, at $52,043.

★**New Smyrna, Fla.**—Contracts for constructing about 73 miles of county roads (bids opened Aug. 7) awarded as follows: Shell roads, Hamilton Johnson, Orlando, $96,449; Langston & Mack, Titusville, $96,916; and Bryson & Bryson, Jacksonville, $30,206, also to the last company for concrete road at $51,248; brick road to Ackerman & Ellis, Titusville, $14,042.

★**Wetumpka, Ala.**—Contract for road improvements and repair awarded J. M. Collins, Eclectic, Ala., on a per diem basis to the amount of about $16,000. M. D. Still, Judge of Probate. (Bids opened July 24 by County Commissioners.)

★**Shreveport, La.**—Contract awarded by Police Jury to J. M. Byrd, Shreveport, for constructing Arkansas Road and raising 12 mile of Bayou Road, at total of $15,746.

★**Pascagoula, Miss.**—Contract awarded by Jackson County Commissioners to Hancock, Harbin & Hancock, Mobile, Ala., for constructing the Pascagoula-Gautier, Miss., highway over Pascagoula River and Marshes, including steel bridges, creosoted surface work, corduroy embankments and trestle work; cost $100,000. David U. Harris, of Mobile, Ala., Constructing Engineer.

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★**Corinth, Miss.**—Contract for constructing 15 miles of gravel road (bids opened July 31) awarded Coruthers & Company, Booneville, at about $53,000. N. C. Rinehart, Sec'y Gulf Road District.

★**Kingsport, Tenn.**—Contract awarded by Kingsport Improvement Company to Olliver & Hill, Kingsport, for constructing 5 miles of concrete sidewalks.

★**Cleveland, Ohio.**—Contract awarded by Board of Control to Freshwater Paving & Construction Co., 9703 Madison Avenue, at $21,254 for paving West Boulevard with bitulithic.

★**Dayton, Ohio.**—Contracts awarded by City Commission for street paving as follows: To Ed. Ryan, Springfield, for paving Fifth Street with wood block, at $50,860, and to Clifton Hollihan, Dayton, for Victor, Grafton and Brighton Avenues, at total of $21,066.

★**Findlay, Ohio.**—Following bids opened July 27 by U. K. Stringfellow, City Engineer, for paving East Sandusky Street with (a) brick, (b) asphalt, (c) asphaltic concrete, (d) bitulithic: Harry J. Hall & Son, Findlay, (a) $14,534 (awarded contract); W. H. Ringwald & Son, Chillicothe, (a) $14,883; H. P. Streicher, Toledo, (b) $16,210; (c) $14,776; Johnson Construction Co., Chicago, Ill., (b) $14,646, (c) $13,212; Cleveland Trinidad Asphalt Co., Cleveland, (c) $15,773, (d) $15,773.

★**Port Clinton, Ohio.**—Contract for paving and curbing 11 blocks (bids opened Aug. 8 by W. H. Williamson, City Clerk) awarded Marsman & Green, Grand Rapids, at $10,244.

★**Ravenna, Ohio.**—Contract for street improvements (bids opened Aug. 7) awarded by W. H. Linton, Director Public Service as follows: To Morgan Brothers, Ravenna, Grant, Mill and Page Streets, at $22,011, and for Prospect Street at $16,464.

★**Springeld, Ohio.**—Contract for paving Fountain Avenue awarded M. J. Hannon, Springfield, at $24,922.

★**Newark, N. J.**—Following are unit figures of the four lowest bids opened Aug. 10 by Street and Water Commissioners for grading Avenue R from Peddie Street to Lincoln Highway; (a) New York & New Jersey Construction Company, Essex Building, Newark, $147,534 (awarded contract); (b) Van Keuren & Son, Harrison, $186,968; (c) O'Gara & McGuire, Newark, $228,461; (d) William J. Coughlin, Jersey City, $239,151.

	*(a)	(b)	(c)	(d)
370,000 cu. yd. embankment	$0.37	$0.47	$0.58	$0.60
10,375 4 x 10 in. yellow pine planking, per M ft.	40.00	52.00	45.00	50.00
4,500 lin. ft. short leaf yellow pine piles, per lin. ft.	0.18	0.35	0.41	0.40
420 lin. ft. 12 x 12 in. yellow pine caps and guard timbers, per M ft.	50.00	57.00	45.00	55.00
1,470 lin. ft. 8 x 14 in. yellow pine stringers	50.00	52.00	45.00	55.00
8,000 lin. ft. 2 x 10 in. yellow pine flooring, per M ft.	40.00	57.00	55.00	55.00
2,400 lin. ft. 2 x 8 in. yellow pine planking for guard fences, per M ft.	35.00	55.00	45.00	60.00
400 lin. ft. 4 x 6 in. yellow pine posts, per M ft.	40.00	55.00	45.00	60.00
250 lin. ft. 4 ft. reinforced concrete pipe	7.00	4.75	11.00	14.00
250 lin. ft. 5 ft. reinforced concrete pipe	9.00	6.25	12.50	15.00
170 lin. ft. 5 x 5 ft. reinforced concrete culvert	10.00	20.75	10.50	18.00
1,340 lin. ft. 6 x 12 in. yellow pine grillage timber, per M ft.	50.00	55.00	45.00	50.00
6,030 lin. ft. 3 x 12 in. yellow pine grillage planking, per M ft.	40.00	55.00	45.00	50.00

★**Toledo, Ohio.**—Contracts awarded as follows for paving and repaving about 20 streets and alleys (bids opened July 25 by H. C. McClure, Commissioner Engineering and Construction, Department Public Service): H. P. Streicher Co., Inc., 10,033 sq. yd. 1½-1½-in. asphalt (Trinidad) on 6-in. concrete foundation on 3 streets, at $1.97 per sq. yd., total $27,106, and 15,360 sq. yd. resurfacing on 2 streets at $1.31 per sq. yd., total $36,549; to Butler Construction Co., 3670 sq. yd., one street, 1½-1½ asphalt (Azetec) on 6-in. concrete foundation, at $1.79 per sq. yd., total $10,564; Asphalt Block Co, 6238 sq. yd. 2½-in. asphalt block (Trinidad) on 6-in. foundation on 3 streets, at $20,634; to McKinney Brothers, 1400 sq. yd. 3-in. vitr. brick, 6-in. concrete cement cushion on one street, at $2.27 per sq. yd., total $4,908; also 5170 sq. yd. 4-in. brick on 6-in. concrete sand cushion, one street, at $2.10 per sq. yd., total $12,729; Horris & Tansy, 2318 sq. yd. 4-in. brick on 6-in. concrete sand cushion, one street, at $2.04 per sq. yd., total $8,348; M. F. O'Sullivan, 4210 sq. yd., one street, at $1.95 per sq. yd., total $12,189; Peters Brothers Co., 2054 sq. yd. 7-in. reinforced concrete (1-2-4) 2 alleys, at $1.60 per sq. yd., total $5,559; and James H. Horan, 2985 sq. yd. 7-in. reinforced concrete (1-2-4) 3 alleys, at $1.60 per sq. yd., total $8,229. Bidders of Toledo.

★**Richmond, Ind.**—Contract for constructing about 11 miles of National Road (bids opened Aug. 3 by County Commissioners) awarded C. M. Kirkpatrick, Greenfield, at $149,063.

★**St. Johns, Mich.** — Contract for constructing 3½ miles of Class C slag and gravel roads (bids opened Aug. 7) awarded A. L. Pripp, St. Johns, at $23,000. T. B. Carpenter, Chairman Road Commission.

★**Illinois.**—Contract awarded by State Highway Commission, Springfield, for State Aid Road work as follows:

★Morgan County, Section B, oiled earth, to Cocking Cement Company, Jacksonville, Ill., at $17,270.

★Whiteside County, Section D, gravel, H. P. Johnson, Sterling, $13,915.

★Marion County, Section D, earth, G. K. Carver, Mt. Vernon, $8,268.

★Jersey County, Section D, oiled earth, Stocker Gravel & Construction Company, Highland, $3,506.

★Vermilion County, Section E, brick and waterbound macadam, Eclipse Construction Company, Winnetka, $49,445.

★La Salle County, Section I, concrete, F. E. Ball, Hampshire, $9,272.

★Hancock County, Section C, earth, Augusta Road Improvement Association, Augusta, $2,430.

★Bond County, Section C, brick, John Hinden & Son, Pana, $7,193.

★Hancock County, Section S, earth, Sieurr Brothers, Dallas City, $3,670.

★Hardin County, Section B, bridges, Wallace Harlan, Greenville, $1,447.

★Boone County, Section E, concrete, Frank Taylor, Belvidere, $5,008; Section F, waterbound macadam, J. J. O'Loughlin, 133 West Washington Street, Chicago, $12,698.

★Monroe County, Section C, earth, John Henerfouth, Volmeyer, $2,642.

★Pope County, Section B, bridges, Wallace Hardin, Greenville, $1,700.

Duluth, Minn.—Only bid submitted to City Council for paving with one-course concrete pavement with trap rock Minnesota Ave., by Rogers, McLean & Co., Duluth, at $10,292.

★**Billings, Mont.**—Contract awarded by County Commissioners to Warren Construction Co., Portland, Ore., for paving Yellowstone and Clarke Avenues with gravel bitulithic on 4-in. concrete base at $64,000.

★**Helena, Ark.**—Contract for constructing 2 miles of concrete road, Little Rock Public Road (bids opened Aug. 7), awarded P. F. Connelly, Little Rock, at approximately $25,000. J. C. Meyers, Sec'y Commissioners Road Improvement, District No. 1.

★**Galveston, Tex.**—Contract awarded Good Roads Assoc. Construction Company, of Galveston, for supplying and spreading mainland soil surfacing at $18,-750. 15,000 cu. yd. or over.

★**Houston, Tex.** — Contract awarded by City Council to Eureka Paving Co., Houston, for paving Capitol and Jacksons Avenues with asphaltic concrete.

★**Waxahachie, Tex.**—Contract awarded by City Council to Taylor, Walker & Ball, Dallas, for paving about 25,000 sq. yd. on Ferris Avenue; estimated cost $40,000.

Albuquerque, N. M.—The only bids received and opened Aug. 7 by Thomas Hughes, City Clerk, for paving 8 blocks with Trinidad Bermudez was from Texas Bithulithic Co., of Dallas, Tex., and was rejected.

★**Everett, Wash.**—Reported contract awarded by City Council to Ward & Templeton, Everett, at total of $10,516, for paving with concrete portions of Norton Avenue and Thirty-fifth Street.

Ilwaco, Wash.—Following bids submitted to City Council for paving, etc.: L. F. Kline, Portland, concrete, $10,991; W. M. Oller, Portland, 4-in. bitulithic, $13,118; 5-in. bitulithic, $13,473; Standard bitulithic, $13,906.

★**Prosser, Wash.**—Contract awarded by City Council to O. M. Patton, Prosser, for paving various streets at $9,167. (Bids opened Aug. 1.)

★**Republic, Wash.**—Following are two bids opened Aug. 8 by W. T. O'Connell, County Auditor, for constructing Permanent Highway No. 1-B: R. L. Picken, Tonasket, Wash., $11,238 (awarded contract); C. H. Lewis, Curlew, Wash., $12,050.

Seattle, Wash. — Lowest bid submitted to Board of Public Works for paving Fourtheenth Avenue South by Holt & Jeffery, Railway Exchange Bldg., at $19,-943.

★**Washington.**—Contract awarded by James Allen, State Highway Commissioner, at Olympia, to M. P. Zindorf, Seattle, at $17,148, for constructing State highway between Orilla and Renton, and for constructing Bear River Rd. to M. P. Zindorf, Seattle, at $24,885.

★**Waterville, Wash.**—Contract for grading and surfacing with crushed rock gravel 21½ miles of road (bids opened Aug. 10) awarded by County Commissioners to Patton & Smith, Prosser, at $19,-879. Robert F. Froster, County Engr.

★**Albany, Ore.**—Contract awarded by City Council to F. M. Travis, Albany, for paving west approach to First St. bridge.

★**Astoria, Ore.**—Contracts awarded by City Council to Western Paving Company, Astoria, for paving portions of Twelfth, Bond, Franklin, Duane, Thirty-sixth and Thirty-seventh Sts. with bitulithic pavement on concrete base at total of $31,818.

★**Roseburg, Ore.**—Contract awarded by County Commissioners to O. B. Hinsdale, Gardiner, for constructing road from Gardiner to Williamette Pacific R. R. station.

★**Bakersfield, Cal.**—Contract awarded by Board of County Supervisors (bids opened Aug. 8) to George S. Benson & Son, Stimson Bldg., at $10,224 for grading, paving and constructing culverts on 1.78 miles of Bakersfield-Glenville Rd., Division 9, Section 7.

Following bids opened by Board of County Supervisors for constructing 4-in. concrete pavement with Topeka wearing surface on 2 miles of Bellevue Rd., about 5 miles southwest of Bakersfield (price given per sq. ft.): Castro & Blaisdell, Bakersfield, 6.8 cts.; George S. Benson & Son, Los Angeles, 7.75 cts. for asphaltic oil surface; Coast Construction Company, Los Angeles, 10.5 cts. Topeka and 8.6 cts. asphaltic oil, and Thompson Bros., Fresno, 12.6 cts. Topeka and 11.75 cts. asphaltic oil.

★**Hanford, Cal.**—Contract for constructing 17.5 miles county highway, about 1,501,336 sq. ft., 2½-in. asphaltic, concrete base, and 1½ in. Topeka or Warrenite wearing surface, awarded by Board Supervisors to Thompson Bros., Fresno, at $58,875. E. F. Pickerell, County Clerk. (Bids opened Aug. 7 by Board of Supervisors.)

★**Los Angeles, Cal.**—Contract awarded by City Council to Fairchild-Gilmore-Wilton Co., Pacific Electric Bldg., at $37,967 for 147,640 sq. ft. concrete base and bitulithic surface pavement, 23,850 sq. ft. warrenite pavement, 3250 sq. ft. cement walk, 1012 sq. ft. vitrified brick gutter, 2410 sq. ft. granite block gutter, reinforced concrete culverts, catchbasins, etc., in Pacific Avenue.

★Contract awarded by City Council to Fairchild - Gilmore - Wilton Co., Pacific Electric Bldg., at $10,078 for improving Crocker Street.

★Contract awarded by City Council to C. C. Harris, Los Angeles, to supply 75% road oil at $1.35 per gal., not to exceed 50,000 gal.

★**San Francisco, Cal.**—Contract awarded by Board of Public Works to Eaton & Smith, San Francisco, at $34,000, for grading and paving with asphalt Railroad Ave.

Ventura, Cal.—Following are four lowest bids opened Aug. 8 by Board of Supervisors for constructing 8.77 miles of 4-in. concrete road 16 ft. wide, Santa Clara River to Somis, Division 7, involving approximately 17,500 cu. yd. excavation, 46,300 lin. ft. shaping road bed, 9200 cu. yd. B concrete in pavement, 230 cu. yd. B concrete in culverts, 15,000 lb. reinforced steel, corrugated iron pipe culverts, etc.: Andrew Holloway, 471 South Broadway, Pasadena, $31,026; White & Gaskill, Long Beach, $35,257; Rogers Bros. Company, Hibernian Bldg., Los Angeles, $37,398, and C. H. Hudson, Trust & Savings Bldg., Los Angeles, $37,978.

★**Moscow, Idaho.**—Contract awarded Aug. 9 by City Council to Standard Asphalt Paving Company, Spokane, Wash., for paving in District No. 9 at $17,410. J. R. Strong, City Clerk.

★**Galt, Ont.**—Contract awarded by City Council to Standard Paving Company, Ottawa, for constructing asphalt pavements.

RAILWAYS
Steam and Electric

PROPOSED WORK.

New Haven, Conn.—Reported New York, New Haven & Hartford R. R. (Edw. Gagel, Chief Engineer, New Haven.) intends spending about $250,000 in improvements to freight and passenger terminals at New Haven. Definite plans not yet completed.

Toxaway, N. C.—The Toxaway Western R. R. Company has been granted a charter to construct a road between Toxaway to Sapphire, a distance of 15 miles. Incorporators include Jerome Moltz, Williamsport, Pa.; H. C. Jarvis of Asheville, and others.

Whiteville, N. C.—Reported Whiteville Lumber Co. (Nathan O'Berry, Pres., Goldsboro.) plans completing the line southeast to Reaves Ferry and may extend the line 15 miles farther to Challotte. Also has under consideration building of a line to connect with the Seaboard Air Line to a point about 12 miles north of Whiteville.

Spartansburg, S. C.—The extending of the line of the South Carolina Light, Power & Railways Co. (B. A. Buckheister, Supt.), Spartansburg, to Whiting Mills and reconstructing the line between Clifton No. 1 and Clifton No. 2 is reported under consideration.

Atlanta, Ga. — Reported Georgia Railway & Power Company (G. M. Brine, Gen. Mgr., Atlanta.) contemplates constructing an electric line between Atlanta and Augusta.

Atlanta, Ga.—The Senate Committee on Constitutional Amendments approved the bill providing for an issuance of $10,000,-000 bonds for proposed extension of the Western & Atlantic R. R. to the sea.

Savannah, Ga. — Chatham Terminal Company, Savannah, it is reported, has applied for a charter to build a railroad about 3 miles long from a connection with the Central of Georgia to the property of the Savannah Warehouse & Compress Co. C. W. Small, of Savannah, is interested.

Jacksonville, Fla.—The Jacksonville Traction Co. (Hardy Croom, Local Mgr. and Purchasing Agt., Jacksonville), reported contemplates extending line on Eighth Street from Evergreen to Tallyrand Avenues and thence to city electric light plant at a cost of $40,000.

Tampa, Fla.—A. E. Townsend of Sarasota and others are reported interested in an interurban trolley line which is to be constructed between Tampa and Manatee. Sarasota will be southern terminus and will pass portions of Hillsborough, Manatee, De Sota and Osceola Counties.

Contract will be let about November for constructing the electric railway from Tampa to Safety Harbor and St. Petersburg. A. Viggianni, Engr., 917 Twenty-second Avenue; J. E. Winter of Tampa, Vice-Pres. and Treas.

Newport, Ky.—South Covington & Cincinnati Street Ry. (Wm. H. Harton, Gen. Supt., Covington) has applied to Council for a 20-year franchise.

Evanston, Ill.—Surveys completed for the line between Evanston and Palatine which Chicago, Fox Lake & Northwestern Electric R. R., Chicago, Ill., intends constructing. A line through Fox Lake region to Lake Geneva is contemplated.

Cedar Rapids, Iowa.—Chicago, Milwaukee & St. Paul R. R. (C. F. Loweth, Ch. Engr., Chicago, Ill.), it is reported, is considering terminal improvements here costing approximately $70,000.

Commerce, Okla.—Joplin & Pittsburgh Ry. (Wm. A. Satterlee, Gen. Mgr. and Purchasing Agent, Pittsburg, Kan.), is considering an extension from Columbus to Commerce, Okla.

Santa Ana, Cal.—Reported San Pedro, Los Angeles & Salt Lake R. R. Company (H. C. Nutt, General Manager, Los Angeles) will construct a line from Santa Ana through Anaheim, Fullerton, La Habra and Whittier, to Pico, a total distance of 20 miles. The use of electric equipment is contemplated.

Sunland, Cal.—The Great Western Improvement Co., San Francisco, has acquired the Glendale & Montrose R. R. and intends extending the line to Sunland, La Ganada and Littlelands, about 8 miles. W. J. Hohon, Gen. Mgr., Glendale.

Oatman, Ariz.—Reported surveys are being made by Frank Rooklidge, Oatman, for a railroad between Oatman and Topock, about 50 miles, in which Carl F. Schader, 611 Van Nuys Bldg., Los Angeles, Cal., and others are interested.

London, Ont.—Engineers of the Ontario Hydro Commission (Adam Beck, Chmn., London) are surveying for a new electric railway from London to Owen Sound, 175 miles, and will prepare estimates of the cost as soon as possible.

BIDS DESIRED.

New York, N. Y.—Until Aug. 30, by Public Service Commission First Dist., 120 Broadway, for supply of seven portions of the special work, order No. 9 (frogs and switches) for use in construction of rapid transit railroad Borough of Brooklyn (Culver Line).

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**New York, N. Y.**—Contract awarded by Public Service Commission, for First District, 120 Broadway, New York, for installing tracks on Broadway Line A and B, to T. H. Reynolds Contracting Company, Inc., 1480 Broadway, at $288,400. Bid opened Aug. 10.

★**Bloomington, Ill.**—Contract awarded I. D. Lain, Bloomington, for constructing concrete abutments for subway and also for building new subway at Plains for the Chicago & Alton R. R. Bloomington subway will be about 234 ft. long with 18-ft. concrete walls, and cost $26,000.

★**Shawano, Wis.**—Contract awarded by Wisconsin & Northern Ry. to P. W. O'Connor & Co., Grand Rapids, Mich., for grading and about 240,000 cu. yd. of excavating on the new line from Shawano to Black Creek.

★**Dixon, Mont.**—Contract for constructing about 9 miles of the 33 miles extension of Northern Pacific Ry. from Dixon to Poison awarded Carlson Chindahl & Co., Realty Bldg., Spokane, Wash., by Siems Wickman & Co., St. Paul, Minn., contractors for the 33-mile extension.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Jersey City, N. J.—Plans being prepared by John T. Rowland, Jr., 100 Sip Avenue, for a group of 2 and 4-story factory buildings at Chapel Avenue for Duryea Manufacturing Company; cost approximately $60,000.

Huntsville, Ala.—Abingdon Cotton Mills, Huntsville, is having plans prepared for a second addition, to cost approximately $50,000.

Cleveland, Ohio. — River Furnace Co., 2600 West Third Street, purchased twenty-two acres of land for industrial purposes near Morgan Run in upper Cuyahoga River valley.

E. E. Allyne of the Allyne-Ryan Foundry Company, Aetna Road and East Ninety-first Street, secured site on East 185th Street and intends erecting aluminum castings plant.

Prospect-Fifty-fifth Street Company (C. P. Salem, Cuyahoga Building, Secretary-Treasurer), will erect a commercial and storage building on East Fifty-fifth Street and Euclid Avenue; cost, about $50,000.

Marion, Ohio.—Reported Primm Power Manufacturing Company of Lima contemplates erecting plant here to cost $70,-000.

Minneapolis, Minn. — See "Reinforced Concrete."

St. Paul, Minn.—Reported Vacuum Paper Board Company plans erecting $75,-000 factory in St. Paul, probably at Miday. F. G. Leslie, Leslie Paper Company, Third and Wabasha Streets, may be able to give information.

Mandan, N. D.—Northern Pacific Railway (W. L. Darling, Ch. Engr., St. Paul, Minn.) intends erecting a $2,000,000 machine shop here.

St. Louis, Mo.—Plans being prepared for seven-story addition to plant of Emerson Electric Co., 2024 Washington Avenue; cost about $300,000.

Safford, Ariz.—See "Reinforced Concrete."

Glenns Ferry, Idaho,—See "Buildings."

Brantford, Ont. — Reported Dominion Steel Products Company plans erecting new factory, including machinery, to cost $100,000.

Galt, Ont.—Waterworks Commissioners (Dr. J. H. Radford, Chairman) considering installation of a municipal ice manufacturing plant.

London, Ont.—See "Reinforced Concrete."

Sudbury, Ont.—British American Nickel Company will equip a power plant, smelter and refinery on Wanapitae River, to cost $1,500,000. G. Howard Ferguson, Parliament Buildings, Toronto, reported interested.

Toronto, Ont.—See "Reinforced Concrete."

Winnipeg, Man. — Plant of Winnipeg Paint & Glass Company, destroyed by fire, will be rebuilt.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Rutland, Vt.—See "Steel Bridge Work."

Kansas City, Mo.—See "Reinforced Concrete."

★**St. Louis, Mo.**—Contract awarded Gilsonite Construction Company, Wainwright Building, for erecting seven-story fireproof brewing plant on Broadway, Seventh, Pestalozzi and Arsenal Streets for Anheuser-Busch Brewing Association; cost, $2,500,000.

★Gilsonite Construction Company, Wainwright Building, secured contract for erecting two and three-story additions to Monsanto Chemical Works, fireproof, steel frame, brick with concrete floor; cost, $150,000. Brenneke & Fay, Fullerton Building, Consulting Engineers.

★**Toronto, Ont.**—George A. Fuller Company, 45 St. Alexander Street, Montreal, Que., secured contract for erecting reinforced concrete, steel, terra cotta and brick examining warehouse for Dept. of Public Works; cost, $500,000.

BUILDINGS
Public and Private

PROPOSED WORK.

North Andover, Mass.—Reported plans being prepared for addition to High School; $70,000 available. Address Board Education.

Buffalo, N. Y.—Contract soon to be let by Board of Public Works (Arthur W. Kreinheder, Superintendent), for erecting two-story, 200 x 240-ft. tile and reinforced concrete municipal stable; estimated cost, $50,000. Howard Beck, City Archt., Municipal Bldg.

New York, N. Y.—Plans filed for 6 and 10-story fireproof studio, office and salesroom building to be erected at 109 West Fifty-seventh Street for Steinway & Sons; cost $300,000. W. K. Benedict, 527 Fifth Avenue, and Marvin & Davis, 303 Fifth Avenue, associate architects.

Plans completed by Paul C. Hunter, 191 Ninth Avenue, for 12-story, 50 x 98 ft., brick, limestone and terra cotta store and loft building to be erected at 549 West Twenty-third Street for B. Moore Estate; cost $75,000.

Scarsdale, N. Y.—Robert D. Kohn, 56 West Forty-fifth Street, New York, engaged to prepare plans for 2½-story clubhouse to be erected for Sunningdale Country Club; cost $50,000.

Fairview, N. J.—Citizens, Aug. 8, voted in favor of erecting school to cost $54,000. Address School Board.

Jersey City, N. J.—Contract soon to be let by City Commissioners for erecting 50 x 100 ft. library in Hudson City Section; cost $50,000.

Katz Company, Jersey City, will erect two four-story brick apartment houses at Summit and Manhattan Avenues to cost about $57,000 each.

Newark, N. J.—Plans and specifications for 16-room addition to South Tenth Street School, approved by Committee on Buildings, Grounds and Supplies of Board of Education; cost $156,000.

Plans being prepared by Cady & Gregory, 40 West Thirty-second Street, New York, N. Y., for two-story brick and tile store and office building to be erected at 909 Broad Street for Board of Trustees of Third Presbyterian Congregation (U. V. Brewster, President, 538 Mount Prospect Avenue); cost $75,000.

New Brunswick, N. J.—Plans being prepared by Shattuck & Hussey, 19 S. La Salle Street, Chicago, Ill., for four-story, 90 x 200 ft., Y. M. C. A. building to be erected at 9 Livingston Avenue; cost approximately $125,000. S. M. Lipcomb, Secretary, 390 Broad Street.

Totowa (P. O. Paterson), N. J.—William T. Fanning, Colt Building, Paterson, engaged to prepare plans for a brick orphan asylum to be erected on Main Street for St. Joseph's Roman Catholic Orphan Asylum; cost $100,000. Rev. Father McNulty, Grand and Main Streets, Paterson, Pastor in charge.

Erie, Pa.—Reported plans nearing completion for depot to be erected at Fourteenth and Sassafras Streets for New York Central Railroad (D. C. Moon, Gen. Mgr., Cleveland, Ohio); estimated cost $450,000.

Mount Washington, Md.—Erection of $80,000 Roman Catholic Church contemplated here.

Richmond, Va. — Directors of Federal Reserve Bank have decided to erect a new bank building at Ninth and Franklin Streets.

Augusta, Ga.—G. Lloyd Preacher of Augusta engaged to prepare plans for Masonic Temple, to cost about $50,000.

Macon, Ga.—Auditorium bonds for $100,000 will be sold Sept. 12 by David S. Jones, Clk. of Council.

Jacksonville, Fla.—Site is being secured on which the Jacksonville Terminal Company, Jacksonville, intends erecting a passenger station and tracks. Plans are being prepared for a $2,000,000 building.

New Orleans, La.—Plans being prepared for five-story lodge building to be erected for Odd Fellows.

Shreveport, La.—Plans being prepared for 16-story office building. E. A. Frost, of Shreveport, may be able to give information.

Morristown, Tenn. — Plans being prepared for a 70 x 120 ft. municipal building. Address City Clerk.

Nashville, Tenn.—See "Reinforced Concrete."

Covington, Ky.—Contract soon to be let for erecting high school in Holmesdale, to cost $165,000. Webber, Werner & Adkins, Archts., Mercantile Library Building, Cincinnati, Ohio.

Cleveland, Ohio.—Reported B. J. Lavetter, 308 Engineers Bldg., will erect apartments on Parkwood Drive and Gooding Avenue, to cost, approximately, $100,000.

Reported Louis A. Katz, 322 Williamson Bldg., will erect apartments, costing about $100,000, on East Eighty-eighth Street and St. Clair Avenue.

Plans being prepared by George B. Post & Sons, 1109 Schofield Building, for remodeling and enlarging the Euclid Building, Euclid Avenue and East Ninth Street with a six-story, 42 x 110-ft. addition; estimated cost, $350,000. McNutt, McCall Company, 604 Hickox Building, agents for Euclid Building.

Cleveland Heights, Ohio.—Citizens Aug. 8 voted down proposition to issue $180,000 school bonds.

Defiance, Ohio.—Citizens voted $200,000 bonds to erect new high school to replace building condemned by State Industrial Commission.

Middletown, Ohio.—Citizens voted $200,000 bonds for erecting high school. A. Ashworth, 147 N. Main Street, may be able to give information.

Newark, Ohio.—Plans being prepared by E. E. Pruitt, Hartman Building, Columbus, for Fifth Street Baptist Church, to cost $60,000.

Wellington, Ohio.—High school bonds amounting to $55,000 sold. Address Board of Education.

Chicago, Ill.—Edward I. Bloom, 6735 Constance Avenue, purchased site at Fifty-fifth Street and Greenwood Avenue and intends erecting two-story and basement tile store, office and apartment building to cost about $75,000.

Directors of Board of Trade (J. P. Griffin, President) have decided to erect 21-story building on La Salle Street; cost $3,500,000. Holabird & Roche, 104 S Michigan Avenue, engaged to prepare plans.

Plans prepared by Moore & Dunford Company, 10 S. La Salle St., for an ice skating rink which the Springer-Wood Company intends erecting on Broadway and Thorndale Avenue; cost about $400,000.

H. H. and W. H. Banford, 42 North Dearborn Street, purchased site at Hood and Lakewood Avenues for an apartment house to cost $60,000.

DeKalb, Ill.—Erection of a hospital, to cost $60,000, contemplated. Address City Clerk.

Ames, Iowa.—State Board of Education has authorized construction of three new buildings at Iowa State College; total cost $125,000.

Aurora, Minn.—Erection of a high school, costing $125,000, contemplated. Address School Board.

Minneapolis, Minn.—Board of Education reported in favor of spending $5,525,769 for school improvements, to include twenty-three new kindergarten rooms; cost $195,500; nine new school sites; cost $105,200; and replacing Longfellow and Whitney schools; cost $204,000.

St. Paul, Minn. — Clarence Johnston, Capital Bank Building, engaged to prepare plans for St. Joseph Hospital; cost $400,000.

Wichita, Kan.—Citizens Aug. 1 voted $100,000 bonds to erect a jail. H. M. Barrett, County Clk.

Helena, Mont.—B. B. Theater Company (J. A. Van Wie, Secretary-Treasurer), 347 Loeb Arcade, plans erecting theatre, store, office and apartment building here; cost $200,000.

Austin, Tex.—Contract soon to be let for erecting school for State Deaf and Dumb Institute; cost $65,000. Kuehne, Chasey & Giesecke, Archts., Austin.

Fort Worth, Tex.—Attorney General at Austin approved issue of $225,000 school bonds recently voted. Address Board of Education.

Marlin, Tex.—Contract soon to be let for erecting high school to cost $60,000. Address City Clerk.

Sherman, Tex.—Erection of a $100,000 high school contemplated. Address School Board.

Denver, Col.—Reported Union Station Company, Denver, appropriated $600,000 for reconstructing east and west wings of Denver Union Station, for which plans have been approved.

Fresno, Cal.—Architect soon to be selected for Scottish Rite Cathedral to be erected at Van Ness Boulevard and Olive Avenue for Scottish Rite Masons; cost about $100,000.

Long Beach, Cal.—Reported First Christian Church (Scientist) contemplates erecting $75,000 edifice.

Los Angeles, Cal.—Stability Building Company, incorporated by Homer Laughlin, Laughlin Building, and others, for the purpose of erecting a nine-story and basement fireproof theater, store, studio and loft building, 120 x 198 ft., at Third and Broadway; probable cost, $600,000.

Flagstaff, Ariz.—Flagstaff Hotel Company (Leo Verkamp, Secretary) will erect a $100,000 hotel.

City Council and Coconino County Supervisors considering erecting new city hall and courthouse. Tom L. Rees, Clerk Board of Supervisors.

Glenns Ferry, Idaho.—Oregon Short Line (Carl Stradley, Ch. Engr., Salt Lake City, Utah), plans extensive improvements, including five-stall addition to roundhouse, new sandhouse and oilhouse, 250,000-gal. water tank and extension to employees buildings.

Montreal, Que.—North End Amusement Company (A. Letang, Manager) plans erecting theater on St. Denis Street, to cost $125,000.

Toronto, Ont.—See "Steel Bridge Work."

BIDS DESIRED.

Boston, Mass.—Until Aug. 29, by Schoolhouse Commissioners (Jos. P. Lomasney, Chairman), for erecting an elementary school for upper and lower grades. Mary Heneway, Dist., Gibson and Bispham Street, Dorchester.

New Britain, Conn.—Reported desired until Aug. 25, for erecting two-story and basement, 135 x 120-ft., grade school. Unkelbach & Perry, Architects, 162 Main Street.

Rochester, N. Y.—Until Sept. 8, by Board Education (J. S. Mullan, Secy.), for erecting school No. 22.

Stapleton, S. I., N. Y.—Until Sept. 1, by James A. Wetmore, Supervising Archt., Treas. Dept., Washington, D. C., for installation of an electric passenger elevator and two electric dumbwaiters in U. S. Marine Hospital at Stapleton, S. I., N. Y.

Syracuse, N. Y.—Until Aug. 22, by Trustees of N. Y. State College of Forestry, in the Chancellor's Office, Syracuse, for constructing heating and power plant, plumbing, drainage and electric work for power house at said college.

Bayonne, N. J.—Until Aug. 24, by Board Education (J. O. Boyd, Secy.), for addition to School No. 3, Lincoln School and the High School.

Plainfield, N. J.—Until Sept. 5 for erecting city hall. John J. Carroll, City Clk. Peck & Bottomley, Archts., 597 Fifth Avenue, New York City.

Baltimore, Md.—Until Aug. 29, by the Southern Hotel Co., Baltimore, for erecting Southern Hotel, 14 stories, at German and Light Streets.

Newark, Del. — Reported desired until Aug. 24, for erecting three and four story brick and marble fireproof construction 30 x 160 ft. dormitory building for Delaware College. Day & Klauder, Archts., 925 Chestnut Street, Philadelphia, Pa.

Augusta, Ga.—Reported desired until Aug. 29, by School Board, for erecting brick and grammar school, 17 rooms, two stories. Probable cost $50,000. D. Lloyd Preacher, Archt., Augusta.

Jacksonville, Fla.—Until Sept. 8, by James A. Wetmore, Supervising Architect, Treasury Dept., Washington, D. C., for an electric elevator in the U. S. post office and court house.

Covington, Ky.—Until Sept. 11, by Board of Education (W. A. Shore, Bus. Dir.) for furnishing material and erecting a high school at Covington. Weber, Werner & Adkins, Archts., 1206-7 Mercantile Library Bldg., Cincinnati.

Akron, Ohio.—Reported desired until Aug. 25, by Commercial Savings Bank Co., for erecting bank and office building. F. Wagner & Mitchell, Archts., 495 Permanent Bldg.

Cincinnati, Ohio.—Until Sept. 1 (readvertisement), at office of Elzer & Anderson, Archts., Room 136 Ingalls Building, for general contract, to include all branches of work except wrecking and mechanical equipment, of the Y. M. C. A. building, at Canal and Elm Streets. Cost $500,000. D. D. Meachan, Chmn. Y. M. C. A. Building Committee.

Dayton, Ohio.—Until Sept. 7, by Joint Board County Comrs., Montgomery and Preble Counties, at Dayton, for erecting a district hospital for tuberculosis, to consist of one service building, one ambulatory hospital building for 20 patients, one infirmary hospital building for 20 patients, to be erected on site of new district hospital building, about 6½ miles north of Dayton, just off the Covington Pike. Howard W. German, Archt., Schwind Building, Dayton.

Fredericktown, Ohio.—Until Sept. 8, by Board Education (Ernest V. Ackerman, Clk.), for furnishing material and erecting fireproof high school. Separate bids for heating, ventilating, etc. Howard & Merriam, Archts., 8 E. Broad Street, Columbus.

Toledo, Ohio.—Reported desired until Aug. 29, by Bates & Gamble, Architects, 601 Close Building, for erecting a two-story and basement, 100 x 100-ft., service and sales building, for the Grasser Motor Company, automobiles. J. M. Grasser, Prop., 1101 Madison Avenue.

Highland Park, Mich.—Until Sept. 21, by Board of Education (Caleb S. Pitkin, Secretary), for erecting a school on Joslyn Avenue, advertised in Engineering Record. Welles D. Butterfield, Architect, 1113 David Whitney Building, Detroit.

Elgin, Ill.—Until Aug. 22, by Board Administration, Capitol Bldg., Springfield, for power plant piping and accessories for new power house at Elgin State Hospital. Martin C. Schwab, Consulting Engr., Maller's Bldg., Chicago.

Streator, Ill.—Until Aug. 21 (readvertisement), by Philip Saunders, Clerk Board Education, for erecting Sherman School, in School Dist. No. 45.

Appleton, Wis.—Until about Sept. 1, by Child & Smith, Archts., Peoples Gas Building, Chicago, Ill., for erecting a dormitory, 3 stories, at Lawrence College, to cost $100,000.

Berlin, Wis.—Until Sept. 6, by Board Education (E. K. Cunningham, Clk.), for erecting a high school. Separate bids for plumbing, heating, automatic temperature control, clock and program system. Parkinson & Dockendorff, Archts., La Crosse.

Cedar Rapids, Iowa.—Until Aug. 31 by Charles B. Zalisky, Archt., Cedar Rapids, for erecting a garage.

Irwin, Iowa.—Until Sept. 9, by Board Directors of the Consolidated Independent School Dist. (Peter Steenhusen, Secy.), for erecting a two-story and basement high and grade school, including heating, plumbing, etc. W. F. Gernandt, Archt., 437-39 Keeline Building, Omaha, Neb.

Jesup, Iowa.—Until Sept. 12, by R. L. Bordner, Secy. Jesup Consolidated School Dist. Jesup, for erecting high and grade school. Separate bids for heating, plumbing. Harry E. Netcott, Archt., Independence.

Knoxville, Iowa.—Until Sept. 7, by L. G. Dowell, Secretary Board Education, for erecting high school, advertised in Engineering Record.

Mounds, Minn.—Until Sept. 14, by Board Education Consolidated School Dist., for furnishing material and erecting a consolidated school. F. E. Halden, Archt., Kasota Bldg., Minneapolis.

Parsons, Kan.—Reported desired until Aug. 28, by State Board Control, State House, Topeka, for erecting two-story 50 x 197-ft. brick Insane Asylum. Probable cost, $50,000. C. H. Chandler, State Archt., Topeka.

David City, Neb.—Until Aug. 25, by Board Education, for erecting a new high school, including heating, plumbing, etc.

Moberly, Mo.—Until Aug. 29, by Board Education (T. R. Kingsbury, Secy), for erecting two grade schools and addition to high school. Wm. H. Sayler, 606 Gumbel Building, Kansas City, and Ludwig Aby, 8 Okeefe Building, Moberly, Mo., Associated Architects.

Austin, Tex.—Until Aug. 23, for constructing power house, dormitory, laundry building and mechanical equipment for State Colony for the Feeble Minded. Keuhne, Chasey & Giesscke, Archts., Austin.

College Station, Tex.—Until Aug. 26, for constructing a fireproof serum laboratory building for the State Agricultural and Mechanical College. Address Dept. Agriculture, College Station.

Paris, Tex.—Until Aug. 26, by County Commissioners for erecting courthouse, including heating, plumbing, etc.

Port Arthur, Tex.—Until Sept. 5, by Port Arthur Independent School District, for erecting a brick, tile and cement fireproof, two and three stories, 280 x 290 ft., school, costing $200,000. William B. Ittner, Archt., St. Louis, Mo.

Tucumcari, N. M.—Reported desired until Aug. 28, by William Troup, President School Board, for erecting a two-story fireproof school, also a two-story addition to the high school. R. L. Pierce, Archt., San Antonio, Tex.

Seattle, Wash.—Until Aug. 30, by R. W. Jones, Secy. Board Education, for erecting West Seattle High school, fireproof brick, to cost $250,000. Edgar Blair, Archt., 1426 Jackson Street.

Idaho Falls, Idaho.—Reported desired until Aug. 21, by School Board, for erecting a group of school buildings, including high school, gymnasium, natatorium and domestic science and manual training buildings, al lone story, of brick. Probable cost $100,000. W. R. Kelley, 408 Leary Building, Seattle, Archt.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Milton, Mass.—Following are three bids opened Aug. 9 by Town Trustees for erecting addition to Rose School: Joseph Slotnich, 10 Lawrence Street, Chelsea, $174,279; Daniel L. Shepard, 46 Cornhill Street, Boston, $189,689, and C. S. Cunningham & Sons Company, 101 Tremont Street, Boston, $196,192.

★**New York, N. Y.**—Contract awarded Thompson Starrett Co., 49 Wall Street, for erecting 23-story addition to McAlpin Hotel, at 46 West Thirty-fourth Street; cost about $1,000,000. Warren & Wetmore, Archts., 16 East Forty-seventh Street.

★**Rochester, N. Y.**—Contract awarded R. T. Ford & Company, 206 South Avenue, for erecting brick and stone armory and stable for Troop H, First Cavalry, N. G. N. Y.; cost $150,000. Lewis F. Pilcher, State Architect, Albany.

★**West Hoboken, N. J.**—Contract awarded G. H. Decker, West Hoboken, for erecting two-story brick bank and office building at Summit Avenue and De Mott Street, for National Bank of North Hudson, Inc.; cost about $50,000.

Bethlehem, Pa. — Contract awarded Jacob A. Nagle, of Allentown, for erecting $60,000 school at West Bethlehem.

★**Harrisburg, Pa.**—Contract awarded J. F. Barnhardt, Enola, for erecting Chisuk Emuna Synagogue at Sixth and Forster Streets; cost $50,000.

Lowest bid opened Aug. 7, by Supervising Architect, Washington, D. C., for installing elevators in U. S. Public Building, submitted by Smith-Rhea, Baltimore, Md., at $4,957.

★**Augusta, Ga.**—Contract for erecting Houghton School awarded Palmer-Spivey Construction Company, Augusta, at about $55,984.

★**Macon, Ga.**—Contract for erecting hospital consisting of three buildings awarded R. M. Walker Company of Atlanta, at $80,949.

★**Nashville, Tenn.**—Contracts for rebuilding Woodland Street Presbyterian Church, destroyed by fire, awarded as follows: General contract, J. W. Patrick & Company, 300½ Church Street; heating, East Side Plumbing Company, 29 Bridge Avenue; plumbing, Herbert & Lawrence, 607 Church Street; cost, approximately $50,000.

★**Cincinnati, Ohio.**—Theis & Theis, Dayton, engaged to prepare plans, also have secured contract to erect the brick and terra cotta 6-story building at Pioneer and Pike Streets for Fenwick Club for Catholic Young Men and Boys' Home; cost $200,000. Building will contain ice making plant, gymnasium, swimming pool, etc.

★**Fremont, Ohio.**—Contract for general construction of Memorial Hospital awarded Steinle Construction Company, Fremont, at about $70,000; heating and plumbing to Smith & Dieffenbach, Fremont, at $21,246.

Streator, Ill.—All bids opened Aug. 2 for erecting Sherman School rejected. Lowest bids were: General construction, M. W. Allen, Peoria, $59,160; heating and ventilating, Thomas Heating Company, Racine, Wis., $10,337; plumbing, Charles Metcalf, Streator, $3,200. See "Bids Desired."

★**Eau Claire, Wis.**—Contract for general construction of the hospital (bids opened Aug. 8) awarded Hoeppner Bartlett Company, Eau Claire, at about $59,000. H. M. Knudtson, Secretary Luther Hospital.

★**Platteville, Wis.**—Contracts for erecting agriculture, physical and manual training annex at Platteville State Normal School awarded as follows: General Construction, J. P. Cullen Construction Co., Janesville, $43,073; heating and ventilating, Hooper & Schmidt, Madison, $7,305; plumbing, Thill - Manning - Whalen Co., La Crosse, $4,747.

Monticello, Iowa.—All bids opened Aug. 4 by Directors of John McDonald Hospital for erecting Memorial Hospital rejected. The lowest bidder was A. Newman of Des Moines, at $61,763.

★**Anaconda, Mont.**—Reported contract awarded Sound Construction Company, Seattle, Wash., for erecting seven-story business block for Scott, Wharton & Metcalf Company.

Kansas City, Mo.—See "Reinforced Concrete."

★**Seattle, Wash.**—Contract for erecting addition to Madrona School awarded Sylliaasen & Sando, Downs Block, at about $53,549.

Portland, Ore.—Following are four lowest bids opened Aug. 7 by Supervising Architect, Washington, D. C., for erecting U. S. Post Office: (a) limestone, (b) sandstone: Grant Fee, San Francisco, Cal., (a) $762,200; Norman Kerr Co., New York, N. Y., (b) (3 bids) ranging from $777,807 to $813,307; Dinwiddie Construction Co., Portland, (a) (2 bids) $792,800 and $797,600; (b) (3 bids) ranging from $791,700 to $810,300; William Dall Co., Cleveland, Ohio, (a) and (b) $795,000; J. H. Weise, Omaha, Neb., (a) $827,700; (b) (3 bids) ranging from $832,000 to $889,000.

★**Los Angeles, Cal.**—Contract awarded Los Angeles Planing Mill Company, 1812 Industrial Street, for erecting five-story and basement, 80 x 100-ft. reinforced concrete and brick service building for County Hospital, at $54,715. Engineer, J. Schulz, Wright & Callender Bldg.

★**San Francisco, Cal.**—Contract awarded Lindgren Company, Monadnock Bldg., for erecting ten-story steel, brick and concrete office building on Market, Steuart and Spear Streets, for Southern Pacific Company; cost, about $2,000,000.

★**Maisonneuve, Que.**—Contract awarded J. A. Tessier, 656 Parc Lafontaine, for erecting theater for Theatre Maisonneuve; cost, $50,000.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Biloxi, Miss.—County Board of Supervisors contemplate issuing $500,000 bonds for constructing a seawall outside of the towns of Biloxi, Gulfport and Pass Christian, covering 10 miles of waterfront.

Gulfport, Miss.—County Commissioners sold $550,000 seawall bonds.

Dayton, Ohio.—City Commission reported considering construction a dam at Island Park to replace Steele dam recently destroyed by high water.

Dixon, Ill.—Illinois Northern Utilities Co. of Dixon contemplates rebuilding the dam across Rock River at Oregon, Ill.

Indianola, Iowa.—Plans are being prepared for 120-ft. steel truss span, 16-ft. roadway, creosoted block floor, tubular steel pier substructure; temporary wooden approach spans. F. O. Laing, County Engineer.

Corona, Cal.—Olmstead & Gillelen, 1112 Hollingsworth Building, Los Angeles, engaged to design and supervise construction of proposed storm water protection work. A bond issue of $100,000 is contemplated.

Santa, Ana, Cal.—Newbert Protection District will probably spend about $40,000 for repairs to dikes along Santa Ana River.

Vancouver, B. C.—A steel, concrete and stone pier to cost $150,000 will be built by the Canadian Pacific R. R. F. W. Peters, Gen. Supt., Vancouver, will prepare plans.

BIDS DESIRED.

New York, N. Y.—Until Aug. 25, by Burdette G. Lewis, Commissioner of Correction, Municipal Bldg., for furnishing labor and material for making repairs to pier foot of Fordham Avenue, City Island, Borough of Bronx. Security, $2,400.

Gulfport, Miss.—Until Sept. 5, by City Clerk for shore protection system, including drainage layout, groynes, retaining walls, etc., to cost $190,000. H. D. Shaw, City Engr.

Chicago, Ill.—Until Sept. 14, by U. S. Engineer's Office, 508 Federal Bldg., Chicago, for constructing concrete superstructure on south pier, pier removal, dredging, etc., in Chicago River, Ill., advertised in the Engineering Record.

Evanston, Ill.—Until Aug. 31, by I. C. Brower, Comr. Pub. Wks., for constructing a seawall along the shore of Lake Michigan.

Galveston, Tex.—Until Aug. 21, by John M. Murch, Co. Aud., for 2,500 tons more or less of stone rip rap to be delivered in place at foot of seawall east of Eighteenth Street.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Norwich, Conn.**—Contract awarded by American Straw Board Co. to C. A. Sibley, New Haven, for constructing 1000 ft. of bulkhead, removal of an old bulkhead, and dredging 8000 yd. on the Thames River. Chandler & Palmer, Engrs., Norwich.

Gulfport, Miss.—Lowest bid opened by Board of Supervisors Aug. 8 for constructing the sea wall along beach between Gulfport and Biloxi, submitted by Jancey Bros., Browne, Crane & Company, Detroit, Mich., at $9.50 per ft. Wall to be 9 ft. high.

★**Chicago, Ill.**—Contract awarded Standish & Allan, Chicago, Ill., for constructing for the Evansville & Indianapolis R. R. the Doanee Creek Bridge and rebuilding White River bridge piers, steel erection and recovery of old steel spans now in the river.

★**Tacoma, Wash.**—Contract for substructure of the proposed $100,000 ocean dock for the Chicago, Milwaukee & St. Paul Ry. Company, awarded J. S. McEachern Company, Bell Street wharf, Seattle. Contract for superstructure will be handled by Railway Company.

★**San Francisco, Cal.**—Contract awarded by State Board of Harbor Commissioners to Healy-Tibbits Company, Main and Market Streets, at $10,112 for constructing extension to Pier 43.

TUNNELS AND SUBWAYS

BIDS DESIRED.

Chicago, Ill.—Until Aug. 30, by Chicago Union Station Co., at office of Thos. Rodd, Chief Engineer, for constructing a tunnel in Adams Street, from shaft west of Chicago River of Chicago River Street, to new shaft to be constructed at northwest corner of Canal and Adams Streets; also for constructing a tunnel in Jackson Street, from shaft west of Chicago River, to new shaft, to be constructed at southwest corner of Canal and Jackson Streets for lining and shafts and tunnels filling the sumps of old shafts, and filling the shafts from roof of the present tunnels to surface of the ground.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Lancaster, Ohio.—C. O. Brown, County Surveyor, rejected all bids opened Aug. 10 for dredging Rush Creek in Perry and Fairfield Counties, requiring about 1,250,000 cu. yd. excavation; length, 16.95 miles. Soundings for rock and some changes in the specifications will be made before further bids are asked.

Onowa, Iowa. — County Commissioners voted $100,000 for straightening Soldier River through Monona County, in order to abate floods.

Waxahachie, Tex.—Levee District No. 2 of Trinity River sold $123,000 bonds. Address Clerk of the District.

Oroville, Wash. — Reported Citizens voted $50,000 additional bonds for West Okanogan Valley Irrigation District. Address Clk. District.

Ashland, Ore.—Reported Rogue River Land Co. will construct a 14-mile ditch to connect Fish Lake with Four Mile Lake. Connecting ditch will be 6 ft. at the bottom and 12 ft. at the top.

Perris, Cal.—Perris Valley Water Conservation and Protective Association (J. L. Greenleaf, Secretary), has been organized to promote plans for conservation of flood waters.

San Jacinto, Cal.—Election will probably be held to vote bonds for levee improvements on San Jacinto River. E. Dunham, Member San Jacinto Levee Board.

Santa Ana, Cal.—West Orange Protective District has been organized and will construct a levee about 7 miles long on east bank of Santa Ana River. Address Fred Eckgoff, Director.

Caldwell, Idaho. — Election to be held Aug. 28 to vote on constructing the Phyllis Canal of the Pioneer Irrigation District, a distance of 28 miles and to be lined with concrete; cost $79,000. J. W. Shepperd, Chief Engineer District, Caldwell; J. Jester, Secretary Board of Trustees.

BIDS DESIRED.

Boston, Mass.—Until Aug. 29, by Lighthouse Inspector, for dredging channel and basin Little Woods Hole Harbor, Mass.

York, S. C.—Until Sept. 4, by Turkey Creek Drainage District (Claud M. Inman, York, Chmn.), for digging 26 miles of ditches, 86,000 cu. yd. earth, advertised in Engineering Record. Will D. Alexander, Engr., 412 North Graham Street, Charlotte, N. C.

St. Johns, Mich.—Reported desired until Aug. 22, by Louis F. Green, County Drain Commissioner, at residence of Jas. L. Cox, Section 20, Greenbush Township, for constructing Silver Drain and Silvers Branch Drain.

Chicago, Ill.—See "Foundations, Piers and Dams."

Forest City, Iowa.—Until Aug. 26, by Board County Supervisors, for constructing Drainage Dist. No. 64, approximately 23,320 ft. open ditch, 8 ft. base, 113,546 ft. of tile from 32 to 6 in., 2 bulkheads, etc. C. K. Nelson, Co. Aud.

Until Aug. 25, same place as above, for constructing Drainage Dist. No. 61, approximately 32,645 ft. tile ranging in size from 28 to 6 in.

Logan, Iowa.—Reported desired until Sept. 5, by J. M. Albertson, County Auditor, for the Upper Willow Creek, Powley, Upper Boyer, Fischer and Mogger drainage projects; total cost about $100,000.

Nevada, Iowa.—Until Aug. 24, by F. E. King, County Auditor, for constructing ditch in Albany Township Drainage District No. 75, including main ditch, 10,012 lin. ft. 10 to 36 in. tile, and several laterals.

Sioux City, Iowa.—Until Sept. 18, by E. E. Hosmer, County Aud., for clean out and enlargement of Farmers Ditch, Drainage Dist. No. 1, advertised in Engineering Record. C. Moriarty, Engineer, U. B. Building, Sioux City.

Shakopee, Minn.—Until Sept. 4, by A. J. Mayer, Co. Aud., for constructing Ditch No. 5, Scott County, approximately 113,090 cu. yd. excav. Estimated cost $12,957. Also separate bids for constructing Ditch No. 6, same county, approximately 70,461 cu. yd. Estimated cost $8,661.

St. Ignatius, Mont.—Until Sept. 20, by U. S. Reclamation, St. Ignatius, Mont., for construction of canals and structures on the Flathead Project, Mont., involving about 125,000 cu. yd. excav., 495 cu. yd. reinforced concrete, 1000 sq. yd. paving, 10,100 sq. ft. canal lining, manufacturing and laying 3400 lin. ft. concrete pipe, etc., advertised in Engineering Record.

Walnut Ridge, Ark.—Reported desired until Sept. 4, by Commissioners Lower Running Drainage Dist. (F. F. Sloan, Chmn.), for constructing canal. Bond issue for $25,000 recently voted.

Montrose, Col.—Until Sept. 15, by U. S. Reclamation Service, Montrose, for constructing the Ironstone Canal Extension, California Mesa Lateral No. 3, and the Buttermilk Lateral, Uncompahgre Valley Project, in vicinity of Delta and Olathe. The work involves excavation of about 84,500 cu. yd. material in open cut.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Buffalo, N. Y.**—Contract awarded Great Lakes Dredging & Dock Company, Morgan Bldg., for dredging Buffalo River a distance of 700 ft. west of Ohio Street, at $32,400.

★**Monroe, Ga.** — Contract awarded Thompson & Moseley, Greensboro, N. C., for constructing drainage ditch for Cornish Creek Drainage Dist. (bids opened Aug. 1), at $24,080. Other bidders: J. E. Sigmon & Co., Stanley, N. C., $24,030; Braselton Bros., Braselton, Ga., $25,900; Karr & Moore, Salisbury, N. C., $25,530. W. D. Alexander, Designing Engr., Charlotte, N. C.

★**Brazil, Ind.**—Contract for drainage improvement awarded as follows Digging canals and building dykes to Fred M. Crane & Company, Omaha, Neb., and rip rap concrete work, flood gates and pumphouse to Steele & Company, Sullivan; total cost, $51,000.

★**Rock Island, Ill.**—Contract for constructing the southwest drain extending from Eleventh Street and Twelfth Avenue to the river awarded Independent Construction Co., Davenport, Iowa, at $67,184, for reinforced concrete construction (bids opened Aug. 1 by City). These are three sections requiring 1848 ft. 42-in., 2217 ft. 5 x 5 ft. and 696 ft. 7 x 19-in. tile, also about 6700 cu. yd. excav.

Clinton, Iowa.—Until Aug. 31, by Fred Lohberg, County Auditor, for constructing ditches in Drainage District No. 17. Main ditch, 84,000 ft.; one lateral, 1000 ft.;

estimated yardage, 820,000 yd.; bottom width, 6 ft. to 25 ft.; slopes, 1½ to 1. Floater machine may be used for part of work, consisting of about 360,000 yd. Balance of work to be constructed by drag line dredge.

★**Carlsbad, N. M.**—John Mulligan of El Paso, Tex., submitted lowest bid Aug. 1 to U. S. Reclamation Service at Carlsbad (L. E. Foster, Project Manager), for Schedule No. 1 at $31,980 and Schedule No. 2, at $13,472. About 150,000 cu. yd. of excavation to be removed.

Seattle, Wash.—Lowest bid opened by Drainage District No. 4, 715 New York Block, Seattle, for draining about 1000 acres in the Issaquah Valley submitted by Chamberlain Construction Co., Globe Block, at $10,364.

MISCELLANEOUS

PROPOSED WORK.

Conduits—Mount Holly, N. J.—Delaware & Atlantic Telegraph & Telephone Co. contemplates laying wires through the town in conduits. A hearing on the matter will be held in September.

Garbage Disposal Plant—Sharpsville, Pa.—Borough engaged Chester & Fleming, Pittsburgh, to prepare plans and specifications for a garbage incinerating plant.

Garbage Incinerator—Knoxville, Tenn.—Construction of a garbage incinerator is under consideration. Address John E. McMilan, Mayor.

Garbage Incinerator—Newport, Ky.—City Commissioners considering $40,000 bond issue for a garbage incinerator.

Park Bonds—Alliance, Ohio.—Park and playground bonds for $100,000 have been voted. Address City Clerk.

Garbage Disposal Plant—Columbus, Ohio.—Council passed an ordinance authorizing the issue of $30,000 bonds for extension of garbage reduction plant so it would be equipped to produce alcohol.

Filling—Seattle, Wash.—Plans filed with Board Public Works for filling, etc., on Occidental Avenue; cost $30,000. A. H. Dimock, City Engineer.

Pile Bridge—Son Diego, Cal.—Contract soon to be let by Board of Supervisors for constructing a pile bridge 2000 ft. long, over San Diego River at Lakeside, to cost $20,000.

Locomotive Crane—Astoria, Ore.—Reported contract soon to be let by Port Commission for locomotive crane for Pier No. 2; cost about $12,500.

BIDS DESIRED.

Light and Power Plant—Danbury, Iowa.—Until Aug. 29, by J. C. Jacobsen, City Clerk, for 25-yr. franchise for municipal light and power plant, advertised in the Engineering Record.

Street Signs—Faribault, Minn.—Reported desired until Aug. 22, by Ed. F. Kelly, City Recorder, for furnishing metal plates or enameled street signs, in all from 100 to 500.

Rock—Portland, Ore.—Reported desired until Aug. 28, by U. S. Engr. for 650,000 tons of rock for work on North Jetty of Columbia River.

Bricks and Cement—Ottawa, Ont.—Until Aug. 23, by John A. Pearson and J. O. Marchand, Archt., Parliament Hill, Ottawa, for 10,000 bbl. cement (in bags) delivered on site in quantities as may be directed during balance of year 1916, in connection with construction of Parliament building, by P. Lyall & Sons Construction Company, general contractors. Also separate bids same time and place for 5,000,000 bricks for same purpose.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Mail Handling Devices—New York, N. Y.**—Contract for installing mechanical mail handling devices in new U. S. Post Office awarded Lamson Company, Boston, Mass., at $144,057.

★**Stone—New Orelans, La.**—Following are bids opened June 20 by U. S. Engineer Office, New Orleans, for furnishing and delivering stone for South and Southwest Passes, Mississippi River, about 10,000 cu. yd.: (a) price per cu. yd.; (b) total; Lester F. Alexander, New Orleans (a) $2.929; (b) $29,290 (this company also bid $2.899 if awarded the entire amount required under this contract, either 10,000 or 15,000 cu. yd. This bid was accepted); Oscar F. Barrett, Cincinnati, (a) $3.45; (b) $34,500; A. E. Massey, New Orleans (a) $4.67; (b) $46,700.

★**Willows—New Orleans, La.**—Following is the only bid received and opened June 20 by U. S. Engineer, New Orleans, for furnishing willows, about 20,000 cords, for South and Southwest Passes, Mississippi River: R. M. Murphy Co., Inc., New Orleans, $1.52 per cord; total, $30,400 (awarded contract).

★**Conduits — Montreal, Que.** — Contract awarded M. J. Stack & Co., Montreal, at $57,334, for underground conduits on St. Lawrence Boulevard.

Proposals

For Proposals Advertised See Pages 46, 47, 48 and 49.

WATER WORKS AND SEWERAGE SYSTEMS.

Close. Bids		Record. See Eng.
Aug. 21.	Pitman, N. J. Adv. Aug. 5.	Aug. 5
Aug. 21.	Highland Park, Mich. (2 Props.) Adv. Aug. 12, 19.	Aug. 12
Aug. 21.	Eldon, Iowa Adv. Aug. 19.	Aug. 19
Aug. 22.	Covina, Cal.	Aug. 19
Aug. 22.	Scranton, Pa.	Aug. 19
Aug. 22.	New Brunswick, N. J.	Aug. 19
Aug. 23.	Olean, N. Y.	Aug. 12
Aug. 23.	East View, N. Y. Adv. Aug. 12.	Aug. 12
Aug. 23.	Brooklyn, N. Y.	Aug. 19
Aug. 23.	Baltimore, Md. Adv. Aug. 19.	Aug. 19
Aug. 23.	Kasson, Minn.	Aug. 19
Aug. 23.	New York, N. Y.	Aug. 19
Aug. 23.	Olean, N. Y.	Aug. 19
Aug. 24.	Anthon, Iowa Adv. Aug. 5 to 19.	Aug. 5
Aug. 24.	Barry, Ill.	Aug. 12
Aug. 24.	Mandon, N. D.	Aug. 19
Aug. 24.	Aylmer, Que.	Aug. 19
Aug. 24.	Chillicothe, Mo.	Aug. 19
Aug. 24.	Los Angeles, Cal.	Aug. 19
Aug. 24.	Spokane, Wash.	Aug. 19
Aug. 25.	Clintonville, Wis.	Aug. 5
Aug. 25.	Fond du Lac, Wis.	Aug. 19
Aug. 25.	Washington, Iowa Adv. Aug. 19.	Aug. 19
Aug. 25.	Bogota, N. J.	Aug. 19
Aug. 25.	West Point, Va.	Aug. 19
Aug. 26.	Great Lakes, Ill.	Aug. 5
Aug. 26.	Belle Fourche, S. D.	Aug. 12
Aug. 26.	Menominee, Mich. Adv. Aug. 19.	Aug. 19
Aug. 28.	Madison, Wis.	Aug. 12
Aug. 28.	Fulton, N. Y.	Aug. 19
Aug. 28.	New Ulm, Minn.	Aug. 19
Aug. 28.	Sheridan, Mont. Adv. Aug. 19.	Aug. 19
Aug. 28.	Los Angeles, Cal.	Aug. 19
Aug. 29.	Hamilton, Ohio	Aug. 5
Aug. 29.	Bayonne, N. J.	Aug. 19
Aug. 30.	Scotia, Neb.	Aug. 19
Aug. 31.	Boston, Mass.	Jul. 29
Aug. 31.	West Park, Ohio	Aug. 12
Aug. 31.	Chicago, Ill. Adv. Aug. 12.	Aug. 12
Aug. 31.	Janesville, Minn. Adv. Aug. 19.	Aug. 19
Aug. 31.	Claremont, Minn.	Aug. 19
Sep. 1.	Chaska, Minn.	Aug. 19
Sep. 1.	Conduit, etc., St. Louis, Mo.	Aug. 19
Sep. 1.	Natchitoches, La.	Aug. 19
Sep. 1.	Cincinnati, Ohio	Aug. 19
Sep. 5.	Washington, D. C. Adv. Aug. 12.	Aug. 12
Sep. 5.	New York, N. Y. Adv. Aug. 12.	Aug. 12
Sep. 5.	Beardstown, Ill. Adv. Aug. 12.	Aug. 12
Sep. 5.	Shreveport, La. Adv. Aug. 19.	Aug. 19
Sep. 5.	Fresno, Cal.	Aug. 19
Sept. 6.	Wilmington, Del. Adv. Aug. 5, 19.	Aug. 5
Sep. 6.	Bridgeport, Conn. Adv. Aug. 19.	Aug. 19
Sep. 8.	Evanston, Ill. Adv. Aug. 12, 19.	Aug. 12
Sep. 18.	South Bethlehem, Pa. Adv. Aug. 19.	Aug. 19

STEEL BRIDGE WORK.

Bids Close.		See Eng. Record.
Aug. 21.	Crosby, N. D. Adv. Aug. 12.	Aug. 12
Aug. 22.	Steubenville, Ohio	Aug. 5
Aug. 22.	Missoula, Mont.	Aug. 12
Aug. 22.	Grafton, W. Va.	Aug. 12
Aug. 23.	Dunrea, Man.	Aug. 19
Aug. 26.	Miami, Fla.	Aug. 19
Aug. 28.	Ste. Martine, Que.	Aug. 19
Aug. 28.	Croswell, Mich.	Aug. 19
Aug. 28.	Chatom, Ala.	Aug. 5
Aug. 29.	Panama	Aug. 19
Aug. 31.	Kansas City, Mo.	Aug. 12
Aug. 31.	Austin, Minn.	Aug. 19
Aug. 31.	Newark N. J. Adv. Aug. 19.	Aug. 19
Sep. 2.	Norfolk, Va.	Aug. 19
Sep. 6.	Cleveland, Ohio	Aug. 19
Sep. 6.	Albany, N. Y. Adv. Aug. 12.	Aug. 12
Sep. 12.	Buffalo, N. Y. Adv. Aug. 19.	Aug. 19

REINFORCED CONCRETE.

Bids Close.		See Eng. Record.
Aug. 21.	Crosby, N. D. Adv. Aug. 12.	Aug. 12
Aug. 22.	South Bend, Wash.	Aug. 5
Aug. 22.	Iola, Kan.	Aug. 12
Aug. 22.	Westfield, Mass. Adv. Aug. 12.	Aug. 12
Aug. 22.	Logan, Iowa	Aug. 19
Aug. 22.	Philadelphia, Pa.	Aug. 19
Aug. 22.	North Plainfield, N. J.	Aug. 19
Aug. 22.	Tipton, Iowa	Aug. 19
Aug. 23.	Hamilton, Ohio	Aug. 5
Aug. 23.	St. Cloud, Minn.	Aug. 12
Aug. 23.	Ithaca, N. Y.	Aug. 19
Aug. 24.	Franklin, Pa.	Aug. 12
Aug. 24.	Eufaula, Ala.	Aug. 12
Aug. 24.	Moncton, N. B.	Aug. 19
Aug. 24.	Benson, Minn.	Aug. 19
Aug. 24.	Transcona, Man.	Aug. 19
Aug. 24.	Flemington, N. J.	Aug. 19
Aug. 29.	Clair City, Minn.	Aug. 19
Aug. 31.	Santa Barbara, Cal.	Aug. 19
Aug. 31.	Peekskill, N. Y.	Aug. 19
Sep. 1.	Middlebourne, W. Va.	Aug. 19
Sep. 2.	Berkeley Springs, W. Va.	Aug. 12
Sep. 5.	Clearwater, Fla.	Aug. 19
Sep. 5.	York, Pa.	Aug. 19
Sep. 6.	Ann Arbor, Mich.	Aug. 19
Sep. 6.	Washington	Aug. 19
Sep. 7.	Florence, S. C.	Aug. 19
Sep. 9.	Michigan.	Aug. 19
Sep. 12.	Manhattan, Kan.	Aug. 19
Sep. 19.	Los Angeles, Cal.	Aug. 19

ROADS AND PAVING.

Bids Close.		See Eng. Record.
Aug. 21.	Lock Haven, Pa. Adv. Aug. 12, 19.	Aug. 12
Aug. 22.	Rockville, Md. Adv. Aug. 12, 19.	Aug. 12
Aug. 22.	Omaha, Neb.	Aug. 12
Aug. 22.	Montclair, N. J. Adv. Aug. 12, 19.	Aug. 12
Aug. 22.	Fallston, Pa.	Aug. 19
Aug. 22.	Huntington, W. Va.	Aug. 19
Aug. 22.	West View, Pa.	Aug. 19
Aug. 22.	Centerville, Md.	Aug. 19
Aug. 22.	Norwalk, Ohio	Aug. 19
Aug. 23.	Woodbury, N. J.	Aug. 12
Aug. 23.	Pittsburg, Kan.	Aug. 19
Aug. 23.	Brooklyn, N. Y.	Aug. 19
Aug. 23.	Baltimore, Md.	Aug. 19
Aug. 23.	Los Angeles, Cal.	Aug. 19
Aug. 23.	Riverside, Cal.	Aug. 19
Aug. 22.	Stockton, Cal.	Aug. 19
Aug. 23.	Aurora, Ill. Adv. Aug. 19.	Aug. 19
Aug. 23.	Kansas City, Mo.	Aug. 19
Aug. 24.	East Cleveland, Ohio	Aug. 12
Aug. 24.	Pittsburgh, Pa.	Aug. 19
Aug. 25.	Clarksville, Tex.	Aug. 5
Aug. 25.	London, Ohio	Aug. 5
Aug. 25.	Louisville, Ky.	Aug. 19
Aug. 25.	Newport Beach, Cal.	Aug. 19
Aug. 25.	Louisville, Ky.	Aug. 19
Aug. 26.	Center, Ala.	Aug. 5
Aug. 28.	Everett, Wash.	Aug. 12
Aug. 28.	Lafayette, Ala.	Aug. 12
Aug. 28.	New Orleans, La. Adv. Aug. 12, 19.	Aug. 12
Aug. 28.	Seattle, Wash.	Aug. 12
Aug. 28.	Lakewood, Ohio.	Aug. 12
Aug. 28.	Wilburton, Okla. Adv. Aug. 19.	Aug. 19
Aug. 28.	Knoxville, Ill.	Aug. 19
Aug. 28.	Bismarck, N. D.	Aug. 19
Aug. 28.	Defiance, Ohio	Aug. 19
Aug. 29.	Maryland Adv. Aug. 12, 19.	Aug. 12
Aug. 29.	Boise, Idaho	Aug. 12
Aug. 29.	Seattle, Wash.	Aug. 19
Aug. 29.	Xenia, Ohio	Aug. 19
Aug. 29.	Indiana	Aug. 19
Aug. 30.	Kenton, Ohio	Aug. 19
Aug. 30.	Columbus, Ohio	Aug. 19
Aug. 31.	Lewisburg, W. Va.	Aug. 12
Aug. 31.	Indiana	Aug. 19
Sept. 1.	Globe, Ariz.	Jul. 29
Sept. 1.	Indiana	Aug. 5
Sep. 1.	Sioux City, Iowa	Aug. 19
Sep. 1.	Santa Barbara, Cal.	Aug. 19
Sep. 1.	Indiana	Aug. 19
Sep. 1.	Wheaton, Ill.	Aug. 19
Sep. 4.	Hughesville, Pa.	Aug. 19
Sep. 4.	Opelousas, La.	Aug. 19
Sep. 4.	Marysville, Ohio	Aug. 19
Sep. 4.	Indiana	Aug. 19
Sep. 4.	Friars Point, Miss.	Aug. 19
Sep. 5.	Indiana	Aug. 12
Sep. 5.	Hackensack, N. J.	Aug. 19
Sep. 5.	Plainfield, N. J.	Aug. 19
Sep. 5.	Indiana	Aug. 19
Sep. 5.	Holly Springs, Miss.	Aug. 19
Sep. 6.	Cleveland, Ohio Adv. Aug. 12.	Aug. 12
Sept. 6.	Mt. Holly, N. J. Adv. Aug. 5.	Aug. 5
Sep. 7.	Indiana	Aug. 19
Sep. 8.	Ventura, Cal.	Aug. 19
Sept. 11.	Birmingham, Ala. Adv. Jul. 29.	Jul. 29
Sep. 20.	Phoenix, Ariz.	Aug. 12
Sep. 20.	Phoenix, Ariz.	Aug. 19
——	Ocean City, N. J. Adv. Jul. 15.	Jul. 15

RAILWAYS.

Bids Close.		See Eng. Record.
Aug. 30.	New York, N. Y.	Aug. 19

INDUSTRIAL PLANTS AND WAREHOUSES.

Bids Close.		See Eng. Record.
Sept. 2.	Pekin, China	Aug. 5

BUILDINGS.
Public and Private.

Bids Close.		See Eng. Record.
Aug. 21.	Buffalo, N. Y. Adv. Jul. 22 to Aug. 12.	Jul. 22
Aug. 22.	Sturgis, Mich.	Aug. 12
Aug. 22.	Morris, Minn.	Aug. 12
Aug. 22.	Elgin, Ill.	Aug. 19
Aug. 22.	Syracuse, N. Y.	Aug. 19
Aug. 23.	West Liberty, W. Va.	Jul. 29
Aug. 23.	Toledo, Ohio	Aug. 12
Aug. 23.	Hoboken, N. J.	Aug. 12
Aug. 23.	Austin, Tex.	Aug. 19
Aug. 24.	Ft. Dodge, Iowa	Aug. 5
Aug. 24.	Cincinnati, Ohio	Aug. 12
Aug. 24.	Newark, Del.	Aug. 19
Aug. 24.	Bayonne, N. J.	Aug. 19
Aug. 25.	Ashland, Ohio Adv. Jul. 22, 29.	Jul. 22
Aug. 25.	Akron, Ohio	Aug. 19
Aug. 25.	David City, Neb.	Aug. 19
Aug. 25.	New Britain, Conn.	Aug. 19
Aug. 26.	Eaton, Ohio	Aug. 5
Aug. 26.	Dallas, Tex.	Aug. 12
Aug. 26.	Paris, Tex.	Aug. 19
Aug. 26.	College Station, Tex.	Aug. 19
Aug. 28.	Nashville, Tenn.	Jul. 8
Aug. 28.	Okmulgee, Okla.	Aug. 12
Aug. 28.	Parsons, Kan.	Aug. 19
Aug. 28.	Tucumcari, N. M.	Aug. 19
Aug. 29.	Baltimore, Md.	Aug. 19
Aug. 29.	Boston, Mass.	Aug. 19
Aug. 29.	Moberly, Mo.	Aug. 19
Aug. 29.	Toledo, Ohio	Aug. 19
Aug. 29.	Augusta, Ga.	Aug. 19
Aug. 30.	Newark, N. J.	Aug. 12
Aug. 30.	Seattle, Wash.	Aug. 19
Aug. 31.	St. Paul, Minn.	Aug. 12
Aug. 31.	Philadelphia, Pa.	Aug. 12
Aug. 31.	Havelock, Neb.	Aug. 12
Aug. 31.	Chester, Iowa	Aug. 12
Aug. 31.	Cedar Rapids, Iowa	Aug. 19
Aug. 31.	Philadelphia, Pa.	Aug. 19
Sept. 1.	Mitchell, S. D.	Aug. 5
Sep. 1.	Stapleton, S. I., N. Y.	Aug. 19
Sep. 1.	Cincinnati, Ohio	Aug. 19
Sep. 1.	Appleton, Wis.	Aug. 19
Sept. 2.	Huntington, Ind.	Aug. 5
Sep. 2.	Jacksonville, Fla.	Aug. 12
Sep. 2.	Buffalo, Minn.	Aug. 12
Sep. 5.	Port Arthur, Tex.	Aug. 19
Sep. 5.	Plainfield, N. J.	Aug. 19
Sep. 6.	Berlin, Wis.	Aug. 19
Sept. 7.	Athens, Ala. Adv. Aug. 5.	Aug. 5
Sep. 7.	Knoxville, Iowa Adv. Aug. 19.	Aug. 19
Sep. 7.	Dayton, Ohio	Aug. 19
Sep. 8.	Fredericktown, Ohio	Aug. 19
Sep. 8.	Rochester, N. Y.	Aug. 19
Sep. 8.	Jacksonville, Fla.	Aug. 19
Sep. 9.	Irwin, Pa.	Aug. 19
Sep. 11.	Covington, Ky.	Aug. 19
Sept. 12.	Orlando, Fla. Adv. Aug. 5, 12.	Aug. 5
Sept. 12.	Warrenton, Va.	Jul. 29
Sep. 12.	Jesup, Iowa	Aug. 19
Sep. 14.	Mounds, Minn.	Aug. 19
Sep. 21.	Highland Park, Mich. Adv. Aug. 19.	Aug. 19

FOUNDATIONS, PIERS AND DAMS.

Bids Close.		See Eng. Record.
Aug. 22.	Steubenville, Ohio Adv. Aug. 5.	Aug. 5
Aug. 22.	St. Louis, Mo.	Aug. 12
Aug. 22.	New York, N. Y.	Aug. 19
Aug. 31.	Evanston, Ill.	Aug. 19
Sep. 5.	Gulfport, Miss.	Aug. 12
Sep. 6.	Albany, N. Y. Adv. Aug. 12.	Aug. 12
Sep. 14.	Chicago, Ill.	Aug. 19
Sep. 16.	Chicopee, Mass.	Aug. 12
Sep. 16.	Baltimore, Md.	Aug. 12
Sept. 25.	Houston, Tex.	Aug. 5

EXCAVATION, DREDGING AND DRAINAGE.

Bids Close.		See Eng. Record.
Aug. 22.	Richfield, Utah	Aug. 5
Aug. 22.	St. Johns, Mich.	Aug. 19
Aug. 24.	Glenwood, Iowa	Aug. 12
Aug. 24.	Nevada, Iowa.	Aug. 19
Aug. 25.	Brazil, Ind.	Aug. 12
Aug. 25.	Forest City, Ia.	Aug. 19
Aug. 26.	Riverside, Cal.	Jul. 22
Aug. 26.	Forest City, Ia.	Aug. 19
Aug. 29.	Boston, Mass.	Aug. 19
Aug. 30.	Albany, N. Y.	Aug. 12
Aug. 30.	Foley, Minn.	Aug. 12
Aug. 31.	Clinton, Iowa	Aug. 19
Sep. 4.	York, S. C. Adv. Aug. 19.	Aug. 19
Sep. 4.	Walnut Ridge, Ark.	Aug. 19
Sep. 5.	Miami, Fla. Adv. Aug. 12, 19.	Aug. 12
Sep. 14.	Chicago, Ill. Adv. Aug. 19.	Aug. 19
Sep. 15.	Montrose, Col.	Aug. 19
Sep. 18.	Sioux City, Ia. Adv. Aug. 19.	Aug. 19
Sep. 20.	St. Ignatius, Mont. Adv. Aug. 19.	Aug. 19
——	Rock Island, Ill. Adv. Aug. 5, 12.	Aug. 5

TUNNELS AND SUBWAYS.

Bids Close.		See Eng. Record.
Aug. 30.	Chicago, Ill.	Aug. 19

MISCELLANEOUS.

Bids Close.		See Eng. Record.
Aug. 21.	Fire Hose, Ashland, Ky. Adv. Aug. 19.	Aug. 19
Aug. 22.	Street Signs, Faribault, Minn.	Aug. 19
Aug. 23.	Garbage Disposal—Reading, Pa.	Aug. 12
Aug. 23.	Purchase of Locomotives, Panama Adv. Jul. 1.	Jun. 24
Aug. 23.	Engine—Panama Adv. Jul. 15.	Jul. 15
Aug. 23.	Cement and Bricks, Ottawa, Ont.	Aug. 19
Aug. 28.	Chimney — Los Angeles, Cal.	Aug. 12
Aug. 28.	Stone—Portland, Ore.	Aug. 12
Aug. 28.	Rock, Portland, Ore.	Aug. 19
Aug. 29.	Light and Plant Franchise, Danbury, Iowa Adv. Aug. 19.	Aug. 19
Aug. 31.	Iron and Steel, Dallas, Tex. Adv. Aug. 5 to 19.	Aug. 5
Sep. 6.	State Canal Work, Terminal Contract 31, Albany, N. Y. Adv. Aug. 12, 19.	Aug. 12
Sept. 13.	Traveling Cranes, New Orleans, La.	Jul. 29
Sept. 14.	Cement, Savannah, Ga.	Aug. 5

SEARCHLIGHT SECTION

Official Proposal Announcements

Price, $2.40 an inch.—Copy can be received until Thursday 10 a. m. for issue mailed the next morning

Bids open August 22, 1916.

INFORMATION FOR CONTRACTORS.

STATE AID HIGHWAY

ROCKVILLE, MD.

Sealed proposals, for macadam or concrete construction, addressed to the County Commissioners of Montgomery County, and endorsed "Proposals for building a section of State Aid Highway in Montgomery County," upon or along the Glenmont-Colesville road, between Glenmont and Colesville, for a distance of about three (3) miles, will be received by the County Commissioners of Montgomery County, at their office, Rockville, Maryland, until twelve o'clock M. of the 22nd day of August, 1916, and at that time and place will be publicly opened and read.

All bids must be made upon blank forms to be obtained of the State Roads Commisison, at its office, 601 Garrett Building, Baltimore, Maryland, must give the prices proposed both in writing and figures and must be signed by the bidder, with his address.

Each bid must be accompanied by a certified check for Two Hundred Dollars ($200.00), payable to the Treasurer of Montgomery County, said check to be returned to the bidder unless he fails to execute the contract should it be awarded to him.

Plans can be seen and forms of specifications and contract may be obtained on cash payment of One ($1.00) Dollar, at the office of the State Roads Commission, Baltimore, Md.

The Commissioners of Montgomery County reserve the right to reject any and all proposals.

By order of the Board.

JOHN R. LEWIS, President.
BERRY E. CLARK, Clerk.

Bids open August 24, 1916.

NOTICE TO CONTRACTORS.

SEWER IMPROVEMENTS

ANTHON, IOWA.

Sealed bids for the proposed work will be received by the Town Clerk at Anthon, Ia., until 2 p. m., Aug. 24th, 1916, to be accompanied by a certified check of 5% of bid.

10,770 ft. of 8" Sewer.
2815 ft. of 10" Sewer.
34 Manholes.
One Septic Tank Sludgebed Dosing Chamber and outlet.
Two Filter Beds, Siphons, Etc.

Plans and specifications may be obtained from the Town Clerk or from Paul D. Cook, Engineer, 518 U.B. Bldg., Sioux City, Ia.

The Council reserves the right to reject any or all bids.

Anthon, Ia., July 31st, 1916.

Bids open August 28, 1916.

GRAVEL HIGHWAY

OUACHITA, LA.

Sealed proposals will be received at the office of the Highway Department of the Board of State Engineers, of Louisiana, Room 104, New Orleans Court Building, New Orleans, La., up to 12 o'clock, noon, Monday, Aug. 28, 1916, for the construction, with gravel, of the Monroe-Winnsboro Highway, in Ouachita Parish, La., a distance of about 13 miles.

Information as to location, character of work, extent and class of material, terms of payment, regulations governing manner of submitting proposals and executing contract, may, on application, be obtained at the office of the Highway Department.

W. E. ATKINSON,
State Highway Engineer.

FRANK M. KERR,
Chief State Engineer and
President Board of State Engineers.

Bids open September 8, 1916.

STEAM PUMPING UNIT

EVANSTON, ILL.

Notice is hereby given that sealed proposals, endorsed with the name of the bidder and the date of presentation, will be received at the office of the Commissioner of Public Works, at the City Hall, Evanston, Illinois, until 12 M. September 8th, 1916, for the designing, construction, delivery and erection complete of a steam pumping unit, of a capacity to pump continuously ten (10) millions U. S. gallons of water per twenty-four (24) hours against a maximum total combined head of one hundred and twenty (120) feet with steam pressure of one hundred and sixty-five pounds (165 lb.) per square inch at the throttle; together with all the auxiliary equipment, tools and appurtenances necessary; all in accordance with the plans and specifications on file in the office of the Commissioner of Public Works.

The make of a pumping unit that will be given preference will be that showing the lowest operating cost per year, to be determined on a basis given in the specifications, plus fixed charges on the total investment.

A certified check made payable to the City of Evanston for 10% of the amount of the bid, must accompany each proposal as surety for the making and execution of a contract.

The City reserves the right to reject any or all bids, or any part thereof.

Bids are to be submitted upon the regular proposal blanks, which may be obtained together with plans and specifications from the Commisisoner of Public Works by the deposit of $10.00 which will be remitted when plans and specifications are returned to the City in good condition. All bids will be opened in public, at the time above stated, by the Commissioner of Public Works, in the presence of the Water Committee.

IRVING C. BROWER,
Commissioner of Public Works

Bids open August 28, 1916.

NOTICE FOR BIDS

BLUE MOUNTAIN ROAD

WILBURTON, OKLA.

Notice is hereby given that sealed bids will be received by the Board of County Commissioners for the construction of the "Blue Mountain Road" in Damon Township, Latimer County, Okla.; and that they will be opened and read in public, at the Court House in Wilburton, Okla., on Monday, August 28, 1916, at 11 a. m.

The road is to be 12,000 ft. long; there will be one and one-half miles of clearing, 7000 ft. of extra side ditches above the road (2 by 2), the regular grading of the road; and the placing of 8934 sq. yd. of surfacing, which will consist of 4 in. of ¾-in. crusher run sandstone and 1⅛ in. of fine clay for binder, and 920 sq. yd. of rubble masonry and concrete crossings or overflows.

Maps, profiles, specifications and contract may be inspected in the office of the County Clerk, or County Engineer, at Wilburton, Okla., or in the office of the State Engineer, Oklahoma City, Okla.

Bids must be enclosed in sealed envelopes bearing the name and address of bidder on the outside, addressed to S. W. Brooks, Chairman, and must be accompanied by a certified check or cash for not less than $500, and be delivered at the place and on the hour above named.

By order of the Board of County Commissioners of Latimer Co., Okla. Dated August 7, 1916.

S. W. BROOKS,
J. M. PATE,
C. S. HILBUN,
County Commissioners.

Bids open August 22, 1916.

BIDS FOR

PAVING ORANGE ROAD

MONTCLAIR, N. J.

Sealed bids will be received by the Town Clerk for the construction of a two (2") inch asphaltic concrete pavement (Topeka), laid on the present macadam as a base on Orange Road from Elm Street southeasterly to the town line, having a total length of approximately fifty-six hundred (5600') lineal feet. The above work, together with any incidental work in connection therewith, all in accordance with the contract, plans and specifications therefor, on file in the office of Edgar S. Closson, Town Engineer, and there to be seen.

Each bidder will be required to use the form of bid on file in the office of the Town Engineer and all bids not made on such form will be rejected.

Each bid must be accompanied by a forfeit of Fifteen Hundred ($1,500) Dollars, to insure the signing of the contract and bond by the successful bidder within two (2) weeks after the award shall have been made.

All bids must be in by Tuesday, August 22d, 1916, at 4 p. m., at which time the Board of Commissioners will meet in the Municipal Building to consider the same.

The Board of Commissioners reserves the right to reject all bids or to award the contract to the lowest bidder or bidders who furnish satisfactory evidence of their ability to carry out the contract as regards time, quality of work to be done and materials to be furnished.

By order of the Board of Commissioners.

HENRY WARE JONES,
Acting Town Clerk.

Bids open August 29, 1916.

NOTICE TO CONTRACTORS.

STATE OF MARYLAND.

STATE ROADS COMMISSION

BALTIMORE, MD.

Sealed proposals for building two sections of State Highway, as follows:

Contract No. H-17—HARFORD COUNTY: One section from Forest Hill to Ramsey's Corner, about 6.1 miles in length. (Concrete or Macadam Class "C.")

Contract No. S-9—SOMERSET COUNTY: One section from Costen to Pocomoke, about 2.35 miles in length. (Concrete or Bituminous Concrete.)

will be received by the State Roads Commission, at its office, 601 Garrett Building, Baltimore, Maryland, until 12 M. on the 29th day of August, 1916, at which time and place they will be publicly opened and read.

Bids must be made upon the blank form contained in the book of specifications. Specifications and plans will be furnished by the Commission upon application and cash payment of $1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check for the sum of Five Hundred ($500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond, and comply with the Acts of the General Assembly of Maryland, respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 3rd day of August, 1916.

F. H. ZOUCK, Chairman.
CLYDE H. WILSON, Secretary.

Bids open August 21, 1916.

NOTICE TO CONTRACTORS

PAVING

LOCK HAVEN, PA.

Sealed proposals, endorsed "Bids for the Construction of Vitrified Brick Paving on Henderson Street, Lock Haven, Pa.," and addressed to Walter E. Zimmerman, Superintendent of Streets and Public Improvements, Lock Haven, Pa., will be received until one o'clock P. M., August 21, 1916, at which time the bids will be publicly opened by the City Council, in the City Council Chamber, and the contract awarded by said City Council at a future meeting, unless all bids are rejected.

The work for which said proposal shall be made includes the removal of the present brick paving and uncemented broken stone foundation, and furnishing all labor and materials to construct the following vitrified brick paving:

Henderson Street, approximately 4338 square yards, not including 1077 square yards of street railway reconstruction and paving.

The probable resetting of approximately 2000 lineal feet of 4-inch stone curbing.

The City Council may decide to repave approximately 1041 square yards on Main Street with vitrified brick paving, same as Henderson Street, not including 220 square yards of street railway reconstruction and paving.

The above mentioned street railway reconstruction and paving is to be done by the Susquehanna Traction Company under separate contract, but by the same contractor, if possible.

Specifications, proposal blanks, drawings and information regarding the work to be done, and the manner of submitting bids, may be obtained by application to the above named Walter E. Zimmerman, upon the deposit of Five dollars ($5.00), which amount will be refunded if the plans and specifications are returned within five (5) days after the date of opening the bids.

The City Council reserves the right to reject any or all bids, or to award the contract as it deems to the best interests of the City of Lock Haven.

WALTER E. ZIMMERMAN,
Supt. Streets and Public Improvements.
H. P. SHOEMAKER,
City Engineer.
Aug. 8, 1916.

Bids open August 21, 1916.

NOTICE TO CONTRACTORS

DRAINS

HIGHLAND PARK, MICHIGAN.

Sealed proposals will be received by the Clerk of the Village of Highland Park up to 8 o'clock P. M., Eastern Standard time, of Monday, the 21st day of August, 1916, for the construction of certain drains in Davison and Dequindre Avenues east of the village limits, circular in shape and constructed either of reinforced concrete pipe or of vitrified clay pipe. Approximately 1615 ft. of 27-in. drain and 1825 ft. of 24-in. drain will be required, with manholes and other appurtenances.

The plans and specifications under which the work is to be done may be examined at the office of the Village Clerk; and copies of the same may be obtained by making a deposit of Five Dollars, which will be refunded upon their return in good condition.

A certified check for a sum not less than five per cent of the amount of the proposal will be required with each proposal.

The right to reject any or all proposals, and the right to waive defects in proposals, are reserved by the village.

R. M. FORD,
Village Clerk.
E. C. FOSTER,
Superintendent of Public Works.
HOAD & DECKER,
Consulting Engineers,
Ann Arbor, Michigan.

Crops Much Smaller Than Last Year and Below Average

Will Not Have Usual Depressing Effect, in View of Other Business Factors—Favorable Issue of Railway Dispute Hoped For

THE CROP REPORT just issued for August by the Department of Agriculture gives the composite condition of all crops in the United States on Aug. 1 as 2.6 below the ten-year average on that date, 4.1 per cent below the estimate of July 1 and 9.3 per cent below the final yield of 1915. Contractors will be interested in the fact that conditions are generally above the average in the North Atlantic states and below the average elsewhere, with few exceptions. While farm prices, with the single exception of oats, are above those of last year, the difference will not nearly close the gap between the total value of this year's crops and those of 1915. The effect of this reduction in total return to the farmer on the borrowing power of rural communities for roads and public improvements is not likely to be large because of the financial strength of the country as a whole. However, with the crop moving to be financed, with a large U. S. Government bond issue on the horizon and the new $250,000,000 British loan proposed, interest rates are expected to stiffen. Indeed, in spite of the recent gains, bond yields and money rates are still low, and it is not likely that money will again be borrowed for some time at the rates prevailing during the past year. It is not likely that any immediate effect on construction work from this cause will be observed, as people continue to borrow money for improvements even if rates are high as long as continued prosperity is in sight. Moreover, the aforementioned tendency to higher rates is being offset by heavy importations of gold, for which it is difficult to account. The gold reserves in Canada and England have remained almost stationary, and at the same time enormous shipments have reached New York. One explanation has it that a large part of the output of the Transvaal mines is being taken directly to Canada for export to this country.

As was pointed out in the Engineering Record about two months ago, contractors may expect trouble with rail deliveries from now on. There were only about 10,600 idle cars in the entire country on Aug. 1, and it is very likely that the Sept. 1 statement will show a net shortage.

The Railroad Situation

While the dispute between the railroads and their union employees has reached a critical stage at the present writing, expression is being given on all hands to the belief that the eight-hour day will be granted, preventing serious trouble, and that it will be adjusted so as to relieve the railroads of the financial burden involved. The press of the country appears generally opposed to allowing 18 per cent of the railway employees at this time a further large wage increase, which, by the lowest computation, would impose a tax on the country of substantial size. Cost of production in the United States has already risen to dangerous levels in view of the competition which will have to be met at the close of the present war. In many quarters the whole business is characterized as a hold-up, and the President is severely censured for taking sides in any degree with the four unions involved. In other quarters it is held that the unions have been allowed to work themselves into a position from which it is impossible at short notice to dislodge them without a disastrous industrial war, and that the President had no choice but to learn the lowest price these men would take and arrange to get it for them with the least expense to the country. Aside from the merits of the dispute as it affects the entire country, the settlement now talked of, allowing the railroads sufficient revenue increases to meet the situation and hinting at legislation to secure stable conditions in the future, would undoubtedly result in the accomplishment of much of the railroad extension and construction that has been pending for so long.

Buildings

The following table summarizes the larger building operations noted in this issue:

Contracts awarded:	Kind of Building	Cost
Worcester, Mass.	Police station	$200,000
Philadelphia, Pa.	Garage	346,000
Philadelphia, Pa.	Office building	300,000
Bids desired:		
New York, N. Y.	School	*88,000
Mason City, Iowa	School	250,000
Proposed work:		
New York, N. Y.	Factory	200,000
New York, N. Y.	Apartment	250,000
New York, N. Y.	Office building	350,000
Bayonne, N. J.	Mill	500,000
Philadelphia, Pa.	Church	200,000
Lima, Ohio	High school	650,000
Davenport, Iowa	Tire factory	500,000
Texarkana, Ark.	Hotel	300,000
Arkansas City, Kan.	Refinery	1,000,000
Omaha, Neb.	Bank building	700,000
Beaumont, Tex.	School buildings	300,000

*Security.

Waterworks and Sewers

Contracts for two sewers in Long Island City, N. Y., have been awarded at $108,000 and $197,000 respectively. Hoboken, N. J., has contracted for a sewer system to cost $970,000 and for additional sewer work costing $66,000. The sewer work at Savannah, Ga., has been awarded at $65,000. The award at $900,000 of a contract for section 7 of the Calumet sewer in Chicago is also noted. A low bid of $92,000 was received at Lethbridge, Alta., for constructing a filtration plant. Bids are desired at Long Island City, N. Y., for further sewer work requiring $35,000 security. Clayton, N. M., will receive bids Aug. 29 for extensive improvements to its waterworks system.

It is reported that Cleveland will soon let a contract for completing the sewage-disposal plant at West Fifty-fourth Street, which will cost altogether $400,000. Summit, N. J., has authorized the building of a storm-sewer system to cost $100,000. Waterworks improvements costing $535,000 have been recommended at Knoxville, Tenn. The construction of water mains costing $400,000 is proposed at Flint, Mich. Sewer-extension work at London, Ont., will require an outlay of $75,000.

Roads and Paving

Contractors on New York State road work have been picking their sections at every letting this summer because of the abundance of work and the scarcity of labor. At the two most recent lettings no tenders were received for a number of sections, and for a considerable percentage of the work only one or two bids per section were received. The project for widening Twelfth Street in Chicago at a cost of $5,000,000 has been revived. The paving would represent a large share of the actual construction cost, but the project also includes a viaduct across the railroad yards, costing well above $1,000,000 and a new bridge over the Chicago river. Lettings were active last week, while the volume of new proposed work appears to be diminishing. Work noted in this issue is summarized below:

Contracts awarded:	Kind	Cost
Morristown, N. J.	Highways	$515,000
Maryland	State highways	100,000
Elkins, W. Va.	Highways	200,000
Chicago, Ill.	Concrete road	84,000
Bids opened:		
Boston, Mass.	Asphalt	71,000
New York, N. Y.	Granite	127,000
New York, N. Y.	Granite	97,000
Albany, N. Y.	46 road sections	2,531,000
Albany, N. Y.	18 road sections	1,028,000
Bids desired:		
New Brighton, N. Y.	Bituminous	*35,000
Perry, Fla.	Highways	600,000
New Orleans, La.	Asphalt	250,000
Proposed work:		
Greensburg, Pa.	Highways	321,000
Logan, W. Va.	Bonds for sale	200,000
Warren, Ohio	Bonds sold	158,000
Winchester, Ind.	Bonds sold	74,000
Chicago, Ill.	Street widening	5,000,000
Corsicana, Tex.	Bonds sold	100,000
Great Falls, Mont.	Highways	500,000
Seattle, Wash.	Paving	98,000

*Security.

Miscellaneous Headings

A contract for building a viaduct to cost $147,000 has been awarded at Marion, Ark. Near Winnett, Mont., 22 miles of railroad construction has been awarded. It is reported from Florence, Ga., that steps are being taken to build a 150-mile railroad extension. A railroad has been incorporated at Knoxville, Tenn., to build 26 miles of line, and a Texas railroad has applied for permission to extend its line 77 miles southwest from Lubbock. A contract will be let soon for building 28 miles of railroad near Roseburg, Ore.

The construction of a $150,000 bridge is under consideration at Franklin, Pa., and a bridge costing $500,000 is proposed at Duluth, Minn. Irrigation work costing $300,000 is to be undertaken at Quincy, Ill. A drainage system to cost $250,000 is proposed at Gueyban, La. It is reported that a $1,500,000 ore dock will be built at Ashland, Wis. Bonds for constructing a $1,000,000 irrigation system will be sold Sept. 23 at Terra Bella, Cal.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Boston, Mass.—The City Council will spend $10,000 for sewer improvements.

Northampton, Mass.—City Council is reported considering the sewerage system for McCullum's Hosiery plant, the electric light plant and the Hospital Hill section; probable cost $20,000 for station and $10,000 for sewer lines. W. H. Feiker, Mayor.

Stamford, Conn.—No bids received Aug. 14 for constructing a storm water drainage system. Paul Nash, City Engineer.

Mount Morris, N. Y.—Citizens Aug. 15 voted to lay 2 1-3 miles of 10-in. pipe and install a pipe line crossing Genesee River. Bids to be opened Sept. 5. Charles C. Hopkins, Cutler Building, Rochester, Engineer; George Bailey, Village Clerk.

Salamanca, N. Y.—Council is considering constructing sewers to cost $35,000. Address City Clerk.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Beverly, N. J.—Reported the city is considering purchasing plant of Delaware River Water Co. Address City Clerk.

Camden, N. J.—City Council considering construction sewers, culverts or drains along Twenty-seventh Street from erkeley to Stevens Street. William D. Brown, City Clerk.

Millville, N. J.—The City Commission, on Aug. 19, voted to purchase plants of Millville Water Co. and Peoples Water Co., and for a bond issue of $256,000 to defray cost of purchase.

South Orange, N. J.—The Township Committee authorized construction of sewers in Walton Avenue, to be connected with joint trunk sewer. Edward R. Arcularius, Township Clerk.

Summit, N. J.—City Council passed resolution authorizing construction of storm drainage system for the section of the city including Essex and Fernwood Roads, Hobart Avenue, Wittredge and Rithen Places and East Summit; probable cost $100,000.

Altoona, Pa.—A new water supply for the city is reported under consideration by Council. Address City Clerk.

Connellsville, Pa.—State Board of Health has directed construction of a sewage disposal plant. Address City Clerk.

Topton, Pa.—Election to be held in November to vote $23,000 bonds for construction of electric light plant and improvements to water supply. Address City Clerk.

Williamsport, Pa.—Election will probably be held to vote $60,000 bonds for installing storm water sewers and for street repairs. John B. Otto, City Engineer. George K. Harris, Supt. Public Improvements.

Sistersville, W. Va.—Contract will be let about September for equipment for a 2,000,000-gal. rapid sand filter plant. Cost $30,000. Douglass & McKnight, engineers, Pittsburgh, Pa. C. E. Lindsley, Water Commissioner.

North Wilkesboro, N. C.—See "Paving and Roads."

Knoxville, Tenn.—Dabney H. Maury, 1137 Monadnock Bldg., Chicago, Ill., in a report to Council, recommends improvements to waterworks costing $535,000, including pumping station, intake and chimney, $35,000; two 350-hp. water tube boilers, foundation, etc., $14,000; two 10,000,000-gal. vertical triple expansion engines installed with foundation, etc., $120,000; 10,000,000-gal. filter plant, $140,000; additional mains, $100,000; 7,500,000-gal. reservoir with land, $45,000; additional valves, $5,000; fire hydrants, $18,000, etc.

Cleveland, Ohio.—Reported city will let contracts this fall for completion of sewage disposal plant at West Fifty-fourth Street; cost of plant $400,000.

In a report to C. P. Jaeger, Deputy Water Commissioner, Frederick C. Noble,

50 Church Street, New York, N. Y., recommends reinforcing settling basins, filter house and mixing chambers, cost $45,000. The Deputy Water Commissioner estimates cost of repairs and rebuilding part of clear water basin at $150,000.

Dayton, Ohio.—Metcalf & Eddy, 14 Beacon Street, Boston, Mass., engaged to prepare plans for a septic sewage treatment plant for the workhouse farm.

London, Ohio.—The City Council voted to construct a sewer on Maryland and Park Avenues and McLean Street.

Mansfield, Ohio.—The City sold $27,000 water meter bond issue.

Port Clinton, Ohio.—The City Council voted to issue $16,500 bonds for reconstructing sewer on Washington Street.

Tiffin, Ohio.—The City Council voted to construct main and lateral sewers on Ohio, Clinton and Industrial Avenues.

Toledo, Ohio.—Sewer bonds for $41,000 will be sold Sept. 5 by Gabe Cooper, County Auditor.

Youngstown, Ohio. — Mayor has approved the ordinance authorizing $100,000 bonds for improving waterworks. M. F. Hyland, Clerk of Council.

Zanesville, Ohio.—The Mayor has approved the ordinance to issue $30,000 bonds for relining and enlarging Harvey Street and Blandy Hill reservoir. F. H. Buerhaus, Clerk of Council.

Muskegon Heights, Mich.—Construction of a sewage disposal plant is under consideration. Address City Clerk.

Murphysboro, Ill.—Reported Murphysboro Water Works Co. will soon let contract for power and pumping station.

Utica, Ill.—Contract will be let about October or November by Louis N. Sabo, Village Clerk, for constructing waterworks, including 20,608 ft. 4, 6 and 8-in. mains, 44 fire hydrants, two 8-in., seven 6-in. and twenty-one 4-in. valves. Ewing & Allen, Engineers, 111 W. Monroe Street, Chicago, Ill.

Gaylord, Minn.—J. F. Druar, 312 Commercial Bldg., St. Paul, preparing plans for sewer system and waterworks; cost $40,000. A. H. Kuehner, Village Recorder.

Marshfield, Minn.—Plans being prepared by J. F. Druar, 312 Commercial Bldg., St. Paul, for sewage disposal works, and making tests to furnish city 2000 gals. water.

Minneapolis, Minn.—J. F. Druar, 312 Commercial Bldg., St. Paul, preparing plans for sewer system and waterworks for West Minneapolis. Contract awarded September. E. A. Close, City Recorder.

St. Paul, Minn.—The City Council voted to construct sewer on Chippewa Avenue and George Street.

J. F. Druar, 312 Commercial Bldg., St. Paul, preparing plans for waterworks system for West St. Paul. Election to be held Aug. 29 to vote $40,000 bonds.

Geneva, Neb.—Construction of a sewerage system contemplated; cost about $25,000. Grant & Fulton of Lincoln, Engrs.

Imperial, Neb.—Preliminary plans being prepared by Grant & Fulton, Bankers Life Bldg., Lincoln, for water works and electric light plant in Imperial. Cost about $30,000.

Lexington, Neb.—It is proposed to construct storm sewers. Harry F. Smith, Engineer, Lexington. H. L. Temple, City Clerk.

Ord, Neb.—City Council contemplates constructing settling basin and air lift plant.

Butte, Mont.—City Council directed City Engineer to make surveys and estimates of cost for installation of sewers in Montana Avenue and South Park Addition.

Trenton, Mo.—Election to be held Sept. 5 to vote about $30,000 bonds for a filtration plant to cost $25,000 and additional machinery for pumping purposes to cost $5,000.

Amarillo, Tex.—Contract about to be let by City Commission for extension to sewer system and installation of septic tanks at sewage disposal plant.

Beeville, Tex.—Construction of municipal water and light plant contemplated. Address City Clerk.

Dallas, Tex.—City Commission directed construction of a sanitary sewer between Ewing, Lee and Fleming Streets and Betterton Circle. Address City Engineer.

Loraine, Tex.—The Attorney General at Austin approved $5,000 water works bond issue.

Marlin, Tex.—Plans and estimates completed by City Engineer and J. W. Maxcy of Houston for construction of sewer system in Marlin. $45,000 bonds recently sold. Contract will soon be let.

Mineral Wells, Tex.—C. K. Ramsey of San Antonio is engineer for sewage disposal plant and extension to sewerage system.

Palestine, Tex.—The Local Water Company will make improvements, including installation of filtration plant and meters.

Paris, Tex.—See "Buildings."

Wharton, Tex.—City will engage an engineer to prepare plans for a sewerage disposal plant. Address C. S. Gordon, Mayor.

Seattle, Wash.—The Bd. of Public Wks. approved plans for installation of water mains in Chelan Avenue and other streets; cost $10,000; and in Thirty-fourth Avenue West; cost $54,000. L. B. Youngs, Supt. Water.

South Bend, Wash.—Reported Northwest Electric & Water Works Company, South Bend, plans installing a 300,000-gal. reservoir.

Spokane, Wash.—Contract soon to be let for constructing sewers, Thirty-third Avenue. Morton McCartney, City Engineer.

Vancouver, Wash.—Reported the North Coast Power Co. completed surveys and will soon let contract for installation of an 18-in. water main to be laid from city to Springs at Ellsworth.

Bakersfield, Cal.—Election to be held Oct. 24 to vote $175,000 bonds for acquiring water system to serve East Bakersfield wards. City Engineer Robert B. Ray, has appraised the privately owned plant at $108,394, and has estimated the extensions to cost about $56,627. His preliminary estimate for a new system was $120,235 for a distributing system and $50,000 for six pumping plants, discharging directly into the distributing system, or $33,052 for four similar pumping plants and $30,575 for a 4,000,000-gal. reservoir if pumping plants discharge directly into reservoir.

Port Angeles, Cal.—Reported City Council considering installing system of sewers to connect with Lincoln Street sewer.

San Diego, Cal.—George Cromwell, City Engineer, directed to prepare plans for a septic tank for the Ocean Beach section. About $50,000 bonds will be voted for the septic tank and sewerage system.

Victorville, Cal. — Reported Appleton Land & Water Co. will probably install a 300,000-gal. tank and improve pumping system.

Clifton, Ariz.—A. J. Kerr appointed City Engineer of Clifton and will survey for proposed sewer system and prepare estimates for two bridges over San Francisco River.

Globe, Ariz.—City Council planning installation of new sewer system; approximate cost, $240,000.

City Council appropriates $4,000 for survey of site for gravity water system reservoir in Pinal Mountains and dedetermination of available water supply. Development of supply will cost approximately $40,000. George Cook, Supt. Water Dept.

Salt Lake City, Utah.—Contract soon to be let by city for construcing a reinforced concrete pumping station; estimated cost $12,000 to $15,000. Contract soon to be let for constructing about 17,000 ft. of 60-in. reinforced concrete pipe discharge outlet conduit and 11,000 ft. canal; estimated cost $75,000.

The city, it is reported, will spend about $100,000 before Jan. 1 on extensions to city water mains. Address City Clerk.

Burley, Idaho.—Citizens voted $200,000 bonds for erecting city hall, water works and electric light plant. Address City Clerk.

Sherbrooke, Que.—Trunk sewers to be constructed will require 135v ft. concrete sewer 5 ft. x 6 ft. to 6 ft. x 7 ft.; 950 ft. 3 ft. x 4½ ft.; 1400 ft. 3 ft. 4 in. x 5 ft., and 1200 ft. 2 ft. x 3 ft brick sewer; all necessary manholes; probable cost $47,000. Thomas Tremblay, City Engineer.

Brooks Township, Ont. — Township Council (W. J. Weed, Alvinston, Clerk), plans expending $10,000 on new tile drains.

London, Ont.—Sewer system is to be extended to West London at a cost of $75,000. Address City Engineer.

BIDS DESIRED.

Boston, Mass.—Until Aug. 28, by Edw. F. Murphy, Commissioner Public Works, for sewerage works in Elmwood Street, Brook, West Roxbury and Aug. 29 for pipe sewers Levant and Delano Streets, Dorchester.

Long Island City, L. I., N. Y.—Until Aug. 29 by Maurice E. Connolly, Borough President, for constructing sewers and appurtenances in Hughes (Hancock) and Shaler Streets, Benedict, Queens and Chichester Avenues. Security $35,400.

Mount Morris, N. Y.—Until Sept. 5, by Municipal Village Board for furnishing and laying about 13,116 ft. 10-in. c. I. pipe, special castings, etc., advertised in Engineering Record. John C. Dickey, Chm.; Charles C. Hopkins, Engr., 349 Cutler Bldg., Rochester.

New York, N. Y.—See "Miscellaneous."

Bay Head, N. J.—Until Sept. 11, by Mayor and Borough Council, for constructing sewerage system and inland disposal plant, advertised in the Engineering Record. Remington & Vosbury, Engrs., 601 Market Street, Camden, N. J.

Washington, D. C.—By the Bureau Supplies and Accounts, Navy Department, Washington, D. C., for Sch. 26 and 31 Vallejo, Brooklyn, miscellaneous composition pipe fittings; Sch. 26, Brooklyn, miscellaneous low-pressure brass angle and gate valves.

Brookhaven, Miss.—Until Sept. 12 by Mayor and Board of Aldermen for constructing a deep well with a capacity of not less than 300 gal. per minute. A. B. Furlow, City Clerk. R. S. Purser, Supt.

Cincinnati, Ohio.—Until Aug. 28 by Board Public Service (Chas. F. Hornberger, Dir.) for constructing trunk sewer from northeast corner of Hyde Park East subdivision to Duck Ceek Interceptor. Frank S. Krug, City Engr., estimates cost at $11,900.

Until Aug. 30, by Public Safety Director Walter J. Friedlander, for following material for high-pressure service system to be installed in district bounded by Central Avenue, Elm, Fourth and Eighth Streets, in all about 550 tons 12, 16 and 20-in. hub and spigot pipe, 30 tons flanged pipe, 8 to 20-in. 6 ft. length and less, 50 tons 8 to 20 in. 6 to 12 ft. long, 60 tons special castings 8 to 20 in. and 50 tons miscellaneous castings.

Cleveland, Ohio. — Reported desired until Aug. 31 by Commissioners Purchases and Supplies for constructing sewers in Lake Shore Boulevard and Ingersoll Road and relief sewer in Broadway.

Until Sept. 16, by County Commissioners (E. G. Krause, Secy.), for sewers in Church and Vermont Avenues, West Twenty-fifth Street and West Twenty-eighth Street, to replace those removed on account of subway approaches to new high-level bridge over Cuyahoga River.

Cleveland Heights (P. O. Cleveland), Ohio.—See "Roads and Paving."

Cuyahoga Falls, Ohio.—Until Aug. 28, by W. F. Williston, Village Clerk, for constructing a sanitary sewer in Payne Avenue. E. D. Barstow, Village Engineer.

Rocky Ridge, Ohio.—Until Sept. 5 (readvertisement), by Frank Mitchell, Clerk, for constructing a sewage treatment plant.

Detroit, Mich.—Reported desired until Aug. 28 for constructing sewage treatment plant on Belle Isle. W. T. Dust, Comr. Parks and Boulevards, Farwell Building.

Hudson, Wis.—Reported desired until Sept. 1 for constructing artesian well and pumping station and furnishing pumps and motors. E. E. Denniston, City Clerk.

Jewell, Iowa.—Reported desired until Aug. 28, by F. L. Tallman, Town Clerk, for furnishing material and extending water works. L. W. Cox, 621 Grand Avenue, Des Moines.

Claremont, Minn.—Until Aug. 30, by A. C. Hinckley, Village Recorder, for approximately 6001 ft. 8 and 10-in. sewer and 4776 ft. 15-in. concrete drain tile, also disposal plant.

Sauk Center, Minn.—Until Sept. 12, by J. F. Cooper, City Clerk, for additions to water works, also an electric light plant. Earle D. Jackson, Engr., St. Paul, Minn.

Mora, Minn.—Reported desired until Sept. 1 by City Clerk for constructing sewer system and sewage disposal plant. J. F. Druar, Consulting Engr., 312 Commercial Building, St. Paul.

St. Paul, Minn.—Until Aug. 28, by H. W. Austin, Purchasing Agent, for constructing sewers in portions of Case, Sylvan and Tyler Streets and Fairview, Wakefield and Hawthorne Avenues.

Thief River Falls, Minn.—Until Sept. 12, by A. H. Fasel, City Clerk, for furnishing material and installing 3730 lin. ft. 6-in. mains, 4 hydrants, 7 tees, 6 crosses, 16 plugs and 2 gate valves and boxes.

Downs, Kan.—Until Sept. 7, by City Clerk, for furnishing material and constructing sewer system requiring: 24,542 ft. 8-in., 10-in. and 12-in. pipe, 1533 "Y" branches, 47 manholes, 20 flush tanks, etc., also disposal plant. E. T. Archer & Co., consulting engineers, 514 New England Bldg., Kansas City, Mo. D. H. Harrison, Mayor.

Dannebrog, Neb.—Until Sept. 15, by Board of Village Trustees, for constructing a system of water works, advertised in Engineering Record. J. P. Jacobsen, Village Clerk.

Brookings, S. D.—Until Sept. 11, by City, for approximately 3600 ft. of sewer and 700 ft. of lead water service main with necessary appurtenances. Dakota Engineering Co., Mitchell, Engrs.

Billings, Mont.—See "Roads and Paving."

Clayton, N. M.—Reported desired until Aug. 29, by M. R. Jones, Town Clerk, for improving water works, to include 40,000 ft. trenching, average depth 3 ft., for 4, 6 and 8-in. pipe lines, one 800-ft. well, and a 500,000-gal. concrete reservoir, two pumps and air compressors, etc. H. O. Duerr, Consulting Engr., 1940 Broadway, Denver, Col.

Hermosa Beach, Cal.—Reported desired until Oct. 15 for constructing sewage disposal plant. Probable cost $27,000. C. R. Summer, City Engr.

Riverside, Cal.—Until Sept. 5, by Harry Cree, City Clerk, for constructing Arlington sewer, requiring 17 manholes and 5560 ft. 6 to 14-in. vitrified clay pipe.

PRICES AND LETTINGS.

★*Indicates award of contract.*

New Bedford Mass.—Lowest bid opened Aug. 16 by Mayor for superstructure of Belleville Avenue pumping station for intercepting sewer system submitted by Benjamin F. Watkins, New Bedford, at $6,413.

Long Island City, L. I., N. Y.—Lowest bid opened Aug. 17 by Maurice E. Connolly, President Queens Borough, for constructing sewer in Forbes Dunsing and Clarence Streets and Jackson Avenue submitted by Kenmore Contracting Company at $32,026.

★**Atlantic City, N. J.**—Contract for furnishing gate valves and check valves (bids opened Aug. 10) awarded Rensselaer Valve Company, 50 Church Street, New York, N. Y., at $13,516. L. Van Gilder, Engineer and Supt. Water Department.

★**Ridgefield Park, N. J.**—Contract for constructing sewers and treatment works (bids opened Aug. 1) awarded Carrington Construction Company, 7 Price Street, Jersey City. M. D. Starker, Village Clerk.

Long Island City, L. I., N. Y.—Following are unit figures of the four lowest bids opened Aug. 16 by Maurice E. Connolly, President Queens Borough, for constructing sewer and appurtenances in Collins Avenue, Adriatic Street and Fresh Pond Road. Second Ward: (a) DeCola & Martino, $108,640; (b) Joseph L. Sigretto, Woodhaven, L. I., $138,272; (c) John C. Schrade, Brooklyn, $139,596; (d) Peace Brothers, Flushing, $156,517.

	a	b	c	d
901 lin. ft. 7 ft. 6 in. reinforced concrete sewer	$24.53	$30.00	$33.65	$36.00
2055 lin. ft. 7 ft. reinforced concrete sewer	24.50	30.00	29.80	35.00
62 lin. ft. 5 ft. reinforced concrete sewer	20.19	19.00	19.25	17.00
303 lin. ft. 3 ft. 9 in. plain concrete sewer	12.25	15.00	11.70	15.00
354 lin. ft. 3 ft. 6 in. plain concrete sewer	9.67	12.00	10.15	13.00
488 lin. ft. 3 ft. plain concrete sewer	6.54	8.25	6.80	10.00
516 lin. ft. 2 ft. 6 in. plain concrete sewer	6.46	7.50	5.55	8.00
265 lin. ft. 24 in. vitr. pipe sewer	4.00	3.50	3.90	3.75
375 lin. ft. 22 in. vitr. pipe sewer	3.90	4.00	4.15	3.50
265 lin. ft. 20 in. vitr. pipe sewer	2.80	2.25	3.00	3.25
9 lin. ft. 18 in. vitr. pipe sewer	1.80	2.00	2.50	3.00
3 lin. ft. 15 in. vitr. pipe sewer	2.00	2.00	2.00	3.00
222 lin. ft. 12 in. vitr. pipe sewer	1.50	1.70	1.75	2.00
85 6 in. spurs, 24 in. long, in concrete sewer	.01	.30	.50	1.00
18 6 in. spurs on 24 in. vitr. pipe sewer	1.75	5.00	3.25	3.00
33 6 in. spurs on 24 in. vitr. pipe sewer	1.65	5.00	3.00	2.50
18 6 in sours on 20 in. vitr. pipe sewer	1.55	5.00	2.50	2.00
18 6 in. spurs on 12 in. vitr. pipe sewer	1.00	5.00	1.00	1.00
1257 ft. risers for house connections, including Y's.	.65	1.00	2.00	.50
39 manholes, complete	70.00	150.00	125.00	70.00
47 basin manholes (new type), complete	75.00	75.00	100.00	100.00
68 inlets (new type), complete	30.00	30.00	60.00	30.00
1665 lin. ft. 12 in. vitr. pipe for basin connections	1.10	1.50	1.25	2.00
1100 lin. ft. 10 in. vitr. pipe for basin connections	1.00	1.25	.75	1.50
1540 lin. ft. 6 in. vitr. pipe for house connections	.75	.75	1.00	.75
1 chamber at Collins Avenue and Adriatic Street	751.40	1,500.00	850.00	1,500.00
1 chamber at Fresh Pond Road and Adriatic Street	675.00	1,500.00	850.00	1,400.00
1 chamber at Fresh Pond Road and Winnifred Street	535.00	1,500.00	850.00	1,200.00
1 chamber at Fresh Pond Road and Metropolitan Avenue	550.00	1,500.00	650.00	1,100.00
1 chamber at Fresh Pond Road and Ralph Street	315.00	150.00	250.00	700.00
1 drop chamber on Fresh Pond Road near Adriatic Street	150.00	300.00	850.00	600.00
5 M ft. timber for bracing and sheet piling	30.00	.01	35.00	20.00
5 M ft. timber for foundation	35.00	50.00	40.00	40.00
500 lb. structural steel, exclusive of steel shown on plans	.05	.05	.15	.10
500 lb. reinforcing steel, exclusive of steel shown on plans	.05	.10	.10	.05
40 cu. yd. Class A concrete, exclusive of concrete shown on plans	6.00	6.00	8.00	.01
7900 cu. yd. displaced material for sewer embankment	.01	.25	.35	.60
2350 lin. ft. wooden fence	.28	.50	.40	.50

Long Island City, L. I., N. Y.—Following are unit figures of the four lowest bids opened Aug. 16 by Maurice E. Connolly, President Queens Borough, for constructing sewers in portions of Lurting Street, Alystine Avenue, etc., Second Ward: (a) Clancy & Van Alst Contracting Co., Long Island City, $196,764; (b) J. E. Bunting & Co., Flushing, $196,835; (c) Joseph L. Sigretto, Woodhaven, L. I., $199,243; (d) Joseph J. B. LaMarsh, 28 City Hall Place, New York, $205,547.

	a	b	c	d
1506 lin. ft. 10 ft. 0 in. x 8 ft. 3 in. reinforced concrete sewer	$49.70	$46.50	$50.00	$47.50
1928 lin. ft. 9 ft. 0 in. x 8 ft. 3 in. reinforced concrete sewer	46.60	48.50	46.00	45.50
420 lin. ft. 4 ft. 9 in. reinforced concrete sewer	10.00	12.00	11.40	12.50
586 lin. ft. 4 ft. 6 in. reinforced concrete sewer	8.70	10.00	9.00	13.00
231 lin. ft. 3 ft. 6 in. plain concrete sewer	5.90	7.50	6.00	8.25
290 lin. ft. 3 ft. 9 in. plain concrete sewer	4.70	6.50	6.00	8.25
12 lin. ft. 12 in. vitr. pipe sewer, including reinforced concrete cradle	4.00	5.00	4.50	5.00
28 manholes, complete	135.00	60.00	100.00	107.00
3 cleaning shafts, complete	318.00	80.00	250.00	250.00
2 single receiving basins, complete	200.00	160.00	150.00	150.00
1 railroad basin at Junction Avenue and South Railroad Avenue, complete	100.00	80.00	75.00	75.00
150 lin. ft. 12 in. vitr. pipe for basin connections	1.50	1.50	1.50	1.00
204 6 in. spurs, 24 in. long, on concrete sewers	1.25	1.00	1.00	1.50
228 ft. risers for house connections, including Y's	2.50	1.60	1.50	2.00
1420 lin. ft. 6 in. vitr. pipe for house connections	.90	.90	.75	.70
1 junction chamber at Way Avenue and Lurting Street, complete	3,000.00	3,500.00	7,000.00	3,900.00
1 junction chamber at Alstyne and Way Avenues, complete	3,000.00	2,900.00	3,000.00	3,900.00
1 junction chamber at Corona and Alstyne Avenues, complete	1,000.00	875.00	1,000.00	2,700.00
1 junction chamber at Alstyne and Junction Avenues, complete	500.00	425.00	500.00	1,900.00
1 junction chamber at Hunts Street and Junction Avenue, complete	500.00	350.00	300.00	1,500.00
1 siphon culvert, including manholes and c.-i. pipe at Alstyne and Southern Avenues, complete	1,185.00	1,400.00	1,000.00	3,500.00
15,000 lin. ft. piles	...	.10	.40	.01
30 M ft. foundation timber	...	20.00	50.00	40.00
75 M ft. timber for bracing and sheet piling	...	1.00	.01	25.00
500 lb. structural steel (bolts, nuts, washers and spikes)	.05	.05	.05	.06
1000 lb. reinforcing steel not shown on plans	.06	.05	.05	.04
28 cu. yd. Class A concrete not shown on plans	8.10	10.00	6.00	7.50
8300 cu. yd. fill for sewer embankment	.30	.40	.01	.20
50 cu. yd. earth excav. not shown on plans	.50	1.00	2.00	.70
100 cu yd. rock excav	4.00	1.00	5.00	3.00

★**Chicago, Ill.**—Following are unit figures of the four lowest bids opened Aug. 3 by Trustees Sanitary District of Chicago for Contract 7 of the Calumet Intercepting Sewer (totals given are for spoil area furnished by Sanitary Trustees and spoil area removed by contractor respectively): (a) T. J. Forschner Contracting Company, Lamont, concrete $900,761 (awarded contract) and $912,031, brick and concrete $1,007,-461 and $1,018,731; (b) Nash Dowdle Company, 29 S. La Salle Street, concrete $920,561 and $962,861, brick and concrete $989,701 and $1,042,621; (c) H. J. McNichols Company, Chicago, concrete $925,854 and $948,394, brick and concrete $1,014,079 and $1,036,619; (d) Marquette Construction Company, Chicago, concrete $955,026 and $957,844, brick and concrete $1,046,116 and $1,048,934.

No. of Item.		*(a)	(b)	(c)	(d)
1a	8,200 lin. ft. concrete sewer, 16 x 16 ft., spoil area furnished	$70.00	$74.00	$72.00	$79.00
1b	8,200 lin. ft. brick and concrete sewer, 16 x 16 ft., spoil area furnished	80.00	80.00	80.50	88.00
1c	8,200 lin. ft. concrete sewer, 16 x 16 ft., spoil removed by contractor	71.00	76.00	74.00	79.25
1d	8,200 lin. ft. brick and concrete sewer, 16 x 16 ft., spoil removed by contractor	81.00	84.50	82.50	88.25
2a	2,470 lin. ft. concrete sewer, 16 x 13.4 ft., spoil area furnished	60.00	68.00	63.00	68.00
2b	2,470 lin. ft. brick and concrete sewer, 16 x 13.4 ft., spoil area furnished	70.00	76.00	70.50	75.00
2c	2,470 lin. ft. concrete sewer, 16 x 13.4 ft., spoil removed by contractor	61.00	78.00	65.00	68.25
2d	2,470 lin. ft. brick and concrete sewer, 16 x 13.4 ft., spoil removed by contractor	71.00	82.00	72.50	75.25
3a	600 lin. ft. concrete box sewer, 16 x 13 ft., spoil area furnished	60.00	68.00	62.50	65.00
3b	600 lin. ft. concrete box sewer, 16 x 13 ft., spoil removed by contractor	61.00	70.00	64.50	65.25
4a	12 manholes on 16 x 16 ft. sewer, concrete	90.00	60.00	60.00	70.00
4b	12 manholes on 16 x 16 ft. sewer, brick	90.00	70.00	60.00	70.00
5a	5 manholes on 16 x 13.4 ft. sewer, concrete	90.00	60.00	60.00	70.00
5b	5 manholes on 16 x 13.4 ft. sewer, brick	90.00	70.00	60.00	70.00
6a	1 manhole on 16 x 13 ft. sewer, concrete	50.00	60.00	60.00	70.00
6b	1 manhole on 16 x 13 ft. sewer, brick	50.00	70.00	60.00	70.00
7	Change of section at controlling works (lump sum)	200.00	400.00	500.00	100.00
8	Overflow chamber at Wentworth Avenue (lump sum)	20,000.00	9,000.00	18,500.00	10,000.00
9	Gaging chamber (lump sum)	4,000.00	500.00	3,300.00	1,800.00
10	Crossing at Michigan Avenue (lump sum)	3,000.00	1,500.00	4,800.00	700.00
11a	Crossing under P., C., C. & St. L. R. R. (required) (lump sum)	4,000.00	1,450.00	1,500.00	1,200.00
11b	Crossing under P., C., C. & St. L. R. R. (optional) (lump sum)	500.00	5,600.00	3,500.00	1,200.00
12	Connection at Halstead Street (lump sum)	1,500.00	500.00	1,350.00	2,000.00
13	10 connections, tile pipe for future connections, 18 in.	3.00	2.00	10.00	4.00
14	25 connections, tile pipe for future connections, 12 in.	2.00	1.00	5.00	3.00
15	100 lin. ft. laying 15-in. tile pipe	2.00	1.50	2.00	2.00
16	1,500 lin. ft. laying 12-in. tile pipe	1.75	1.00	1.75	1.50
17	100 lin. ft. laying 9-in. tile pipe	1.50	0.75	1.00	1.00
18	850 lin. ft. laying 6-in. tile pipe	1.00	0.65	0.75	0.50
19	12 manholes on tile pipe sewers	70.00	40.00	40.00	35.00
20	1 catchbasin	60.00	50.00	75.00	50.00
21	10 water service connections	15.00	10.00	15.00	5.00
22	50 lin. ft. relaying water service pipes	1.50	1.25	2.00	1.00
23	2,000,000 lb. reinforcing steel	0.04½	0.03½	0.04½	0.03¼
24	12,000 lb. structural steel	0.06	0.06	0.06	0.06
25	20,000 lb. iron castings	0.06	0.05	0.05	0.04
26	500 lin. ft. additional piling furnished	0.30	0.30	0.20	0.20
27	500 lin. ft. additional piling driven	0.30	0.40	1.00	0.25
28	5 M ft. cribwork on piling	50.00	55.00	50.00	40.00
29	5 M ft. stop plank woodwork, etc.	100.00	70.00	60.00	60.00
30	160 M ft. plank roadway	40.00	38.50	40.00	40.00
31	4,000 cu. yd. additional excavation of spoil	0.60	0.30	0.75	0.70
32	20 cu. yd. rubble stone	4.00	5.00	10.00	5.00
33	3,000 lin. ft. moving fences	0.20	0.50	0.15	0.50
34	5 M ft. sheeting, shoring and bracing left in place	20.00	20.00	20.00	20.00
35	1 M ft. plank foundation	25.00	25.00	25.00	25.00
36	5 cu. yd. additional earth excavation, open cut	0.75	0.75	0.75	0.75
37	5 cu. yd. rock excavation	3.00	3.00	3.00	3.00
38	5 cu. yd. additional concrete, Class A.	8.00	8.00	8.00	8.00
39	5 cu. yd. additional concrete, Class B.	7.50	7.50	7.50	7.50
40	5 cu. yd. additional concrete, Class C.	7.00	7.00	7.00	7.00
41	5 cu. yd. additional brickwork	9.00	9.00	9.00	9.00

★**Hoboken, N. J.**—Contract for constructing sewers in Seventh and Eleventh Street sewer systems (bids opened Aug. 16), awarded Hoboken Construction Company, 54 Fifth Street, Hoboken, at $970,-222. James Fuertes, Engineer, 140 Nassau Street, New York, and for sewers in Ferry and Newark Streets, to Thomas Cavanagh of Weehawken, at $66,130.

New Brunswick, N. J.—Only bid opened Aug. 22 by E. J. McLaughlin, City Clerk, for constructing a motor driven centrifugal pumping unit of 3,000,000 gal. capacity submitted by New York Continental Jewell Filtration Co., 15 Broad Street, New York, N. Y., $8,552.

★**Braddock, Pa.**—The City Council awarded contracts for installing electrically equipped pumps for borough water works (bids opened Aug. 7) to Epping-Carpenter Pump Co., of Pittsburgh, at $26,050, and for cleaning the intake pipes to Pihl & Miller Co. of Pittsburgh, at $6,900.

New Market, Md.—Lowest bid opened Aug. 15 by town for furnishing and laying water mains was submitted by E. L. Jones Co., Inc., Dover, Del., at $4,287. Kastenhuber & Anderson, Engineers, Easton, Md.

★**Richmond, Va.**—Contract for 2531 lengths 6 to 12 in. 62,753 lb. special castings with valves awarded to Lynchburg Foundry Co. of Lynchburg; cost about $20,000. E. E. Davis, Supt. Waterworks.

★**Savannah, Ga.**—Contract for constructing Fell Street outfall, sanitary and storm water sewer awarded to Beasley Constr. Co. of Savannah at $65,078.

★**Cleveland, Ohio.**—Contract awarded by City Board of Control to A. Morra, for constructing sewer in Way Avenue at $16,952 (bids opened Aug. 9).

★Contract awarded by City Board of Control to Buffalo Meter Company of Buffalo, N. Y., for disk water meters for city waterworks at $18,000.

★**Columbus, Ohio.**—Contract for constructing sewage disposal plant awarded to D. W. McGrath & Son, 801 New First National Bank Building; work involves 9200 cu. yd. concrete, 450 tons reinforcing steel, 36,000 cu. yd. excavation and 100,000 sq. ft. cement plaster partitions. J. J. Morgan, 502 Commercial Building, Consulting Engineer.

★**Greenville, Ohio.**—Contract for furnishing air lift pumps compressor and accessories for the waterworks reported awarded Chicago Pneumatic Tool Company, Chicago, Ill., at $2,110.

★**Ashton, Ill.**—Contract awarded J. M. Egan, Aurora, at $34,000 for constructing sewer system (bids opened Aug. 8) by Bd. of Local Improvements. Work includes 21,740 lin. ft. 8, 10 and 12-in. vitrified tile and a sewerage disposal plant. Marr, Green & Co., 17 North La Salle Street, Chicago, Engrs.

★**Chicago, Ill.**—Contract for constructing Section 7 of the Calumet Intercepting Sewer awarded by Sanitary Trustees to T. J. Forschner Contracting Company, Lamont, at $900,761 (bids opened Aug. 3).

★**Fort Madison, Iowa.**—Contract for water works improvements, including filtration plant, pumping station, intake pipe and distributing system (bids opened Aug. 10 by Citizens Water Co.) awarded as follows: Merkle-Hines Machinery Co., Kansas City, Mo.; Woodrich Construction Co., Minneapolis, Minn.; Stephen Schulte, Fort Madison, and Pittsburgh Filter Manufacturing Co., Pittsburgh, Pa.

★**Mabie, Minn.**—Contract for constructing sewer system awarded Wm. C. Fraser, Hackney Bldg., St. Paul, at $6,842 (bids opened Aug. 8).

★**Macksville, Kan.**—Contract for constructing water works awarded Sutherlin Construction Co., 818 Commerce Bldg., Kansas City, Mo., at $26,500. W. B. Robbins & Co., Engineers, 439 Midland Bldg., Kansas City, Mo.

★**Florence, Neb.**—Contract for constructing pumping station awarded John H. Harte at $36,889.

★**Rogers, Neb.**—Contract for constructing water works (bids opened Aug. 14) awarded Elkhorn Construction Company, Fremont, at $8,285. H. M. Peters, Village Clerk.

★**Glendive, Mont.**—Contracts for improvements to waterworks (bids opened Aug. 17) awarded as follows: Norwood Engineering Co. of Florence, Mass., at $32,610, also for a pump and motor at $940; American C. I. Pipe Co. of Chicago, Ill., 16-ft. length, 10 in., $45.35 per ton, 8 in., $42.35 per ton, specials, 4 and 6 in. 3¾ and 3½ cts. per lb., hydrants and valves, Nierkle Hines Mfg. Co., Kansas City, Mo., $659.

★**Hinsdale, Mont.**—Contract for constructing waterworks and electric light system awarded by County Commissioners to C. H. Kelley, Kalispell, at $26,630.

★**Arlington, Tex.**—Contract for extension and construction of septic sewer tanks to sewerage system awarded by City Council to W. C. Weeks of Arlington, at $9,749.

★**Kennedy, Tex.**—Contracts for constructing waterworks (bids opened Aug. 15) awarded as follows: Hydrants, Columbia Iron Works, Chattanooga, Tenn., Tower and Tank, Chicago, Bridge & Iron Company, Chicago, Ill.; engine, etc., Lemmin Company & Sales Company, and pipe, etc., Ahrens & Ott, San Antonio. R. E. Goodey, City Clerk.

Seattle, Wash.—Lowest bid opened by Bd. of Public Works for constructing sewers in Hudson Street submitted by F. N. Bodolats, 1707 Thirtieth Avenue South, at $22,163. A. H. Dimock, City Engr.

Chino, Cal.—Lowest bid opened Aug. 15 by city for constructing sewers of vitri. pipe, submitted by Joseph Chutuk, Los Angeles, $30,583.

Los Angeles, Cal.—Following are bids opened Aug. 14 by County Board of Supervisors for constructing water system in Waterworks District No. 2 to consist of 21,700 lin. ft. of 4 and 6-in. pipe, with valves, tees, etc., 200 gallons per minute electric-driven pumping plant, drilling a well and 500,000-gal. steel tank and tower: Thomas Haverty Co., 517 South Los Angeles Street, 4 bids, $21,435, $16,768, $23,-940 and $18,970. Lynn S. Atkinson, 917 Investment Bldg. 3 bids, $19,710, $23,-800 and $20,980. Rogers Bros. Co., 504 Hibernian Bldg., pumping plant, 3 bids, $3,100 to $3,500, tank and tower $4,000.

Drummondsville, Que.—Following are bids opened Aug. 15 by W. O. Maisan, Town Clerk, for constructing gravity filter system: Norwood Engineering Company of Canada, $20,900; New York Continental Jewell Filtration Company, 15 Broad Street, New York, $26,741, and Security Engineering & Construction Company, $30,977.

★**St. Lambert, Que.**—Contract for constructing trunk sewers awarded to De Keyser Poismans Co., 1101 De Valier Street, at $25,000.

Lethbridge, Alta.—Following are three bids opened Aug. 5 by Commissioner Public Works for constructing a filtration system: Ira H. Jewell, Chicago, Ill, $92,-000; Robert Filter Manufacturing Company, Philadelphia, Pa., $95,000, and New York Continental Jewell, Montreal, Que., in conjunction with Canadian Western Foundry & Supply Company, $111,000.

★**Saskatoon, Sask.**—Contract for constructing water mains under river awarded L. O. Beam, Saskatoon, at $19,753. C. J. Yorath, City Commissioner.

STEEL BRIDGE WORK

PROPOSED WORK.

Union, N. Y.—The taxpayers of town of Union and Vestal have voted $60,000 to construct a bridge across Susquehanna River near limits of city of Binghamton. Charles Van Amberg of Binghamton, County Superintendent of Highways.

Westfield, N. J.—See "Railroads."

Fayette City, Pa.—Construction of inter-county bridge betyeen Fayette City and Allenport is being agitated; estimated cost $200,000. Commissioners of Fayette and Union counties have appointed H. B. Gans, Uniontown, on Board of Viewers.

Harrisburg, Pa.—See "Reinforced Concrete."

Harrisburg, Pa.—Plans have been prepared for construction of proposed bridge across Pennsylvania R. R. tracks at Walnut Street. For further information address W. H. Lynch, Supt. Public Improvements.

Johnstown, Pa.—City Council considering constructing new Luten type bridge connecting 8th and 17th Wards. J. R. Crissey, City Engineer.

Oil City, Pa.—At the election in November the citizens will vote on whether Pennsylvania R. R. will construct new bridge for railroad and raise 3 county bridges.

Washington, D. C.—Nathan C. Wyeth, 1517 H Street, Washington, D C., engaged to assist army engineers in designing the Key bridge across Potomac River from Rosslyn, Va., to M Street, Georgetown, to replace old Aqueduct bridge. The bridge will be a reinforced concrete structure in five long arches. About $1,250,000 is available for construction and approaches.

Ocean City, Md.—Plans for additional bridge to cross Sinepuxent Bay at Ocean City were approved by Major J. C. Oakes, U. S. Engineer.

Chicago, Ill.—See "Paving and Roads."

Fraser, Iowa.—Plans being prepared for repair of Des Moines River bridge at Fraser, work to include one 150-ft. steel truss span with wood floor and two concrete piers. J. H. Illeman, County Engineer, Boone.

Rock Rapids, Iowa—Contract will be let early in September by Board of Supervisors for constructing bridges as follows: Two steel truss 100-ft. spans, one 16-ft. roadway and the other 18-ft. roadway, one 100-ft. span, 18-ft roadway, two 80-ft. spans, 18-ft. roadway, one 50-ft. span, 16-ft. roadway, one 80-ft. span, skewed, 18-ft. roadway, one 60-ft. span, skewed, 16-ft. roadway, seven 32-ft. steel I-beam spans and one 20-ft. steel I-beam span, all of which will have reinforced concrete floors and substructures. W. C. Wyckoff, County Engineer.

Duluth, Minn.—Citizens of Duluth and Superior are considering constructing a $500,000 bridge from Grassy Point to Superior, crossing St. Louis River. Walter Borgen, City Clerk of Duluth.

Hendrum, Minn.—The U. S. Senate has granted permission to the village of Hendrum, Minn., and Elm River Township, N. D., to construct bridge across Red River. Address Village Clerk at Hendrum.

St. Paul, Minn.—Reported City Council has agreed to vacate 300 ft. of North Hamline Avenue in vicinity of Great Northern and Northern Pacific Ry. Companies tracks to permit H. Coppers Company erecting a $2,000,000 coke plant at this point. City plans constructing a viaduct between 20 and 30 ft. high in place of vacated streets; cost $60,000.

Kansas City, Mo.—Board of Public Work approved plans for bridges to be constructed on Troost Avenue across Brush Creek (probably reinforced concrete), on Twenty-sixth Street across the McGee trafficway, and one across the draw in Fifty-seventh Street east of Indiana Avenue.

Guthrie, Okla.—County Commissioners will construct steel bridge, 408 ft. long, across Cimaron River; estimated cost, $18,000; also six smaller bridges at a total cost of $5,000.

Gainesville, Tex.—Construction of bridge across Red River costing $50,000 under consideration. About $25,000 of this amount has been raised and bids will be asked as soon as the balance is received. Chamber of Commerce may be able to give further information.

Seattle, Wash.—City Council has provided $80,000 for construction of steel bridge over West Waterway at Spokane Street. The bridge will be of bascule, single-leaf type, having a clearance of 120 ft., to be of steel construction, with concrete piers. A. H. Dimock, City Engineer; F. A. Rapp, Asst. Engineer in charge of structural design.

BIDS DESIRED.

Salem, N. J.—Until Sept. 11, by Bd. of Chosen Freeholders (H. P. Gray, Dir.), for construction of steel and concrete highway bridge, known as Robinson Bridge, between Auburn and Woodstown. Separate bids for installation of motor driven and electrical equipment for Scherzer Bascule bridge over Salem Canal, near Pennsville.

Greensburg, Pa.—Until Sept. 1, by John S. Sells, County Controller, for erecting a bridge over Big Sewickley Creek at point where it empties into Youghiogheny River at Gratztown, on line of county road now being constructed.

Dayton, Ohio.—Until Sept. 15, by County Commissioners, at Dayton, for constructing steel bridge superstructure for bridge No. 38, Harrison Township, over Still water River, known as Shroup's Mill Bridge, consisting of one 200-ft. span with an 18-ft. roadway of 3-in. creosoted plank and 3-in. creosoted block floor, live load capacity 100 lb. per sq. ft. or a 12-ton road roller. Walter H. Aszling, County Clerk.

Logansport, Ind.—Until Sept. 7, by A. P. Flynn, Co. Aud., for constructing several county bridges.

Hastings, Minn.—See "Reinforced Concrete."

Deer Lodge, Mont.—Reported desired until Sept. 5, by County Commissioners for structural steel for a 120-ft. bridge over Hellgate River at Gold Creek.

Brookings, S. D.—Until Sept. 5, by County Commissioners, for constructing all bridges, abutments, approaches or repairs to bridges required by County during next six months. F. R. Ripley, County Auditor.

Oacoma, S. D.—Until Sept. 5, by K. McKenzie, County Aud., for all county bridges, repairs, abutments or approaches to be made or built by County for period of 6 months or more.

Piggott, Ark.—Until Sept. 5, by Board County Commissioners, Clay and Dunklin County, for constructing two wagon bridges across ta St. Francis River. Engineer's estimate $12,000.

Ventura, Cal.—Until Sept. 8 by Board of Supervisors (J. B. McCloskey, Clerk) for constructing 36-ft. steel beam bridge across Santa Rosa Creek on Camarrillo Road.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Trenton, N. J.**—Contract awarded by Pennsylvania R.R. (Alex. C. Shand, Ch. Engr., Philadelphia) to J. M. Kelly, Philadelphia, for steel overhead bridge across six tracks at Konover's crossing.

★**Betzwood, Pa.**—Following are bids opened Aug. 17 by Wm. D. Heebner, County Comptroller, Norristown, for constructing a highway bridge between Betzwood and Port Kennedy: Brann & Stuart Co., Philadelphia, $25,894 (awarded contract); Walter S. Rae, Oliver Building, Pittsburgh, $27,000; Whittaker & Diehl, Harrisburg, $27,356; and Pittsburgh Construction Co., Pittsburgh, $28,750.

★**Johnstown, Pa.**—Contract awarded by City Council to Farris Engineering Co., Pittsburgh, at $41,545 for repairing Coopersdale, Cambria City, Franklin Street and Poplar Street bridges.

★**Uniontown, Pa.**—Following are four lowest bids opened Aug. 11 by Harry Kinsinger, County Comptroller, for constructing a bridge over Brown's River: Brooke & Cornish, Uniontown, $9,204 (awarded contract); Whittaker & Diehl, Harrisburg, $9,550; Farris Bridge Company, Pittsburgh, $9,584, and P. D. Coates, Uniontown, $10,690.

★**Hamlin, W. Va.**—See "Reinforced Concrete."

★**Pascagoula, Miss.**—Contract awarded by Board of Supervisors to Hancock, Hardin & Hancock, Mobile, Ala., for constructing steel bridge between East and West Pascagoula at $79,941. (Bids opened Aug. 7.)

★**Topeka, Kan.**—Following are four lowest bids opened Aug. 18 by O. K. Swayze, County Clerk, for constructing bridge: Noller & Roark, McFarland, $12,950 (awarded contract); Allen & Fulton, Topeka, $13,939; D. H. Young, Lawrence, $13,990, and Midland Bridge Company, Kansas City, Mo., $14,496.

★**Oakland, Neb.**—Contract awarded by County Commissioners at Tekamah to F. E. Marsh & Co., Des Moines, at $7,200, for constructing bridge over Nishnabotna River at Oakland, 100 ft. long, with two concrete approaches 35 ft. long.

★**Marion, Ark.**—Contract for constructing superstructure of viaduct from Harahan Bridge to St. Francis Levee, about 13,400 ft., 16-ft. roadway, awarded Ball & Peters, Little Rock, at $147,000. H. G. Ferree, Engineer, Memphis, Tenn.

★**Montague, Tex.**—Contract for constructing steel bridge, 50-ft. span, 25 and 45 ft. approaches, over Sandy Creek (bids opened Aug. 14), awarded Newton Bridge Co. of Weatherford, Tex. J. L. Chandler, County Clerk.

REINFORCED CONCRETE

PROPOSED WORK.

Brandon, Vt.—Reported Central Vermont R. R. (J. M. Morrison, Engr. and Supt. Structures) intends constructing a 3-span reinforced concrete bridge across a highway for crossing tracks at grade; cost $21,000.

Kearney, N. J.—Woburn Degreasing Company, Kearney, will erect a concrete power house and an extension to its plant on the Newark Turnpike.

Harrisburg, Pa.—J. E. Greiner & Co., Baltimore, Md., submitted to City Council plans for reinforced concrete and steel bridge over Pennsylvania R. R. tracks. Two estimates have been submitted, one at $284,446 and the other at $289,717.

York, Pa.—Charles Williams, Jacobus, County Engineer, preparing plans for 2 reinforced concrete and 2 stone-arch type bridges. Address County Clerk.

Gulfport, Miss.—Howard Egleston, New Orleans, and R. L. Genin, Bay St. Louis, propose constructing reinforced concrete bridge 35 ft. wide across Bay St. Louis, and have applied to Board of County Supervisors for 99-year franchise, the Supervisors to have the right to purchase bridge after 15 years.

Chicago, Ill.—Plans completed by C. W. and George L. Rapp, 69 West Washington Street, for ten-story, 144 x 144-ft., reinforced concrete hotel and theater building which Tom Chamales intends erecting on Broadway and Lawrence Avenue; cost about $650,000.

Mt. Carmel, Ill.—Cleveland, Cincinnati, Chicago & St. Louis Ry. (C. A. Paquette, Ch. Engr., Cincinnati, Ohio) will construct a concrete and steel bridge, three 60-ft. girders on concrete abutments, over Sumner's Ditch on the Evansville Division to replace wooden trestle washed away by floods in 1913. Cost $50,000.

Nashua, Iowa.—Bids opened recently by County Commissioners at New Hampton for construction substructure of Cedar River bridge at Nashua, consisting of two reinforced concrete abutments and concrete pier, were rejected and the work will be done by day labor. Plans for superstructure, consisting of two 150-ft. steel truss spans, 24-ft. roadway, one 5-ft. sidewalk, creosoted block floor, being prepared.

St. Paul, Minn.—Foote, Schulze & Company, 2 Ressler Building, will erect six-story brick and concrete factory on Robert and Tenth Streets, to cost approximately $500,000.

Kansas City, Kan.—It is reported that a reinforced concrete bridge is to be constructed from Allen Avenue to a connection with the west end of the Kaw River bridge to substitute the temporary structure. Address County Commissioners.

Spokane, Wash.—City Commissioners and Washington Water Power Co. plan to replace narrow steel bridge with wide concrete structure at Post Street across Spokane River. Morton Macartney, City Engineer.

Fresno, Cal.—Plans prepared by Glass & Butner, Rowell Building, for 115 x 75 ft. concrete plunge with two-story, 150 x 125 ft. brick and concrete building, to be erected for Fresno Natatorium Company; probable cost $75,000.

Santa Barbara, Cal.—Mayberry & Parker, Pacific Electric Bldg., Los Angeles, will prepare plans for bridges across Rattlesnake Canyon near Santa Barbara, across El Toro Canyon near Carpenteria, across Oil Well Canyon near Carpenteria and for reinforced concrete bridges across Cat Canyon near Sisquoc and Guadaloupe Slough. Address County Clerk.

Santa Monica, Cal.—Plans being prepared by Ellet P. Parcher and Edward A. Strong, Hollywood, for five-story, 150 x 75 ft., reinforced concrete hotel, to be erected on Ocean Avenue for Charles I. D. Looff.

Visalia, Cal.—Byron Lovelace, County Surveyor, will prepare plans and specifications for reinforced concrete bridge, about 120 ft. long, to be constructed over main channel of Tule River near the town of Springville.

BIDS DESIRED.

Ludlow, Ky.—Until Sept. 14, by W. B. Cullen, City Clerk, for constructing a reinforced concrete viaduct over railroad tracks at Elm Street, advertised in Engineering Record. Plans prepared by J. J. Weaver, Ludlow; estimated cost $25,000.

West Liberty, Ky.—Reported desired until Sept. 2 by County Court for constructing reinforced concrete bridges over Great Capacon at Enon and three over Sleepy Creek near Sleepy Station, one at Allens Ford, and one at Smith Crossroads.

Milwaukee, Wis.—Reported desired until Sept. 1 for erecting Isolation Hospital, Mitchell and Nineteenth Streets, 2-story reinforced concrete. Chas. E. Maig, Archt., City Hall.

Algona, Iowa.—Until Aug. 31, by County Auditor, for construction of the following bridges: Six concrete deck girder bridges with 18-ft. roadways, two 26-ft. span, costing respectively $1,800 and $1,850; two 30-ft. span, costing respectively $1,600 and $1,800, and two 40-ft. span, costing respectively $2,550 and $2,775; two concrete deck girder bridges, skewed with 18-ft. roadway; one 24-ft. span, cost $2,575 and one 26-ft. span, cost $1,800; one Marsh concrete rainbow arch bridge, 40-ft. span and 18-ft. roadway, cost $2,775; two concrete slab span bridges with 20-ft. spans and 18-ft. roadways, cost respectively $2,200 and $1,600; three concrete slab span bridges skewed, 18-ft. roadway, spans 16, 18 and 20 ft., cost $1,350, $1,750 and $1,925 respectively; two concrete box culvert bridges, roadway 20 ft. and spans of 10 and 12 ft., cost $1,200 and $2,100 respectively; and one concrete box culvert bridge skewed, 10-ft. span, 20-ft. roadway, cost $1,150. E H. Beardsley, County Auditor. D. L. Leffert, County Engineer.

Mason City, Iowa.—Reported desired until Sept. 18, by Board of Education (R. L. James, Secy.), for general contract for 3-story and basement, brick and reinforced concrete school; total cost $250,000. J. H. Felt & Co., 800 Grand Avenue Temple, Kansas City, Mo., Archts.

Hastings, Minn.—Until Sept. 11, by P. A. Hoffman, County Auditor, for constructing State Bridge 2373, 20 ft., and 2374, 23 ft., both beam spans with reinforced abutments and floors.

Salem, S. D.—Reported desired until Sept. 5 by C. F. Erickson, Co. Aud., for constructing five concrete bridges.

Santa Ana, Cal.—Until Sept. 6, by Bd. of Supervisors (W. B. Williams, Clerk), for constructing earth road, reinforced concrete retaining walls on concrete piles and rock fill, three timber pile wings, reinforced concrete culvert with concrete drain ditches, brush ripraping, etc., in Santa Ana Canyon, 8 miles northeast of Olive, involving about 17,220 cu. yd. excavation, including borrow, 1986 lin. ft. shaping road bed, 1376 cu. yd. concrete, 716 cu. yd. rock fill, 1073 lin. ft. riprap, 240 lin. ft. timber pile wings, 131,606 lb. reinforcing steel, 1073 ft. guard fence, etc. Until same time for constructing about two miles of earth road in same canyon near same point. County furnishes all gravel, crushed rock and cement.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Buffalo, N. Y.**—Contract awarded Monarch Engineering Company, Chamber of Commerce Building, for erecting reinforced concrete grain elevator of 2,500,000 bushels capacity on Buffalo River and New York Central Railroad for Central Elevator Corporation.

Woonsocket, R. I.—Following bids opened Aug. 15 by Board of Aldermen for constructing reinforced concrete bridge over Peter River: S. Brien & Son, Woonsocket, $6,875; Hynes Construction Co., Springfield, Mass., $19,070; Cenedella Co., Milford, Mass., $17,740.

★**Hamlin, W. Va.**—Contract for constructing concrete substructure of bridge across Big Hart Creek (bids opened Aug. 4) awarded Ships & Thompson, Huntington, at $7,000, and for steel bridge, 2-span, to Farris Bridge Company, Pittsburgh, Pa., at $10,600. Albert F. Block, County Clerk.

★**Ashland, Wis.**—Contract for erecting reinforced concrete ore dock with a capacity of 60,000 tons for Soo Line awarded Foley Brothers, Peppard & Fulton of St. Paul, Minn. Engineers, Toltz Engineering Company, St. Paul, Minn.

★**Belleville, Kan.**—Contracts for constructing steel highway bridge, consisting of four riveted steel pony truss spans 80 ft. long, 16 ft. roadway (bids opened Aug. 18 by County Commissioners), awarded as follows: Substructure, to Canton Bridge Co. of Canton, Ohio, at $6,000, and superstructure, to Leavenworth Bridge Co. of Leavenworth, Kan., at $10,559. L. P. Price, County Engineer.

★**Jamestown, N. D.**—Contract for constructing concrete bridge over James River (bids opened Aug. 15) awarded Jardine & Anderson, Fargo. Andrew Blewett, County Auditor.

★**Santa Ana, Cal.**—Contract awarded by County Commissioners to H. Clay Kellogg, 122 Orange Avenue, at $24,460, for constructing 564-ft. concrete bridge across Santa Ana River at West Chapman Avenue (bids opened Aug. 4).

★**Salt Lake City, Utah.**—Contract awarded Aug. 14 to John Holt, Salt Lake City, at $6,700, for constructing a reinforced concrete bridge at 51 South Street, consisting of two 40-ft. spans. R. E. L. Collier, County Surveyor.

ROADS AND PAVING

PROPOSED WORK.

Boston, Mass.—Board of Street Commissioners completed plans for widening Dover Street at Washington Street. Address Clerk of Board.

Pittsfield, Mass.—City Council authorized bond issue of $22,500 for sidewalk improvements. Address City Clerk.

Glen Ridge, N. J.—Borough Council adopted ordinance authorizing paving Ridgewood Avenue with concrete. Address Borough Clerk.

Borough Council authorized issuing $55,000 street paving bonds. John A. Brown, Borough Clerk.

Irvington, N. J.—Town Commission passed ordinances for paving, curbing and installing sewer connections in Laurel Avenue and South Grove Street. Address Town Clerk.

Paterson, N. J.—Board of Public Works will pave Jersey, Leon, Warren and Fifth Streets and grade, curb and gutter East Thirty-seventh, Hoxsey, Quinn, Lafayette and other streets. H. J. Harder, City Engineer.

All bids opened Aug. 16 by Board of Chosen Freeholders for laying macadam on Midvale-Greenwood Lake Road rejected as being too high. The work will be done by the county under supervision of County Road Supervisor.

Perth Amboy, N. J.—Board of Chosen Freeholders, New Brunswick, will pave Main Street and Washington Avenue. Alvin B. Fox, County Engineer.

Greensburg, Pa.—County Commissioners plan spending $321,000 for improving roads and streets in Westmoreland County. Address County Clerk.

New Castle, Pa.—The building of a highway between New Castle and New Wilmington has been postponed by County Commissioners until next spring because of a scarcity of labor.

Williamsport, Pa.—See "Waterworks and Sewerage Systems."

Towson, Md.—County Commissioners will improve road from Manot to Monkton. Address County Clerk.

Westminster, Md.—County Commissioners are considering reconstructing Reistertown and Westminster Road.

Logan, W. Va.—Logan Dist. Road bonds for $200,000 will be sold Sept. 2 by County Court. Bruce McDonald, Pres.

North Wilkesboro, N. C.—Street improvement bonds for $40,000 and water and sewer improvement bonds for $25,000 will be sold Aug. 28 by Finance Committee, J. C. Smoot, Chmn. W. A. Bullis, Town Clerk.

Augusta, Ga.—Bill has passed State Senate authorizing Council of city of Augusta to require certain grading and paving.

Titusville, Fla.—Special Road and Bridge District No. 2 bonds for $40,000 will be sold Sept. 11 by County Commissioners, advertised in Engineering Record. J. F. Mitchell, Clerk of Board.

Baton Rouge, La.—Election will soon be held to vote $130,000 good-road bonds. Address President Police Jury.

Carthage, Miss.—Contract will be let about October for constructing about 20 miles of sand and clay roads to cost $20,000 to $25,000. Plans prepared by State Highway Commissioner, Jackson, Miss. J. A. Walker, Commissioner, Carthage.

Savannah, Tenn.—County Court voted to issue $100,000 road bonds. Address County Clerk.

Akron, Ohio.—It is proposed to pave Wooster Rd., 23,500 sq. yd., with brick on concrete foundation; cost $58,800. E. W. Paul, Engr., Akron. W. G. High, Clk. Co. Commissioners.

Bellefontaine, Ohio.—It is proposed to pave about 12,000 sq. yd. on Evansville Street and Stanton Avenue; cost $27,000. Evansville Street is to be paved with concrete, Stanton Avenue not decided. Clair A. Inskeep, Director Public Service.

Bellevue, Ohio.—City Council passed ordinance for improvement of Glendale Street by draining, curbing, constructing the necessary sewers, catch basins, inlets, cross-walks, etc. Address Fred H. Robinson, City Clerk.

Cincinnati, Ohio.—The paving with asphalt on portions of Seventh, Ninth, Court and Richmond Streets at a cost of $77,000 is under consideration. Frank S. Krug, City Engineer.

Dayton, Ohio.—City Commission adopted resolutions for improving Oxford Avenue; estimated cost $12,630. Address John B. Harshman, Clerk of Comrs.

Fremont, Ohio.—County Commissioners sold $84,000 bonds for improving Fremont-Bowling Green Road. Address County Clerk.

Lisbon, Ohio.—County Commissioners sold $45,000 road improvement bonds. Address County Clerk.

Upper Sandusky, Ohio.—County Commissioners sold $15,100 road improvement bonds. Address County Clerk.

Warren, Ohio.—County Commissioners sold $158,000 road bonds. Address County Clerk.

Wooster, Ohio.—All bids opened Aug. 10 by County Commissioners for constructing the Mt. Eaton-West Lebanon Road rejected. R. C. Barrett, County Surveyor.

Hartford City, Ind.—County Commissioners sold $20,000 bonds for constructing Atkinson Road. Address County Clerk.

Lawrenceburg, Ind.—County Commissioners sold $14,000 bonds for constructing gravel road in Center Township. Address County Clerk.

Winchester, Ind.—County Commissioners sold $73,900 road bonds. Address County Clerk.

Chicago, Ill.—Reported city taking steps toward widening Twelfth Street from Wabash to Ashland Avenues, about 2 miles, estimated cost $5,000,000. Included in this improvement is the construction of viaduct over railroad yards from Wabash Avenue to Canal Street; railroads involved agreeing to pay $800,000 toward the cost; also a new and wider bridge will be constructed over Chicago River, sanitary district to pay two-thirds of cost. W. R. Moorehouse, Comr. Pub. Works.

Rock Island, Ill.—City Council considering paving Sixth and Tenth Avenues with brick; estimated cost $22,775. Address City Clerk.

City Council passed ordinance for paving Forty-fourth, Twenty-fourth and Forty-second Streets and Railroad Avenue; estimated cost $52,152.

Merrill, Wis.—It is proposed to pave with brick on First, Second and Scott Streets, at a cost of $10,000. Alex. Delaghag, Engineer, Merrill; Harry Allen, City Clerk.

Stillwater, Minn. — Commissioners of Washington and Ramsey Counties are considering constructing boulevard; estimated cost $30,000. Address Clerk of Washington County, at Stillwater.

Great Falls, Mont.—County Commissioners contemplate spending $500,000 for new roads. Address County Clerk.

Kalispell, Mont.—Reported U. S. government has appropriated $75,000 for highway improvements in Glacier National Park, also Great Northern Ry. Co. will spend $35,110 for improvements at and near the eastern entrance of this park.

Chillicothe, Mo.—City Council adopted resolution to grade, curb and pave Ann Street from Locust Street to Cherry Street. Address Jewell Miller, City Clerk.

Texarkana, Ark.—It is proposed to pave with brick on Third, Fourth, Fifth and other streets, in all about 360,000 sq. yd. J. P. Kline, Commissioner. J. D. Anderson, Mayor.

Angleton, Tex.—Election will be held Sept. 23 to vote on issuing $150,000 bonds for constructing and improving roads in Brazoria District. Address County Clerk.

Beaumont, Tex.—Santa Fe Ry. Co. plans paving streets bounding railroad property and streets on which tracks are laid; estimated cost $12,500.

Bonham, Tex.—Citizens voted $135,000 bonds for constructing roads in Ector District. Address County Clerk.

Corsicana, Tex.—County Commissioners sold $100,000 bonds for constructing roads in Dawson District No. 5. Address County Clerk.

Denton, Tex.—County Commissioners plan constructing road throughout county from north to south, with a view of connecting the Tarrant County Road. Address County Clerk.

Hereford, Tex.—Contract will be let about the first of the new year for paving with concrete or a bituminous pavement on Main Street at a cost of $20,000. T. E. Huffman, Engineer, Hereford; J. E. Crouch, City Clerk.

Houston, Tex.—City Council considering repaving Washington Avenue from Houston Avenue to Houston Heights Boulevard. Address City Clerk.

Port Arthur, Tex.—Election will be held Aug. 26 to vote on issuing $64,000 bonds for permanent paving of Proctor and Vandervoort Street. Address City Clerk.

Bellingham, Wash.—W. H. North, City Engineer, will prepare plans for paving James Street its full width. H. J. Korthauer, City Clerk.

Everett, Wash.—Reported Hans Mumm, Jr., City Engineer, will prepare plans and specifications for paving and constructing cement sidewalks on Rucker Avenue South.

Montesano, Wash.—Reported City Council passed resolution for paving Main Street its entire length. Address George W. Gauntlett, City Clerk.

Pomeroy, Wash.—City Engineer is preparing plans and specifications for paving a number of streets. Address City Clerk.

Port Angeles, Wash.—City Council approved plans for paving First Street from Lincoln to Race Street with concrete. J. L. Beam, City Clerk.

Seattle, Wash.—Plans and specifications for constructing concrete walks on West Sixty-fifth Street have been filed with Board of Public Works; estimated cost $33,000; also for paving and otherwise improving Occidental Avenue; estimated cost $65,000. Address Clerk of Board.

Portland, Ore.—City Council is considering paving East Davis and East Sixteenth Streets; estimated cost $15,000. Philip H. Dater, City Engineer.

Reported street improvement bonds for $28,000 will be sold Aug. 29 by City Auditor.

Berkeley, Cal.—City Council passed resolution to pave San Pablo Avenue; estimated cost $45,000. Address City Clerk.

Huntington Beach, Cal.—Contract will soon be let by Board of Trustees for constructing concrete pavements, 90 ft. wide, and ornamental lighting posts on Seventeenth Street between Front and Main Streets. Address City Clerk.

Los Angeles, Cal.—Contract will be let about middle of September by Board of Supervisors for grading and constructing 5-in. concrete pavement with bituminous wearing surface, 18-ft. wide, oiled shoulders, 3½ ft. wide, corrugated iron pipe and reinforced concrete culverts, concrete protection walls, etc., on Beverly Road, together with grading 16-ft. roadway and constructing culverts, etc., on Scenic Road between Beverly and Cypress Roads, in vicinity of Beverly Hills.

Flagstaff, Ariz.—White Mesa Copper Co. will spend $34,000 in constructing a road to mining properties 120 miles northeast of here. N. G. Douglas, Phoenix, Ariz., Mgr.

Prescott, Ariz.—County Supervisors have ordered preliminary survey made of proposed short route from Prescott to Jerome, approximately 30 miles; estimated cost $70,000. W. H. Merritt, County Engineer.

Brigham, Utah.—Only bid submitted to County Commissioners for constructing 2 miles of concrete road rejected as being too high.

Salt Lake City, Utah.—Contract will be let in about two weeks by the city for 3 miles of 18-ft. concrete road on North Salt Lake Road. Cost, $39,000, to be paid jointly by city and state. Address City Clerk.

Idaho. — State Highway Commission, Boise, plans constructing State highway from Boise to Lewiston, about 185 miles long, to connect with highway connecting Lewiston with Spokane, Wash. Estimated cost $532,000. E. M. Booth, State Highway Engineer.

Sandpoint, Idaho.—Reported City Council plans paving Euclid Avenue its entire length, to connect with Pine Street. Address City Clerk.

Sandwich, Ont.—Essex County Council has appointed Reeve E. J. O'Neill, Sandwich, to prepare plans and specifications for improving 100 miles of road in Essex County.

BIDS DESIRED.

Springfield, Mass.—Until Aug. 31, for resurfacing portions of Magazine and Lincoln Streets. Address Commanding Officer, Springfield Armory, Springfield.

Connecticut.—Until Aug. 31, by C. J. Bennett, State Highway Commissioner, Hartford, for following sections of state highway improvement and bridge construction:

Town of Montville: About 6000 lin. ft. of native stone macadam on New London Turnpike.

Town of Portland: About 5100 lin. ft. of gravel construction on the Portland-Glastonbury back road.

Town of Beacon Falls: About 6000 lin. ft. of gravel construction on the Bethany Road.

Town of Woodbury: About 1800 lin. ft. of graded construction on Watertown-Woodbury Road, including the construction of a 16-ft. reinforced concrete slab culvert.

Town of Granby: An 18½ ft. reinforced concrete slab superstructure on present abutments over Dibble Brook on the North Granby Road, also a 12-ft. reinforced concrete slab culvert over the Mill Pasture Brook in West Granby.

New Brighton, S. I., N. Y.—Until Aug. 29, by Calvin D. Van Name, Borough Pres., for paving portions of Amboy Road according to specifications A and B, in all about 39,700 sq. yd. bituminous concrete, and 7100 cu. yd. concrete foundation. Security $35,000.

Hackensack, N. J.—Until Sept. 5 by Freeholders of Bergen and Hudson Counties, at Hackensack, for paving with bituminous concrete and recut granite block on Belleville Turnpike, estimated cost $18,000. John T. Thorpe, Supervisor of Roads.

Jersey City, N. J.—Until Aug. 29, by City Commissioners, for repaving with wood block various portions of Ocean Avenue.

Until Sept. 5, by City Commissioners, for repaving St. Paul's Avenue with brick, Old Bergen Road with wood block, and Oxford Avenue with asphalt block. M. I. Fagan, City Clerk.

Newark, N. J.—Until Sept. 7, by Board of Street and Water Commissioners, for repaving Roseville Avenue, from Orange Street to Springdale Avenue about 15,000 sq. yd. 4-in. wood block on old concrete foundation, 400 cu. yd. extra concrete, 3000 lin. ft. new 16 by 5-in. blue stone curb, set in concrete, 3000 lin. ft. old curb reset and redressed in concrete, etc.

Paterson, N. J.—Until Sept. 5, by H. J. Harder, City Engineer, for paving East Fifth, Warren, Leon and Jersey Streets with concrete.

Darby, Pa.—Reported desired until Sept. 4, by Edw. R. Franklin, Borough Secy., for Belgian block, bitulithic concrete, bitulithic macadam pavement on Hamilton, Moor, Poplar and Seventh streets and Forest Avenue. A. F. Damon, Jr., Engr., P. O. Building.

Harrisburg, Pa.—Reported desired until Sept. 1, by H. W. Gough, County Comptroller, for 2000 tons of crushed limestone for repairs to Horseshoe Pike.

Hughesville, Pa.—Reported desired until Sept. 4, for 5000 sq. yd. permanent pavement. W. C. Fullmer, Boro. Secy.

Baltimore, Md.—Until Aug. 30, by Board of Award, care of City Register, for paving with concrete cement a number of alleys.

Maryland.—Until Sept. 5, by State Roads Commission, 601 Garrett Bldg., Baltimore, for contracts B 26 and B 28, Baltimore County, K 8, Kent County, and M 15, Montgomery County, advertised in the Engineering Record.

Georgetown, Del.—Until Sept. 6 (readvertisement), by Engineer Georgetown, for constructing Sections 5 and 6 of Coleman du Pont Road, advertised in Engineering Record.

North Wilkesboro, N. C.—Until Aug. 29, by Board Street Committee (E. F. Stafford, Chmn.), for improving certain streets in town, in all about 20,000 sq. yd. Bids desired on sheet asphalt and granite block.

Perry, Fla.—Until Sept. 5, by County Commissioners, a supervising and constructing engineer for road work and road building, advertised in Engineering Record. At election, July 25, citizens voted $600,000 bonds for road improvements.

New Orleans, La.—By City, as follows, for 1917 street paving. Bids will be considered on Refined Trinidad Lake asphalt, natural pitch Lake asphalt, oil manufactured asphalt, bitulithic, bituminous concrete, ordinary creosoted wood block, small granite block, vitrified brick and Kreolite wood block:

Until Sept. 12—St. Ann, Barrack and Ursuline Streets and Esplanade Avenue, in all 33,810 sq. yd. Royal, Bourbon and North Peters Streets, 19,520 sq. yd.

Until Sept. 19—Dublin, Lowerline, Bordeaux, Cambronne and Broadway Streets, 26,350 sq. yd.

Until Sept. 26—Burgundy, Dauphin, St. Louis, Conti, Toulouse, North Peters and Bienville Streets, 25,240 sq. yd. Orleans and St. Peters Streets, 13,970 sq. yd.

Until Sept. 29—St. Bernard Avenue, South Broad, North Villere, Thalia, Julia and Poydras Streets, 61,250 sq. yd. W. J. Hardee, City Engr.

Lexington, Miss.—Until Sept. 1, by Highway Commissioners of Supervisors Dist. No. 1, for constructing approximately 41.8 miles gravel highway at office of Chancery Clk., Stein & Harbert, Engrs., Lexington.

Okolona, Miss.—Until Sept. 4, by Highway Commission Dist. No. 1 (Dr. J. R. Williams, Chmn.), for constructing approximately 8 miles of gravel roads. Bids desired also for gravel and culvert pipe used in construction and maintenance of same. M. D. Smith, Highway Engr., Kosciusko.

Starkville, Miss.—Until Sept. 5, by Mayor and Board of Aldermen, for paving, advertised in Engineering Record.

Greenville, Tenn.—Until Aug. 28, by George C. Taylor, Recorder, for 13,663 sq. yd. paving and 12,595 lin. ft. combined curb and gutter with necessary excavation and drainage. Alternate bids on asphalt concrete, on cement base and cement concrete will be considered. Additional paving contemplated on Depot Street, in all about 10,000 sq. yd.

Morristown, Tenn.—Until Aug. 31, by Charles S. Stephens, City Recorder, for constructing guttering, paving, etc., with asphaltic concrete on 5-in. base and 2-in. wearing surface in Improvement Dists. Nos. 8 and 9, portions of Henry and other streets.

Frankfort, Ky.—Until Sept. 2, by County Clerk, building 1.55 miles turnpike from Switzer to Wood Lake Pike. Sherry B. Smith, Road Eng., Frankfort.

Akron, Ohio.—Until Sept. 11, by U. G. High, County Clerk, for grading and paving Wooster Road.

Cleveland, Ohio.—Until Sept. 2, by E. G. Krause, Clerk County Commissioners, for improving Boston Road. W. A. Stinchcomb, County Surveyor.

Cleveland Heights (P. O. Cleveland), Ohio.—Reported desired until Sept. 5, by F. A. Pease Engineering Co., 806 Marshall Bldg., Cleveland, for paving Hampshire Road with brick, asphalt or macadam. H. H. Canfield, Village Clerk.

Until Sept. 18, by H. H. Canfield, Clerk, Mayfield Road, Cleveland Heights, for separate bids on following: Paving with brick, asphalt or macadam, on Mayfield Road; 6-in. water main; storm and sanitary sewers; paving Greyton Road with brick, asphalt or macadam; and 6-in. water main in Rosemond Road. Engineers, F. A. Pease Engineering Co., 806 Marshall Building, Cleveland.

Lakewood, Ohio.—Until Aug. 30, by N. C. Catabish, Director Public Service, for 8000 sq. yd. brick sheet asphalt, bitulithic concrete or asphalt block pavement on Waterbury Avenue. E. D. Fisher, City Engr.

New Concord, Ohio.—Until Sept. 6, by W. C. Trace, Village Clerk, for brick and concrete pavement on College and Depot Streets, and Montgomery Boulevard, about 11,580 sq. yd. and 10,100 lin. ft. curbing. T. C. Conner, Engr., Zanesville.

Ohio.—Until Aug. 31, by Clinton Cowen, State Highway Comr., Columbus, for improvement in Franklin County, Sect. F, of the Columbus-Lancaster Road, I. C. H. No. 49, in Marion Township, constructing bridges and culverts, grading roadway and paving with bituminous macadam. Length 1.32 miles; width of pavement 16 ft.; estimated cost $13,277. Alternate bids also desired for using solid natural lake asphalt. Estimated cost $13,898.

Cuyahoga County, Section A, Cleveland—Sandusky Road, I. C H. No. 3, in Bay Village, for constructing bridges and culverts, grading roadway and paving with brick, bituminous concrete or bitulithic, length 5.34 miles, width of pavement 18 ft., width of roadway 26 and 32 ft. Estimated cost, brick $167,285, bituminous concrete and hillside brick $166,523; bitulithic and hillside brick $166,522.

Warren County Section A—Morrow Lebanon Road I. C. H. No. 253 Salem Township, length 14,870 ft., width pavement 10 ft., roadway 20 ft. waterbound macadam. Cost $5,630.

Highland County, Section D—West Union Belfast Road, constructing bridges and culverts and paving with waterbound macadam 1.75 miles, cost $7,303, and Section M—2 Milford Hillsboro Road, Liberty Township, waterbound macadam. .41 miles, Cost $1,563.

Xenia, Ohio.—Until Aug. 29, by C. W. Whitmer, Director Public Service, for paving with brick, sheet asphalt and asphaltic concrete on East Main, Rogers, Columbus and other streets, advertised in Engineering Record.

Indiana.—By County Commissioners as follows for constructing roads:

Until Sept. 4:

At Vernon, crushed stone road in Vernon Township. G. J. Bernhart, County Auditor.

At Salem, 20,245 ft. of road in Monroe Township. Frank E. Morris, County Auditor.

Until Sept. 5:

At Bedford, gravel or macadamized road in Shawswick Township. Ezra W. Edwards, County Auditor.

At Petersburg, rock road in Monroe Township. John D. Gray, County Auditor.

At Albion, gravel road in Green Township. George A. Young, County Auditor.

At Rensselaer, stone road in Marion Township and one in Kankakee Township. J. P. Hammond, County Auditor.

At Bloomington, 2 gravel roads in Bloomington Township. W. Kinser, County Auditor.

At Cannelton, stone road, in Oil Township. M. C. Conway, County Auditor.

At Vincennes, 15,840 ft. gravel road in Harrison Township. J. Muentzer, County Auditor.

Until Sept. 6:

At Huntington, 2 roads in Jackson Township. Ovid E. Eviston, County Auditor.

At Madison, 2 Tarvia bound macadam roads in Madison Township. Charles S. Dibler, County Auditor.

At Auburn, gravel road in Franklin Township. S. P. Nelson, County Auditor.

At Columbia City, roads in Troy and Etna Township line and Thorncreek and Richland Township line. Thomas A. McLoughlin, County Auditor.

At Shelbyville, gravel and concrete road in Hanover Township. F. W. Fagel, County Auditor.

Until Sept. 7:

At Corydon, gravel or macadam road on Washington Heth Township line. J. L. O'Bannon, County Auditor.

At Frankfort, 4 gravel roads in Center and Madison Townships. Edward Spray, County Auditor.

At Rochester, gravel road in Henry and Rochester Townships. Ernest A. Smith, County Auditor.

Until Sept. 8:

At Brazil, stone roads in Washington, Posey, Harrison Townships and Perry-Posey Township lines (4 roads). W. O. Graeser, County Auditor.

Until Sept. 14:

At Portland, brick road in Wayne Township, stone road in Pike Township, and brick road in Richland Township. John Bonifax, County Auditor.

Edwardsville, Ill.—Until Aug. 28, by Bd. Local Improvements, for improving Randle Street, advertised in Engineering Record.

Elgin, Ill.—Until Aug. 25 by city for 6232 sq. yd. asphaltic concrete pavement and 231 sq. yd. brick pavement on Bluff City Boulevard; 17,338 sq. yd. brick on Raymond Street and 3550 sq. yd. brick on Commonwealth Avenue, to include 5-in. concrete base; 15,097 lin. ft. combined curb and gutter, and 2449 lin. ft. concrete curb. Morgan H. Brightman, City Engineer.

Illinois.—Until Aug. 30, by State Highway Commission, Springfield, for the following proposed state-aid road work:

Macon County, Section B, Type oiled earth; nearest P. O. Decatur; approximate length 61,989 ft.; engineer's estimate, exclusive of cement furnished by state, $24,704.

Warren County, Section D, Type concrete; nearest P. O. Monmouth; length 5350 ft.; engineer's estimate, $9,492.

Aitkin, Minn.—Reported desired until Aug. 30, by H. C. Beecher, County Clerk, for constructing 2¼ miles State Road No. 2.

New Ulm, Minn.—Until Aug. 28, by Wm. Backer, City Clerk, for grading, boulevarding and surfacing and constructing curb and gutter on portion of North State Street. L. M. Norelius, City Engineer.

St. Paul, Minn.—Until Aug. 28, by H. W. Austin, Purchasing Agent, for grading and improving portions of Stanford, Grantham Streets and Burns Avenue and 2 alleys.

Billings, Mont.—Until Sept. 12, by City, for paving in District No. 152, involving about 20,000 sq. yd. paving, together with storm sewers, gutters, etc. Bids will be considered on bitulithic, bituminous concrete, Portland cement, concrete and asphaltic macadam. E. M. Sneckenberger, City Engineer.

Casper, Wyo.—Until Sept. 6, by C. M. Bryan, Town Clerk, for 17,000 sq. yd. bitulithic pavement on Center, Second and Third Streets; cost $40,000. L. D. Worthington, Engr., Casper.

Carterville, Mo.—Until Sept. 7, by A. M. Baird, City Clerk, for paving with concrete on Main Street; cost $21,800. Frank Newton, Engr., Carthage.

Kansas City, Mo.—Until Aug. 29, by W. H. Benham, Secy. Bd. Public Works, for vertical fibre brick block pavement on Troust Avenue; combined Portland cement concrete on Wayne Avenue, and an alley, and asphaltic concrete pavement on Fortieth Street; artificial stone sidewalks on Fifty-ninth, Fortieth, Harrison and North Thirty-sixth streets and Jackson Avenue.

Richmond, Mo.—Until Aug. 28, by G. E. Bay, City Clk., for paving West Main Street with vertical fiber brick block and asphalt filler on 4-in. concrete base, about 8000 sq. yd. Also for 2500 lin. ft. of concrete curbing. W. A. Mullins, City Engineer.

Pasco, Wash.—Until Sept. 19, by L. D. Conrad, County Auditor, for Permanent Highway No. 3 and No. 5. J. W. Hamilton, County Engineer.

Port Angeles, Wash.—Until Sept. 8, by J. L. Beam, City Clerk, for 13,000 sq. yd. concrete paving and 7000 ft. curbing, 20 M. ft. lumber, etc., on First and other streets.

Wenatchee, Wash.—Until Sept. 5, by Terry L. Ross, County Auditor, for constructing 2 miles of scenic highway. Fred A. Warren, County Engr.

Springfield, Ore.—Until Sept. 1, by County Clerk, for macadam road as follows: 8,895 ft. from street to Wendling Branch of Southern Pacific Railroad, 5830 ft., Eugene-Elcira Road, and 5200 ft. grading around Cape Horn in Lake Creek Valley.

Bakersfield, Cal.—Until Sept. 5, by Bd. of Supervisors (F. E. Smith, Clerk), for grading, surfacing with broken stone and constructing culverts on 8.51 miles of Division 12, Randsburg-Johannesburg-Stringer District Road; also grading, paving and constructing culverts on 8.4 miles of Division 5, Section 4, between Lokern and Bowerbank.

Until Oct. 3, by Bd. of Supervisors (F. E. Smith, Clerk), for grading and surfacing with broken stone 9.56 miles of Rio Bravo-Wasco Road, Division 4, Section 1.

Newport Beach, Cal.—Until Sept. 4 by Claude M. Crego, City Clerk, for constructing concrete pavement, cement curbs and walls on First, Second, Third, Fourth and other streets.

Santa Ana, Cal.—Until Sept. 6 (readvertisement), by Bd. of Supervisors (W. B. Williams, Clerk), for grading and constructing 4-in. concrete pavement, 16 ft. wide, on 2.33 miles of Placentia-Yorba Road near Richfield; county furnishes cement, sand and rock.

Santa Ana, Cal.—See "Reinforced Concrete."

Santa Barbara, Cal.—Until Sept. 7, by A. C. Holmberg, City Clerk, for constructing concrete base and asphalt surface pavement on three blocks of Anacapa Street; also for grading and constructing concrete base and oil screenings surface pavement and cement curbs on 12,300 lin. ft. of 18-ft. roadway on Mission Ridge and Mountain Drive.

Ventura, Cal.—Until Sept. 7, by Board of Supervisors (J. B. McCloskey, Clerk), for grading and constructing culverts on Division 10, Section 2, involving approximately 55,000 cu. yd. excavation and 690 lin. ft. 18 to 36-in. corrugated iron pipe, etc.; also similar work on 2.9 miles of Nordhoff Road, Division 6, Section 2-C, 8500 cu. yd. excavation, 250 ft. 12 to 30-in corrugated iron pipe, 4400 lb. reinforced steel, etc.

Until Sept. 12, for similar work on 1.4 miles road through Foster Park, 8600 cu. yd. excavation, etc. C. W. Petitt, County Engineer.

Twin Falls, Idaho.—Reported desired until Sept. 1, by Reese M. Williams, City Clk., for paving of Shoshone Street; probable cost $28,000.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**New Haven, Conn.**—Contract awarded by city for paving Norton Street to C. W. Blakeslee & Sons, New Haven, at $15,415.

Albany, N. Y.—Following are bids opened by State Highway Commission, 55 Lancaster Street, Albany, for improving public highways:

Opened Aug. 14:

Road No. 5614, Loudon-Crescent, Part 2, Albany County, 0.1 mile, Brown & Lowe, Company, Schenectady, $1,544 (only bid).

Road No. 1451, Stella-New Irelans, Broome County, 4.7 miles (2 bids), T. H. Gill Company, Binghamton, $52,486, and Woodruff Edgecomb, Eastbranch, $56,206.

Road No. 1414, Venice Center-Genoa, Cayuga County, 5.45 miles (2 bids), Frank Malone, Syracuse, $72,209, and Frank J. Foote, Nunda, $74,657.

Road No. 1435, Solon-Gee Brook, Part 1, Cortland County, 6.07 miles (2 bids), Michael O'Brien, Cortland, $73,747, and Rossney Contracting Corporation, Buffalo, $73,874.

Road No. 1439, Sidney-Masonville, Delaware County, 6.51 miles, Albany Construction Company, Albany, $92,554 (only bid).

Road No. 1446, South Newstead-Peters Corners, Erie County, 0.91 mile (no bids received).

Road No. 1445, East Aurora-Lancaster, Part 2, Erie County, 3.54 miles, William F. Felton, Buffalo, $51,981 (only bid).

Road No. 924A, Wales Center-Wales, Erie County, 6.03 miles (3 bids), William F. Felton, Buffalo, $62,120; Frank J. Foote, Nunda, $64,456, and Federal Paving Corporation, New York, N. Y., $66,318.

Road No. 1411, Wadhams Mills-Whallensburg, Essex County, 4.95 miles (no bids received).

Road No. 1376, Bull Run-Bleecker, Fulton County, 2.8 miles (no bids received).

Road No. 5523, Wells-Speculator, Part 2, Hamilton County, 6.74 miles (2 bids), Albany Construction Company, Albany, $117.038, and Hassam Paving Company, Worcester, Mass., $139,590.

Road No. 1362, Vanhornersville-Starkville, Herkimer County, 5.84 miles (no bids received).

Road No. 5617, Watertown-Philadelphia, Part 2, Jefferson County, 5.3 miles (2 bids), Pathfinder Construction Company, Fulton, $61,464, and Joseph McCormick, East Providence, R. I., $66,758.

Road No. 513, Amsterdam-Morris Center, 2.49 miles, Montgomery County (no bids received).

Road No. 773, Wendellville-Lockport, Part 2, Niagara County, 2.38 miles (2 bids), Cold Spring Construction Company, Buffalo, $25,442, and Carlisle O. Landel, Tonawanda, $30,444.

Road No. 1355, North Western-Boonville, Part 1, Oneida County, 6.15 miles, Albany Construction Company, Albany, $75,608 (only bid).

Road 1415, Chapin-Palmyra, Part 1, Ontario County, 3.95 miles (2 bids), Chambers & Barnes, Rochester, $40,219, and W. J. Semper, Watertown, $43,656.

Road No. 1427, Fulton-Volney, Part 1, Oswego County, .57 mile (lowest bid), Samuel Bonn, Syracuse, $8,731.

Road No. 1421, Center Berlin-Petersburg, Rensselaer County, 7.2 miles (4 lowest), Martin Murray & Company, Inc., Troy, $90,664; the Lane Construction Corporation, Meriden, Conn., $91,571; and Albany Construction Company, Albany, and J. B. Dower, Ballston Spa, both bid same at $93,945.

Road No. 1148, Suffern-Mt. Ivy, Rockland County, 8.62 miles (4 bids), Samuel Beskin, Beacon, $71,930; Coe & Blanchard, Suffern, $72,980; John J. Guinan Construction Company, New York, N. Y., $74,171, and John A. Jova, Inc., Newburg, $74,210.

Road No. 325, Center Road-Fayette, Part 2, Seneca County, 2.75 miles, Thomas F. Murray, LeRoy, $37,709 (only bid).

Road No. 1453, Vischer's Ferry-Niskayuna, Schenectady County, 1.95 miles, J. J. Malloy, Schenectady, $19,330 (only bid).

Road No. 1399, Waterloo Village-Fayette Street, Seneca County, .24 mile, McMcMahon & Farrington, Waterloo, $3,162 (only bid).

Road No. 1078, Waverly-Lockwood, Tioga County, 6 miles (4 lowest), the Lane Construction Corporation, Meriden, Conn., $68,044; Dana W. Robbins, New York, $69,410; Peter F. Connolly & Company, Horseheads, $69,739, and Frank J. Foote, Nunda, $69,902.

Road No. 1433, Cortland-Groton, Parts 3 and 4, Tompkins County, 5.86 miles (4 lowest), Frank J. Foote, Nunda, $84,499; Dana W. Robbins, New York, $86,936; Bradley & McGreevey, Elmira, $87,872, and T. H. Gill Company, Binghamton, $88,390.

Road No. 1417, Walkill-Newburgh, Part 1, Ulster County, 3.12 miles (2 bids), John A. Jova, Inc., Newburgh, $35,867, and Harper & Higginson, Inc., Newburgh, $36,776.

Road No. 1436 Greenwich Village-Elm Avenue, Main Bridge and Eddy Streets, Washington County, 1.43 miles (3 bids), Keeseville Road Company, Inc., Keeseville, $62,961; John B. Lower, Ballston Spa, $63,659, and Gifford Construction Company, Jamaica, $67,087.

Bids opened Aug. 16:

Road No. 5615, Belfast-Caneadea, Allegany County, 9.07 miles (4 bids), Frank J. Foote, Nunda, $111,063; J. A. Hughes, Jamestown, $112,200; Bison City Engineering Company, Inc., Buffalo, $118,013, and W. J. Fox, Oramel, $120,334.

Road No. 1450, Castle Creek-Whitney Point, Broome County, 6.93 miles, T. H. Gill Company, Binghamton, $103,690 (only bid).

Road No. 1440, Franklin-Unadilla, Part 1, Delaware County, 3.39 miles (3 bids), Brady-Oltarsh Company, Inc., Johnstown, $46,330; Woodruff-Edgecomb Company, East Branch, $46,604, and Fulton Engineering Company, Inc., Albany, $46,628.

Road No. 1334A, Transit, Part 4, Erie County, 3.18 miles (2 bids), Carlisle A. Landel, Tonawanda, $43,807, and Louis H. Gipp, Buffalo, $46,900.

Road No. 1334B, Transit, Part 4, Erie County, 1.12 miles (3 bids), Arthur J. Shaw, Jr., and George Perrin, Batavia, $38,619; Louis H. Gipp, Buffalo, $41,935, and Bison City Engineering & Contracting Company Inc., Buffalo, $43,807.

Road No. 1443, North Collins-Langford, Erie County, 5.09 miles (2 bids), Frank J. Foote, Nunda, $60,117, and John Johnson Construction Company, Buffalo, $60,816.

Road No. 5602, Malone Village, Main and Elm Streets, Franklin County, 1.99 miles, Arthur F. McConville, Ogdensburg, $67,100; John B. Dower, Ballston Spa, $67,174, and P. J. Kennedy, Utica, $68,879.

Road No. 621, St. Johnsville-Oppenheim, Part 2, Fulton County, 2.9 miles (no bids received).

Road No. 1363, Paines Hollow-Stone House, Herkimer County, 5.67 miles (no bids received).

Road No. 5618, Carthage-Antwerp, Part 4, Jefferson County, 4.05 miles (4 bids), P. J. Kennedy, Utica, $59,819; Roeh & Griffin Company, Watertown, $61,195; The Pathfinder Construction Company, Inc., Fulton, $61,290, and Spellman-Oliver Company, Chateaugay, $61,878.

Road No. 1392, Rush-Mendon, Part 1, Monroe County, 3.69 miles, Michael Murphy, Rochester, $38,994 (only bid).

Road No. 5590, Lewiston Heights-Lewiston, Niagara County, .61 mile, John Johnson Construction Company, Buffalo, $22,546 (only bid).

Road No. 1356, North Western-Boonville, Part 2, Oneida County, 5.74 miles, Albany Construction Company, Albany, $70,022 (only bid).

Road No. 5616, Cohocton-Naples, Part 2, Ontario County, 2.26 miles (3 bids), The Atlanta Construction Company, Atlanta, $26,961; The Steuben Construction Company, Hornell, $27,017, and W. J. Semper, Watertown, $30,465.

Road No. 1430, Albion Village-Main Street, Orleans County, 1.32 miles (4 lowest bids), F. H. Rhodey, Albion, $89,975; Lewis H. Brotsch, Buffalo, $91,000; Thomas Fitzgerald Company, Fredonia, $92,573, and John Johnson Construction Company, Buffalo, $95,745.

Road No. 1428, Sandy Creek-Smartville, Oswego County, 6.36 miles (3 bids), Samuel Bonn, Syracuse, $74,841; Bison City Engineering & Contracting Company, Inc., Buffalo, $76,511, and Dale Engineering Company, Utica, $77,428.

Road No. 1422, Castleton-East Schadack, Part 1, Rensselaer County, 4.87 miles, Fred Ellis, Melrose, Mass., $57,590 (only bid).

Road No. 1389, Gouverneur-Edwards, Part 2, St. Lawrence County, 4.6 miles (no bids received).

Road No. 1454, Duanesburg-Esperance, Schenectady County, 6.33 miles (4 lowest), Albany Construction Company, Albany, $74,500; The Lane Construction Corporation, Meriden, Conn., $75,480; J. J. Malloy, Schenectady, $75,805, and Green & Miller, Schenectady $77,755.

Road No. 1420, Bradford-Tyrone, Schuyler County, 3.01 miles (3 bids), Willis L. Frost, Watkins, $29,888; John W. Gurnett, Watkins, $30,918, and Atlanta Construction Company, Atlanta, N. Y., $32,733.

Road No. 1400, Waterloo-Burns Corner, Seneca County, 4.89 miles, J. W. Brennan Construction Company, Inc., Geneva, $59,908 (only bid).

Road No. 1452, Richford-Harford Mills, Tioga County, 5.5 miles, Dana W. Robbins, Inc., New York, N. Y., $72,025 (only bid).

Road No. 1431, Brockton-Speedsville Lt. and Slaterville Springs, Caroline County, Part 2 (2 bids), The Fort Schuyler Construction Company, Inc., Utica, $42,748, and Patrick B. Conley, Ithaca, $43,354.

Road No. 1418, Milton Landing-Milton, Ulster County, .55 mile (2 bids), The Fallkill Construction Co., Inc., Poughkeepsie, $13,894, and Harper & Higginson, Inc., Newburgh, $15,272.

Road 1437, Schuylerville-Greenwich, Washington County, 4.58 miles, The Keeseville Road Company, Inc., Keeseville, $47,732 (only bid).

Road 5606, Tuckahoe-White Plains, Part 2, Westchester County, 2.74 miles, James V. Troin, Mt. Vernon, $46,214 (only bid).

Opened Aug. 18:

Road No. 1449, Broome County, Maine-Glen Aubrey, 5.35 miles (no bids received).

Road No. 5608, Machias-Delevan, Part 1, Cattaraugus County, 2.17 miles, Wm. F. Felton, Buffalo, N. Y., $34,160 (only bid).

Road No. 1379, Jamestown City, Foote Avenue, Chautauqua County, 0.74 mile (3 bids), John Johnson Constr. Co., Buffalo, $36,320; Clyde G. Jones & H. A. Hotchkins, Jamestown, $40,809; Elmer M. Love & Son, Corry, $41,628.

Road No. 1381, Fredonia-South Dayton, Part 3, Chautauqua County, 3.70 miles (no bids received).

Road No. 1441, Delancey-Delhi, Delaware County, 4.31 miles (4 bids), Brady-Oltarsh Constr. Co., Johnstown, $70,380; Fulton Eng. Co., Inc., Albany, $70,811; John A. Jova, Inc., Newburgh, $74,680; Albany Constr. Co., Menands, $92,248.

Road No. 1444, Hunts Corners-Akron, Erie County, 3.75 miles (3 bids), Cold Springs Constr. Co., Buffalo, $32,752; Michael H. Ripton, Rochester, $33,388; Lewis H. Gipp, Buffalo, $33,688.

Road No. 1447, Brant-North Collins, Erie County, 4.50 miles (no bids received).

Road No. 5622, Holland-Yorkshire, Part 1, Erie County, 5.19 Miles, Frank L. Cohen, Buffalo, $106,927 (only bid).

Road No. 5613, Malone-Chateaugay, Franklin County, 10.36 miles (2 bids), W. T. Thayer & Co., Chateaugay, $124,417; De Graff & Hogeboom, Inc., Kingston, $125,515.

Road No. 1377, Gloversville-West Perth, Fulton County, 3.74 miles (no bids received).

Road No. 514, Snooks Corners-Amsterdam, Montgomery County, 2.70 miles (no bids received).

Road No. 1344, Green Corner-Francis Pond, Nassau County, 3.38 miles (4 bids), Jos. Capek, Inc., Astoria, N. Y., $44,007; E. T. Eggelston, Yonkers, $45,115; H. J. Mullen Constr. Co., Inc., Jamaica, $49,784; Rosenthal Eng. Contg. Co., Brooklyn, $56,751.

Road No. 5620, Geneva City-Lake Street, Ontario County, 0.82 mile (3 bids), F. A. Bushley, Norwich, $11,972; Sweeney & Boland, Rochester, $12,166; J. W. Brennan Constr. Co., Inc., Geneva, $12,347.

Road No. 1408, Three Mile Point-Springfield Center-Warren, Otsego County, 8.13 miles, Newport Contsr. Co., Herkimer, $88,649 (only bid).

Road No. 1423, Speigletown-Tomhannock Reservoir, Rensselaer County, 6.34 miles (no bids received).

Road No. 5612, Waddington-Massena, Part 1, St. Lawrence County, 9.12 miles, Mecca Constr. Co., Morristown, $144,830 (only bid).

Road No. 5598, South Glens Falls Village-Saratoga Avenue and Main St., 1.10 miles (two bids), John B. Dower, Ballston Spa, $70,480; Jos. Fredella, Glens Falls, $74,972.

Road No. 5619, Central Bridge-Quaker Street, Part 1, Schoharie County, 2.73 miles (4 lowest), Lane Constr. Co., Meriden, Conn., $33,838; Green & Miller, Schenectady, $35,161; D. J. Snell & Co., Canajoharie, $37,063; Albany Constr. Co., Menands, $37,620.

Road No. 1401, Willard-Ovid, Seneca County, 2.13 miles, H. A. Schaupp, Guilderland, $25,172 (only bid).

Road No. 1416, Seneca Falls-Clyde, Part 1, Seneca County, 2.63 miles (3 bids), Dale Eng. Co., Utica, $27,394; Bradley & McGreevey, Elmira, $27,786; H. A. Shaw, Guilderland $28,769.

Road No. 1432, West Danby-West Danby Station, Tompkins County, 0.43 mile, Patrick D. Conley, Ithaca, $5615 (only bid)

Road No. 1434, Ithaca City-Mitchell Street, Tompkins County, 0.61 mile, Patrick D. Conley, Ithaca, $16,777 (only bid).

Road No. 1419, Rosendale Village, Ulster County, 3.17 miles (2 bids), Geo. H. McEvoy, Creeks Locks, N. Y., $41,272; Harper & Higginson, Inc., Newburgh, $43,459.

Road No. 1438, Greenwich-Cambridge, 6.98 miles, Washington County (3 bids), Gifford Constr. Co., Jamaica, $98,217; Lane Constr. Corp., Meriden, Conn., $99,-739; St. Lawrence Constr. Co., Inc., Albany, $103,106.

Road No. 1059, Clyde-Resort, Part 3, Wayne County, 1.88 miles (no bids received).

Road No. 1370, Harts Corner-White Plains, Westchester County, 1.74 miles, Summit Eng. & Constr. Co., New York City, $50,555 (only bid).

Long Island City, L. I., N. Y.—Following are unit figures of the lowest bidder, Queens Plaza Contracting Company, Queensboro Bridge Plaza, Long Island City, opened Aug. 17 by Borough President, for regulating and paving with permanent pavement of improved granite blocks on 6-in. concrete foundation in Van Dam Street: 200 cu. yd. earth excavation, 40 cts.; 200 cu. yd. embankment in excess of excavation, 60 cts.; 8000 lin. ft. new bluestone header set in concrete, 75 cts.; 1470 cu. yd. concrete in place outside railroad area, 1 ct.; 8800 sq. yd. granite block pavement (outside railroad area), including sand bed and cement grouted joints and 1-year maintenance, $3.80; 350 sq. yd. granite block pavement (laid within railroad area), including sand bed and cement grouted joints and no maintenance, 1 ct.; 1000 sq. yd. granite block pavement (laid outside railroad area), including sand bed, sand joints and 1-year maintenance, $3; 200 sq. yd. old stone block pavement, relaid, 50 cts.; 100 lin. ft. 12-in. c. i. pipe in place, $3; 1 catch basin rebuilt, $75.00, and 60 cu. yd. concrete in place within railroad area), 1 ct.; total, $45,134. Total of next three bids: Astoria Contracting Company, $43,-162; Joseph L. B. LaMarsh, 28 City Hall Place, New York, N .Y., $44,817; and Clancy & Nuhn Contracting Company, $46,698.

★**Morristown, N. J.**—Contracts awarded by Board of Freeholders (W. H. Hoskins, Clk.), Aug. 16, for road improvements as follows (bids opened Aug. 7): Miles Tighe Co., Easton, Pa., Hanover Whippany Road, $54,408; Osborne & Marsellis Co., Montclair, N. J., Mt. Kemble Avenue Road, $75,716; H. B. Sproul Const. Co., Peekskill, N. Y., Washington Street, Boonton, $26,717; also West Main Street, Boonton, $15,963; and North Main Street, Boonton, $14,805; Salmon Bros., Netcong, N. J., Port Morris and Netcong Road, $29,183; Weldon Constr. Co., Rahway, N. J., Morristown and Mendham Road, $100,-910; Hickey & Houghton, Somerville, N. J., Summit Avenue, Chatham, $16,072; S. B. Twining Co., Morris Plains, Mendham and Ralston Road, $42,181; J. B. Goughterty, Morristown, Morris Avenue, Morristown, $22,419; Highway Imp. and Repair Co., Wilmington, Del., East Blackwell Street, Dover, $30,992; also Sussex Turnpike, Township of Roxbury, $36,468; Geo. F. Brackett Co., Clifton, N. J., Paterson and Hamburg Road, first section, $40,895; and second section, $32,859.

Paterson, N. J.—See "Proposed Work."

Paterson, N. J.—Following bids opened Aug. 16 by Board of Chosen Freeholders for constructing Totowa Road from Lincoln Bridge to Union Avenue, in Borough of Totowa: Sowerbutt & Harrop, Paterson, $21,555; Francisco Bros., Ridge Road, Little Falls, $22,021, and A. W. Gill, Hackensack, $23,362.

★**Butler, Pa.**—Contract awarded by County Commissioners to Duster Construction Co., Tarentum, at $96,498 for constructing 4 miles of Butler-Saxonburg Road. (Bids opened Aug. 18.)

★**Wilkes-Barre, Pa.**—Contract awarded Herrick Constr. Co. of Wilkes-Barre for paving Midvale section of Pittston Road, Luzerne County, about 15,300 sq. yd. 5 x 12 x 2 in. asphalt block (Hastings), at $44,780.

★**Maryland.**—Following contracts awarded by State Roads Commission, 601 Garrett Building, Baltimore, for constructing roads (bids opened Aug. 8):

Easton and Miles River Road, Talbot County, 2.47 miles, concrete, to Juanita Co., Philadelphia, at $29,093.

Westminster and Fenby Road, Carroll County, resurfacing with macadam, 2.6 miles, to Thomas, Bennett & Hunter, Westminster, at $25,083.

Bridgeport and Taneytown Road, 3.15 miles, concrete, to Thomas Mullan, 4001 York Road, Baltimore, at $45,968.

★Contract C1-16, macadam, Fisher & Carozza, Baltimore, Md.

★Contract F-18-B, macadam, L. R. Waesche, Thurmont, Md.

★**Elkins, W. Va.**—Contract awarded by County Commissioners to R. M. Hudson Paving & Construction Co., Charleston, at $200,000, for grading and paving 19 miles of road. (Bids opened Aug. 10.)

Bay Minette, Ala.—No bids received Aug. 16 by County Commissioners for constructing the Delta Road, and project has been abandoned as impracticable. J. M. Garrett, County Engineer.

★**Jennings, La.**—Contract awarded by Police Jury to W. L. Stevens, New Orleans, for constructing 26 miles of gravel roads in Jefferson Davis County. Address President of Police Jury.

★**Cincinnati, Ohio.**—City Board of Contract awarded to Joseph A. Byrnes, 22 Bodman Building, contract for crushed stone for completing Section 3 of Bloody Run Parkway, at $13,120.

★**Deshler, Ohio.**—Contract awarded C. S. Witham, Deshler, at $29,410, for paving Elm Street and Keyser Avenue (bids opened Aug. 9 by R. W. Hoskinson, Clerk).

★**Wooster, Ohio.**—Contract awarded by County Commissioners Aug. 10 to Midland Construction Company, Lima, for constructing the Smithville-Orville Road—5 miles of waterbound macadam—at $63,337. R. C. Barrett, County Surveyor.

★**Crown Point, Ind.**—Contract awarded by Commissioners of Lake County to A. L. Courtwright, Crown Point, for constructing a gravel road in Calumet Township, at $10,864.

★**Lebanon, Ind.**—Contract awarded by Commissioners of Boone County to Davis Construction Company, Cicero, for constructing road in Eagle Township, at $26,495 (bids opened Aug. 8).

★**Grand Rapids, Mich.** — Contract awarded by City Council to Kloote & Son, Grand Rapids, for paving Union Avenue with concrete at $22,563.

★**Chicago, Ill.**—Contract awarded by Henry A. Zender, Supt. Public Service, for constructing 23,806 ft. concrete roadway known as Lincoln Highway in township of Rich: John Mackler, Chicago Heights. $84,641.

★**Peoria, Ill.**—Contract awarded by Board of Local Improvements to John McAllister, Peoria, at $14,412, for paving Fulton Street. (Bids opened August 7.)

★Contract awarded by Board of Local Improvements to A. D. Thompson Co., Peoria, at $14,363, for paving portion of Richmond Avenue with brick.

★**Milwaukee, Wis.**—Contracts awarded by Board of Public Works for paving as follows: To John Weiher, Milwaukee, for Thirty-fifth Street, with sandstone and creosoted blocks at $23,750; White Construction Co., Ry. Exchange Building, for Becher Street, with asphalt, at $11,-993, and Milwaukee General Construction Co., 857 Eighth Avenue, for Holton Street, with creosoted blocks, at $16,723.

Boston, Mass.—Following are unit figures of the four lowest bids opened Aug. 18 by Department Public Works for paving on various streets in the city proper—(1) asphalt, (2) Topeka, (3) bitulithic pavement: (a) Central Construction Company, 6 Beacon Street, (1) $70,986, (2) $81,135; (b) Warren Brothers Company, 142 Berkeley Street, (1) $75,731, (3) $84,172; (c) James Doherty, 133 Calumet Street, Roxbury, (3) $86,638; (d) Bermudez Company, 226 First Street, East Cambridge, (a) and (b) $84,728.

	(a)	(b)	(c)	(d)
2b—10 cu. yd. earth excavation	$2.00	$1.50	$1.00	$2.00
2c—10 cu. yd. rock excavation	1.00	2.00	1.00	5.00
3a—300 lin. ft. straight edgestone, hauled and set	0.25	0.20	0.20	0.25
3b—175 lin. ft. circular edgestone, hauled and set	0.15	0.17	0.15	0.15
3c—7,955 lin. ft. edgestone, reset	0.15	0.15	0.145	0.15
5b—385 sq. yd. granite blocks, relaid, gravel joint	0.55	0.53	0.43	0.60
5f—953 sq. yd. granite blocks, relaid, grout joint	1.85	2.00	1.80	1.70
6b—150 sq. yd. flagging crosswalks, relaid, gravel joint	0.65	0.50	0.50	0.60
6f—80 sq. yd. flagging crosswalks, relaid, concrete base and grout joint	1.50	1.80	1.80	1.80
7a—14,890 sq. yd. asphalt wearing surface on concrete base with bitumen; concrete binder	2.34	2.00	...	2.40
7aa—12,415 sq. yd. asphalt wearing surface on macadam base with concrete binder	1.40	1.21	...	1.40
7b—14,890 sq. yd. Topeka wearing surface on concrete base	2.35	...	...	2.40
7bb—12,415 sq. yd. Topeka wearing surface on macadam base	1.40	...	...	1.40
7c—14,890 sq. yd. bitulithic surface on concrete base	...	2.42	2.42	...
7cc—12,415 sq. yd. bitulithic surface on macadam base	...	1.54	1.58	...
7d—4,360 sq. yd. brick blocks on concrete base, furn. and laid	2.80	2.73	2.93	2.80
8b—4,830 sq. yd. brick sidewalks relaid	0.22	0.30	0.33	0.30
9a—28,420 sq. ft. granolithic sidewalks	0.165	0.16	0.16	0.18
9b—870 sq. ft. granolithic driveways	0.17	0.17	0.17	0.20
11a—1,670 sq. yd. wood block paving, including concrete base	3.45	3.42	3.77	3.86
11b—925 sq. yd. wood block paving for brow stone	3.20	3.42	3.84	4.10
12—150 tons crushed stone furnished in place	15.00	2.00	1.75	3.00

Boston, Mass.—Following are bids opened Aug. 14 by Edward F. Murphy, Commissioner Public Works, for granite and wood block on portions of several streets:

Group I—(a) Bernard E. Grant, 83 Court Street, $177,196; (b) Coleman Brothers, Pearl Street, Chelsea, $195,337; (c) Central Construction Company, 228 Southampton Street, Roxbury, $210,193.

Items	(a)	(b)	(c)
2b—15 cu. yd. excav. and setting water boxes	$1.00	$2.00	$2.00
c—15 cu. yd. rock excav.	1.00	3.00	7.00
3a—900 lin. ft. straight edge stone (haul and laid)	0.20	0.25	0.20
b—370 lin. ft. circular edge stone (haul and laid)	0.16	0.25	0.15
c—12,120 lin. ft. resetting edge stone (haul and laid)	0.12	0.20	0.16
4—6,230 cu. yd. concrete base	5.25	5.00	6.39
5b—340 sq. yd. gravel joint (granite block pavt. relaid)	0.53	0.90	0.90
c—4,500 sq. yd. asphalt joint (granite block pavt. furnished and laid)	0.45	3.60	3.87
d—400 sq. yd. asphalt joint (granite block pavt. relaid)	1.00	1.25	2.00
e—31,530 sq. yd. grout joint (granite block pavt. furnished and laid)	3.85	3.75	3.87
f—7,620 sq. yd. grout joint (granite block pavt. relaid)	0.80	1.15	1.20
6c—160 sq. yd. flagging asphalt joint (relaid)	1.00	1.25	1.40
d—40 sq. yd. flagging grout joint (relaid)	0.80	1.10	1.20
e—2,430 sq. yd. flagging asphalt (haul and laid)	0.85	1.25	1.40
f—465 sq. yd. flagging grout (haul and laid)	0.80	1.00	1.30
8b—3,170 sq. yd. brick sidewalks (relaid)	0.20	0.40	0.35
9a—65,000 sq. ft. artificial stone walks	0.17	0.19	0.20

Group II—(a) B. E. Grant, 99 W. Cedar Street, $186,375; (b) James Doherty, Calumet Street, Roxbury, $189,575; (c) M. De Mattea, 146 Dudley Street, Roslindale, $198,978; (d) Coleman Brothers, Pearl Street, Chelsea, $206,241.

Items	(a)	(b)	(c)	(d)
2b—5 cu. yd. setting and resetting water boxes	$1.00	$1.00	$5.00	$2.00
c—5 cu. yd. rock excav.	1.00	1.00	5.00	3.00
d—500 cu. yd. gravel fill	0.05	0.75	1.10	1.50
3a—420 lin. ft. straight edge stone (haul and laid)	0.20	0.20	0.17	0.25
b—320 lin. ft. circular edge stone (laid)	0.16	0.16	0.13	0.25
c—12,710 lin. ft. reset edge stone	0.12	0.15	0.15	0.20
4—6,680 cu. yd. concrete base	5.00	5.25	7.00	5.00
5b—470 sq. yd. granite block (relaid gravel joint)	0.50	0.43	0.50	0.70
c—520 sq. yd. granite block (furnished and laid asphalt joint)	3.60	3.25	3.00	3.70
d—100 sq. yd. granite block (furnished and laid asphalt joint)	1.00	0.98	1.00	1.00
e—28,540 sq. yd. granite block (furnished and laid grout joint)	3.20	3.24	3.00	3.60
f—7,360 sq. yd. granite block (relaid grout joint)	0.85	0.98	1.00	1.25
g—4,165 sq. yd. granite block (furnished and laid in Columbus Road, 4 in. deep)	3.30	3.14	3.00	3.50
6b—75 sq. yd. crosswalk (relaid gravel joint)	0.75	0.50	1.00	1.00
c—40 sq. yd. crosswalk (relaid asphalt joint)	1.00	1.10	1.00	1.00
d—10 existing crosswalks (relaid asphalt joint)	0.80	1.05	1.10	1.00
e—430 sq. yd. crosswalk (haul and laid grout joint)	0.85	0.99	1.00	1.00
f—415 sq. yd. crosswalk exist. (relaid grout joint)	0.80	0.96	1.00	0.90
7—8,040 sq. yd. wood block pavt. (furnished and laid)	2.65	2.60	2.73	3.00
8a—1,770 sq. yd. new brick sidewalk (laid)	0.35	3.50	0.90	0.40
b—4,080 sq. yd. sidewalk (relaid)	0.28	0.33	0.35	0.40
9a—80,210 sq. ft. artificial stone sidewalks	0.17	0.16	0.16	0.16
b—1,330 sq. ft. driveways (furnished and laid)	0.20	0.17	0.20	0.20
11—20 tons crushed stone (furnished and placed)	2.25	2.00	2.00	2.50

Group I and II combined: (a) Bernard E. Grant, 83 Court Street, $362,365; (b) Coleman Brothers, Pearl Street, Chelsea, $400,453; (c) Central Construction Company, 228 Southampton Street, Roxbury, $435,226; (d) H. Nawn Contracting Company, 166 Devonshire Street, $447,218.

Items	(a)	(b)	(c)	(d)
2b—20 cu. yd. excav. reset water boxes	$1.00	$2.00	$2.00	$3.00
c—20 cu. yd. rock excav.	1.00	3.00	7.00	5.00
d—500 cu. yd. gravel fill	0.05	1.50	1.50	3.00
3a—1,320 lin. ft. straight edge stone (haul and laid)	0.20	0.23	0.20	0.30
b—690 lin. ft. circular edge stone laid	0.16	0.23	0.15	0.50
c—24,830 lin. ft. reset edge stone	0.12	0.20	0.16	0.20
4—12,910 cu. yd. concrete base	5.05	5.00	6.39	8.50
5b—810 sq. yd. granite block (relaid gravel joints)	0.50	0.75	0.90	0.65
c—5,000 sq. yd. granite block (furnished and laid asphalt joints)	3.40	3.60	3.87	3.85
d—500 sq. yd. granite block exist. (relay asphalt joints)	1.00	1.20	2.00	1.00
e—60,070 sq. yd. granite block (furnished and laid grout joint)	3.28	3.67	3.87	3.55
f—14,980 sq. yd. granite block exist. (relaid grout joints)	0.85	1.20	1.20	0.90
g—4,165 sq. yd. Columbia Road (furnish and lay 4 in. deep)	3.30	3.50	3.70	4.00
6b—75 sq. yd. flagging (relaid grout joints)	0.50	1.00	1.00	1.50
c—200 sq. yd. flagging (haul and lay asphalt joints)	1.00	1.20	1.40	3.00
d—50 sq. yd. flagging (relay asphalt joints)	0.80	1.00	1.20	2.00
e—2,860 sq. yd. flagging (haul and lay grout fill)	0.85	1.20	1.40	2.00
f—880 sq. yd. flagging (relaid)	0.80	1.00	1.30	1.50
7—8,040 sq. yd. wood block pavement	2.65	3.00	2.78	3.00
8a—1,770 sq. yd. brick sidewalks laid (new)	0.35	0.40	0.40	0.60
b—7,250 sq. yd. brick sidewalks relaid	0.28	0.40	0.35	0.35
9a—134,210 sq. ft. artificial walks (furnish and lay)	0.17	0.17	0.20	0.21
b—1,330 sq. ft. driveways	0.18	0.20	0.22	0.25
11—20 tons crushed stone (furnished and placed)	2.25	2.50	1.50	2.50

New York, N. Y.—Following are unit figures of the four lowest bids opened Aug. 16 by Marcus M. Marks, President Manhattan Borough, for regulating and repaving with granite block on concrete foundation roadway of Bowery from Grand to Sixth Streets with all work incidental thereto: (a) Robertson Construction Company, Brooklyn, $127,201; (b) W. J. Fitzgerald, 547 W. Forty-fifth Street, $127,277; (c) Asphalt Construction Company, 208 Broadway, $130,378; (d) M. Baird Contracting Company, 433 E. Ninety-second Street, $133,338.

Items	(a)	(b)	(c)	(d)
3—5,850 lin. ft. new 6-in. granite curbstone	$1.40	$1.30	$1.32	$1.20
3b—410 lin. ft. new 6-in. granite corner curbstone	1.90	1.75	2.00	1.75
4—300 lin. ft. old curb redressed	0.50	0.50	0.40	0.40
5—200 sq. ft. concrete sidewalks, Class A	0.20	0.22	0.25	0.25
6—50 lin. ft. granite headers	1.00	1.00	0.95	1.00
6a—50 lin. ft. temporary headstone	1.00	1.00	0.95	1.00
7—3,430 cu. yd. concrete outside of railroad area	5.00	5.00	5.00	3.00
8—18,600 sq. yd. granite block pavement outside railroad area	3.63	3.63	3.75	4.25
9—100 sq. yd. sheet asphalt pavement in approaches	2.00	2.25	2.50	2.25
10—33 sewer manhole heads and covers complete	15.00	14.00	15.00	15.00
11—11 covers for sewer manholes	5.00	4.00	5.00	4.00
11a—11 rings for sewer manholes	5.00	4.00	5.00	4.00
12—3 cu. yd. brick masonry	20.00	0.01	3.00	15.00
13—17 water manhole heads and covers complete	15.00	16.00	16.00	16.00
14—180 lin. ft. platform flag cut to line	0.10	0.50	0.50	0.50
Work in Railroad Area:				
7a—1,200 cu. yd. concrete	5.00	5.00	5.00	3.00
8a—7,200 sq. yd. granite block pavement	3.63	3.73	3.95	4.33

Regulating and repaving with granite block on a concrete foundation the roadway from curb to rail of the Bowery from Grand to Sixth Street with incidental work (bids opened same time and place as above): (a) W. J. Fitzgerald, 547 W. Forty-fifth Street, $97,103; (b) Robertson Construction Company, Brooklyn, $97,719; (c) Asphalt Construction Company, 206 Broadway, $100,015, and (d) M. Baird Contracting Company, 433 E. Ninety-second Street, $102,370.

Items	(a)	(b)	(c)	(d)
3—5,850 lin. ft. new 6-in. granite curbstone	$1.30	$1.40	$1.32	$1.20
3b—410 lin. ft. new 6-in. granite corner curbstone	1.75	1.90	2.00	1.75
4—300 lin. ft. old curb redressed	0.50	0.50	0.40	0.40
5—200 sq. ft. concrete sidewalk, Class A	0.22	0.20	0.25	0.25
6—50 lin. ft. granite headers	1.00	1.00	0.95	1.00
6a—50 lin. ft. temporary headstone	1.00	1.00	0.95	1.00
7—3,210 cu. yd. concrete outside of railroad area	5.00	5.00	5.00	3.00
8—17,250 sq. yd. granite block pavement outside of railroad area	3.63	3.63	3.75	4.25
9—100 sq. yd. sheet asphalt pavement in approaches	2.25	2.00	2.50	2.25
10—15 sewer manhole heads and covers complete	14.00	15.00	15.00	15.00
11—6 covers for sewer manholes	4.00	5.00	5.00	4.00
11a—6 rings for sewer manholes	4.00	5.00	5.00	4.00
12—3 cu. yd. brick masonry	0.01	20.00	3.00	15.00
13—17 water manhole heads and covers complete	16.00	15.00	16.00	16.00
14—180 lin. ft. platform flag cut to line	0.50	0.10	0.50	0.50
Work in Railroad Area:				
7a—340 cu. yd. concrete	5.00	5.00	5.00	3.00
8a—2,000 sq. yd. granite block pavement	3.63	3.63	3.95	4.23

★**Clinton, Iowa.**—Following are unit figures of the successful contractor, Thomas Carey & Sons, Clinton, for paving Fifth, Sixth, Seventh, Eighth and Ninth Streets (bids opened Aug. 8 by City Clerk): 16,888 sq. yd. vitr. brick pavement, $2.10; 10,607 lin. ft. combined curb and gutter, 75 cts.; 1047 lin. ft. alley crossing, $1.50; 2879 lin. ft. gutter only, 45 cts.; 24 adj. pavements, adjusted, $25; 22 catch basins complete, $25; 720 lin. ft. 10-in. c. b. pipe, 60 cts.; 6 catch basins moved, $20; 3860 sq. ft. sidewalks, 13 cts.; 2 manhole covers, $7.50; 170 lin. ft. 10-in. screw pipe, 70 cts.; 6.2 cu. yd. rock excavation, $3; total, $48,816. This company also bid for Texaco asphaltic concrete, $40,382; Ford Paving Company, Cedar Rapids, $49,696 for brick, or $40,226 for Trinidad or Bermudez asphaltic concrete; the McCarthy Improvement Company, Davenport, $37,-424 for Trinidad asphaltic concrete. J. G. Thorne, City Engineer.

★**Spencer, Iowa.** — Contract awarded Russell Condon, Omaha, Neb., at 22.9 cts., for 100,000 cu. yd. earth work on highway (bids opened Aug. 11), by A. W. Chamberlain, City Auditor.

★**Salina, Kan.**—Contract awarded by City Council to A. R. Young & Co., Lawrence, for paving Santa Fé Avenue from South Street to Union Pacific tracks about 30,000 sq. yd., with Trinidad asphalt.

★**Lonoke, Ark.**—Contract awarded by County Commissioners to R. Mobely, Savoy Apart., Argenta, for constructing 3½ miles of macadam and 5 miles of combination macadam for Road District No. 4.

★**Austin, Tex.**—Contract awarded by County Commissioners to Finley Method Co., San Antonio, for treating 11 miles of the Austin-San Antonio Post Road, at $39,000 for five years.

★**Dallas, Tex.**—Contract awarded by City Council to Callahan Construction Co., Dallas, at 36 cts. per sq. yd. for treating 36,000 sq. yd. of streets with tarvia.

★**Denver, Col.**—Contract awarded by City Council to Warren Bros., Boston, Mass., for paving West Colfax viaduct at $42,500.

★**Ilwaco, Wash.** — Reported contract awarded by City Council to Western Paving Co., Astoria, Ore., at $13,906 for paving First Street with bithulithic.

★**Seattle, Wash.**—Contract awarded by Board of Public Works to Holt & Jeffery, Transportation Building, at $19,943, for grading and paving Fourteenth Avenue South.

Waterville, Wash.—Lowest bid submitted to County Commissioners for improving 4 miles of permanent highway from Mansfield east by O. M. Patton and J. T. Smith, Portland, Ore., at $22,321.

★**Los Angeles, Cal.**—Contract awarded by City Council to Fairchild-Gilmore-Wilton Co., Los Angeles, at $9,314 for 47,300 sq. ft. grading and bitulithic paving, etc., on Hunter Street.

★Following are four lowest bids opened by Board of Public Works for 12,000 cu. yd. grading, 161,000 sq. ft. surfacing and oiling, 335,500 sq. ft. paving, 6142 ft. cement curb, 6172 sq. ft. granite gutter, storm drain costing $7,200, timber retaining walls, etc., on Harbor Boulevard: Fairchild-Gilmore-Wilton Co., Pacific Electric Bldg., $62,851 for either asphalt or bitulithic pavement (awarded contract); George R. Curtis, 552 South St. Louis Street., $63,293; George H. Oswald, Johnson Bldg., $67,004 asphalt, $83,489 bithulithic; Bryant & Austin, Los Angeles, $69,157 asphalt, $72,925 bitulithic.

★**San Diego, Cal.**—Contract awarded by City Council to C. L. Hyde Construction Co., 333 Spreckles Bldg., for constructing 102,808 sq. ft. concrete pavement, etc., on Oregon Street at $10,328.

★**Santa Barbara, Cal.** — Contracts awarded by City Council to Frank R. Ritchie, 418 Chronicle Bldg., San Francisco, for grading and constructing concrete pavements on Micheltorena Street at $15,045 and similar work, including asphaltic surface on Valerio Street, at $6,425. Bids opened Aug. 1.

★**Vallejo, Cal.** — Contract awarded Worswick Constructing Co., Vallejo, for street improvements at $135,828. About 56,248 cu. yd. excavation, 754,315 sq. ft. concrete base and 751,715 sq. ft. asphaltic concrete surface, 21,362 sq. ft. concrete sidewalks, 38,527 lin. ft. concrete curb, etc. T. D. Kilkenney, City Engineer.

Brigham, Utah—See "Proposed Work."

Salt Lake City, Utah—The following bids opened by State Road Commission for paving State Street with (a) concrete, (b) bithulithic, bituminous macadam base, (c) bitulithic, concrete base, (d) sheet asphalt, binder and concrete base, (e) rock asphalt, binder and concrete base, (f) concrete strips: P. J. Moran, 152 West Second Street, (a) $22,322, (b) $38,408, (c) $40,480, (d) $33,534, (e) $34,752, (f) $11,560; J. W. Mellen, Auditorium Bldg., (a) $19,-169, (d) $26,522, (e) $28,054, (f) $9,354; Strange & Maguire, 13 East and 9 South Streets, (a) $22,961, (b) $29,054.

★**Saskatoon, Sask.**—Contract for paving concrete traffic bridge over Saskatchewan River (bids opened Aug. 7 by H. S. Carpenter, Acting Chairman of Board) awarded Bitulithic Pavement Company, Winnipeg, Man.

RAILWAYS
Steam and Electric

PROPOSED WORK.

Boston, Mass.—Reported the Bay State Street Ry. Co. contemplates construction of an extension to generating station at Quincy Point. Five turbines will be installed. Cost of addition to building estimated at $70,000.

Lockport, N. Y.—International Ry. Co. (E. H. Henning, Supt., Niagara Falls), has applied to Council for permission to extend line through West Avenue from Transit to Hawley Street, where the company will erect a $30,000 2-story reinforced concrete fireproof passenger station.

Westfield, N. J.—Reported Central R. R. of New Jersey (A. E. Owen, Ch. Engr., 143 Liberty Street, New York, N. Y.) plans elevating tracks at Westfield Avenue on a 120-ft. span.

Johnstown, Pa.—Reported construction of an electric railway between Johnstown and Somerset is under consideration. Chamber of Commerce may be able to give information.

The Johnstown Traction Co. contemplates constructing an extension to Seward, about 7 miles.

Williamsport, Md.—Reported surveys being made for constructing electric railway from Potomac River, near Williamsport, Md., to Millville and Harpers Ferry, W. Va., and Leesburg, Va. Martin & Seibert, of Martinsburg, W. Va., Attorneys, may give information.

Petersburg, Va.—The Petersburg & Appomattox Ry. Co. contemplates constructing an extension to City Point, about 2½ miles.

Charlestown, W. Va.—The Charlestown Interurban R.R. Co. will construct an extension of Cabin Creek Junction line to Montgomery, distance of 10 miles.

Florence, Ga.—Reported steps being taken to construct the Savannah Western R. R. from Florence to Estill, S. C., a distance of 150 miles. Adrian M. Rea, Secretary, Savannah.

Sarasota, Fla.—West Coast Electric Ry. Company applied for a charter to build an electric line from Tampa through Palmetto, Bradentown, Sarasota, Bee Ridge, to Venice; later a line from Sarasota across state through Arcadia and Okeechobee City to the East Coast. P. D. Lacey, Sarasota, Pres. and Treasurer; A. E. Townsend, Sarasota, Gen. Mgr., and T. Z. B. Everton, Vice-Pres. and Secy.

St. Cloud, Fla.—It is reported the Central Florida Interurban Ry. Co. will soon begin construction work on proposed line from Hopkins to St. Cloud. Wylie & Reynolds of St. Cloud, Engrs.

Winter Haven, Fla.—The Lakeland, Bartow & Winter Haven Interurban R.R. Co. chartered to construct a line from Lakeland to Bartow and Winter Haven, distance 25 miles. Capital $750,000. J. L. Wilson of Altoona, Pa., Pres.

Knoxville, Tenn.—The Pigeon River R. R. reported incorporated to construct a line 26 miles long, to Pigeon Forge and above Gatlingsburg. The Pigeon River Construction Company, with L. E. Wooten, General Manager, Knoxville, Sevierville & Eastern R. R., as a member, has been incorporated to construct the Pigeon River R. R.

Cleveland, Ohio. — Reported Nickle Plate R. R. (E. E. Hart, Ch. Engr., Cleveland) contemplates electrifying line within city limits and on a few miles east and west.

Lima, Ohio.—The Ohio Electric Ry. Co. of Cincinnati contemplates installing apparatus in power house at Lima; cost about $75,000.

Niles, Ohio.—Surveys have been completed and right-of-way secured for proposed line from Steeleton to Niles via McDonald for Youngstown & Niles Ry. Co. of Youngstown.

Terre Haute, Ind.—Terre Haute, Indianapolis & Eastern Traction Co., Terre Haute, has had plans prepared for double tracking the Crawfordsville division between western limits of Indianapolis and the speedway; cost about $100,-000.

Bloomington, Ill.—Construction of an interurban line to connect Bloomington and Chicago contemplated. L. E. Fischer is interested.

Mt. Carmel, Ill.—Southern R. R. (B. Herman, Ch. Engr., M. W. Washington, D. C.) is reported considering building a spur line from Mt. Carmel to Lawrenceville.

South Beloit, Ill.—Reported Chicago, Milwaukee & St. Paul R. R. (C. F. Soweth, Ch. Engr., Chicago) will make terminal improvements costing about $65,000.

Atkins, Iowa.—Reported improvements are being planned by the Chicago, Milwaukee & St. Paul R. R. (C. F. Loweth, Ch. Engr., Chicago, Ill.) at Atkins and South Beloit, Ill. A modern yard for handling increased traffic will be constructed at Atkins.

★**New York, N. Y.**—Following are four lowest bids opened Aug. 10 by Public Service Commission, for First District, 120 Broadway, for installation of tracks on Broadway Line, A and B: (a) T. H. Reynolds Contracting Company, Inc., 1480 Broadway, $288,400 (awarded contract); (b) Thomas Crimmins Contracting Company, 444 E. Sixty-ninth Street, $302,515; (c) Engel & Havenor, $374,249, and (d) Lupfer & Remick, Buffalo, N. Y., $532,339.

Item		*(a)	(b)	(c)	(d)
6	3 cu. yd. concrete masonry in place.....	$10.00	$15.00	$10.00	$12.00
9-D	4 cu. yd. removal of concrete masonry....	25.00	30.00	15.00	39.00
17-E	44 net ton furnishing and delivering c.-i. pipe, tees and elbows.....	75.00	65.00	38.00	53.00
25	13 net ton furnishing and delivering c.-i. handhole frames and covers.....	75.00	90.00	48.00	135.00
1025A	10 (a) furnishing and installing concrete bumping posts, ea.....	400.00	400.00	360.00	400.00
1028	24,000 installing anticreepers, ea.....	0.08	0.10	0.13	0.09
1050	73,000 lin. ft. (a) installing Type I track—tang. and curves over 2000 ft. rad....	0.85	0.98	1.25	1.81
	6,400 lin. ft. (b) installing Type I Track—curves 2000 ft. to 701 ft. rad.....	1.25	1.50	1.70	2.38
	9,200 lin. ft. (c) installing Type 1 track—curves under 701 ft. rad.....	1.50	1.53	1.80	2.31
1052	Installing Type II track at stations:				
	25,000 lin. ft. (a) tang. and curves over 2000 ft. rad.....	4.10	4.10	4.65	6.44
	500 lin. ft. (b) curves of 2000 ft. to 701 ft. rad.	4.20	4.64	4.75	7.00
	300 lin. ft. (c) curves under 701 ft. rad.....	4.30	4.66	4.85	6.94
1052A	Installing Type II in tunnels:				
	16,000 lin. ft. (a) tang. and curves over 2000 ft. rad.	4.00	3.73	4.90	7.68
	100 lin. ft. (b) curves of 2000 ft. to 701 ft. rad.	4.10	4.27	5.00	8.25
	2,100 lin. ft. (c) curves under 701 ft. rad.....	4.25	4.29	5.10	8.18
2110A	1 install. special portion 110, complete, ea.	600.00	1,170.00	1,000.00	1,002.00
2111A	1 install. special portion 111, complete, ea.	1,600.00	2,200.00	2,000.00	1,816.00
2112A	1 install. special portion 112, complete, ea.	600.00	1,150.00	1,000.00	696.00
2113A	1 install. special portion 113, complete, ea.	1,500.00	2,100.00	2,000.00	2,004.00
2122A	1 install. special portion 122, complete, ea.	720.00	1,150.00	2,000.00	1,032.00
2123A	1 install. special portion 123, complete, ea.	1,500.00	2,100.00	2,000.00	2,028.00
2126A	1 install. special portion 126, complete, ea.	1,930.00	2,100.00	2,500.00	2,448.00
2127A	1 install. special portion 127, complete, ea.	1,860.00	2,100.00	2,500.00	2,400.00
2128A	1 install. special portion 128, complete, ea.	850.00	1,150.00	1,250.00	1,230.00
2129A	1 install. special portion 129, complete, ea.	850.00	1,150.00	1,250.00	1,230.00
2130A	1 install. special portion 130, complete, ea.	600.00	1,000.00	800.00	1,248.00
2132A	1 install. special portion 132, complete, ea.	1,000.00	1,400.00	1,100.00	1,704.00
2134A	1 install. special portion 134, complete, ea.	220.00	500.00	250.00	206.00
2135A	1 install. special portion 135, complete, ea.	220.00	500.00	250.00	206.00
2136A	1 install. special portion 136, complete, ea.	950.00	1,600.00	1,700.00	1,416.00

X—(c) 5 per cent, $891.98.
Y—(c) 20 per cent, $14,271.60; (d) 25 per cent, $25,154.85.

Boone, Iowa.—The Fort Dodge, Des Moines & Southern R.R. Co. is considering construction of extension to Evanston.

Newton, Kan.—The Arkansas Valley interurban Ry. Co. considering constructing an extension northward from Newton to Gossel.

Helena, Mont.—Northern Pacific R. R. (W. L. Darling, Ch. Engr., St. Paul, Minn.) contemplates constructing a branch from Helena to Rimini.

Polson, Mont.—Surveys being made for proposed electric railway between Missoula and Polson by Missoula-Polson Electric Ry., Missoula, Mont. Line will pass through St. Ignatius and St. Mary's Pass. N. D. Miller, St. Paul, Minn., engaged as Ch. Engr.

Toston, Mont.—Surveys being made for the proposed 12 miles electric railway to be constructed by Keating Gold Mining Co., Helena, Mont. (Jesse R. Roote, Helena, Resident Director), between Toston to Radersburg Dist.

Dallas, Tex.—The Texas Electric Ry. Co. is reported planning a number of extensions, including a line from Cleburne to Hillsboro, and southward from Waco to Temple, Austin, Houston and Galveston. This company is also said to be considering the purchase of the Trinity & Brazos Valley road and electrifying said road.

Dallas, Tex.—Hal Moseley, City Engineer, is preparing plans for proposed grade-crossing eliminations.

Lubbock, Tex.—The Crosbyton-South Plains R. R. Co. of Crosbyton has applied to Secretary of State to amend charter so as to change name to South Plains & Santa Fe R. R. and also extend line from Lubbock in southwesterly direction through counties of Lubbock, Terry, Hackley and Gaines to Seminole, Gaines County, a distance of 77 miles.

Martin, Tex.—Martin-Temple Interurban Co. engaged S. D. Hanna of Martin as chief engineer and will have surveys made at once and start construction of line.

Blackwell, Okla.—Mayor Aug 9 approved ordinance authorizing George W. Knox and others of the Blackwell Ry. Co. to construct an interurban railway in the city.

Sapulpa, Okla.—The Midland Valley R. R. Co. contemplates purchasing the Sapulpa & Interurban Ry. and will extend their line from Glen Pool to a point north of Kiefer.

Roseburg, Ore.—Contract soon to be let by City for constructing the railroad 28⅝ miles in length, from city to Rock Creek, plans prepared by L. G. Hocks, City Engineer. Three bridges will be constructed on the line, one over North Umpqua River, consisting of three spans, end span 100 ft. 6 in. and center span 65 ft. 4 in., all timber Howe trusses on cement piers, and two bridges over Deer Creek consisting of one 58-ft. pony Howe truss on pile abutments.

Tulare County, Cal.—Southern Pacific Railway Co. (W. Hood, Ch. Engr., San Francisco) and Atchison, Topeka and Santa Fe Railway Co. (C. F. W. Felt, Ch. Engr., Chicago, Ill.) are reported preparing to construct competitive branch lines in the territory between Exeter and Ducor, in the Deer Creek Section and in the vicinity of Woodville. The Southern Pacific Railway Co. proposes constructing first section of 46 miles as an electric line. It is reported that both companies are securing rights of way for several other branches.

Whittier, Cal.—Ordinance passed by Board of Trustees granting 50-year franchise to Pacific Electric Co. to construct and operate an electric railroad on certain streets.

BIDS DESIRED.

New York, N. Y.—See "Buildings."

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Winnett, Mont.**—D. J. Burke, Lewistown, successful contractor for the 22 miles of road to be constructed for the Milwaukee R. R. between Winnett and Grass Range has started work. There will be about 425,000 cu. yd. of earth handled and the placing of about 200,000 ft. of bridge lumber.

★**Toronto, Ont.**—Canadian Northern Ry., Aug. 14, awarded contract to United States Steel Corp., 71 Broadway, New York, N. Y., for 15,000 tons of rails to be delivered this fall.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Providence, R. I.—Atlantic Mills, Manton Avenue, plans erecting four-story, 37 x 38 ft., brick addition.

Middletown, Conn.—Russell Manufacturing Company, Rockfall, will erect one-story, 48 x 150 ft., brick and steel weave shed.

Waterbury, Conn. — American Brass Company, Grand and Meadow Streets, applied for permit to erect four factory buildings, 111 x 203 ft., 22 x 57 ft., 140 x 105 ft. and 35 x 37 ft., all of brick construction.

Long Island City, L. I., N. Y.—Reported negotiations made through L. W. Flaunlacher of M. & L. Hess, Inc., 907 Broadway, for site at Orton Street and Borden Avenue, on which the Emerson Motors Company intends erecting a factory for manufacture of automobiles.

New York, N. Y.—Plans being prepared by Frederick C. Zobel, 35 West Thirty-ninth Street, for 12-story brick and limestone store, loft and factory building to be erected at 233 West Thirty-sixth Street, for Holland Holding Company (Judson S. Tard, President), 18 East Forty-first Street; cost about $200,000.

Bayonne, N. J.—International Nickel Company, Bayonne, intends enlarging plant at cost of $500,000.

Dover, N. J.—Downs-Slater Foundry Company of Wharton secured factory site on Salem Street and will erect several buildings.

Newark, N. J.—White Tar Company incorporated with capital of $50,000, and contemplates erecting plant along Hackensack River. Bryd Walker of Newark reported interested.

American Oil & Supply Company, 52 Lafayette Street, contemplates erecting six-story warehouse on Lafayette Street.

Ardmore, Pa.—Plans being prepared by Stearns & Castor, Stephen Girard Building, Philadelphia, for improvements for Auto Car Company, to include an 80 x 100 ft. repair shop with crane runway.

Philadelphia, Pa.—Ballinger & Perrot, Methodist Building, are architects for three steel and brick factory buildings to be erected for Edward G. Budd Manufacturing Company.

Baltimore, Md.—Plans being prepared by John Freund, 11 East Lexington Street, for three-story warehouse to be erected at Russell and Bayard Streets for Swindell Brothers.

Sparrows Point, Md.—Reported Bethlehem Steel Company intends erecting new pattern shop here, to cost $100,000.

Wilmington, Del.—Pusey & Jones, foot of Poplar Street, will erect a mould loft and punch house addition to plant, costing $90,000.

Reported Midvale Steel Company contemplates extensive improvements to plant here.

Greenville, S. C.—Reported Piedmont Packing Company of Greenville will erect meat packing plant, to cost approximately $50,000.

Dalton, Ga.—Duane Chair Company, Dalton, will erect chair manufacturing plant to cost $75,000.

Mingo, Ohio.—Reported Pullman Company of Pullman, Ill., planning to erect a branch plant here for manufacture of steel cars.

Davenport, Iowa.—Iowa Rubber Tire Company incorporated with a capital of $1,000,000 and intends erecting a factory here. J. W. Bettendorf of Bettendorf Car Works, Bettendorf, Iowa, reported interested.

St. Paul, Minn.—L. C. Erbes reported planning erecting $75,000 addition to automobile factory at 2654 University Avenue.

St. Paul, Minn.—See "Steel Bridge Work."

St. Paul, Minn.—See "Reinforced Concrete."

Arkansas City, Kan.—Reported Milliken Refinery Company, Merchants Exchange Building, St. Louis, Mo., contemplates erecting $1,000,000 refinery here with daily capacity of 10,000 barrels.

Trident, Mont. — Reported Securities Cement Company of Denver, Col., of which Charles Voettcher is President, has taken over the plant of the Three Forks Cement Company in Trident and will make extensive improvements, including enlargements.

Fort Smith, Ark.—Reported Mid-West Glass Casket Company (J. A. Tapley, care Business Men's League, Secretary) plans erecting a $125,000 factory here.

San Antonio, Tex.—Smith Brothers of San Antonio planning establishment of factory, consisting of two units and a bleaching house.

San Francisco, Cal.—Plans being prepared by Henry Shermund, Mills Building, for four-story factory and warehouse to be erected for C. R. Peterson at Fifteenth and Vermont Streets and San Bruno Avenue; cost $100,000.

Thetford Mines, Que.—Foundry of La Fonderie de Thetford Company, recently destroyed by fire, will be rebuilt and new machinery installed.

Forest, Ont.—Lambton Flax Mills Company (Howard Fraleigh, Manager) plans erecting and equipping three new flax mills, to cost $75,000.

London, Ont.—Middlesex Mills Company (A. G. Mitchell, Manager) has purchased a factory and will install new machinery for manufacturing various lines of linen, etc.

Toronto, Ont.—Harry Webb Company, Kendal Avenue, will erect bakery and chocolate factory, to cost $78,000.

Contract soon to be let for erecting abattoir buildings for William Davies Company, 521 Front Street East; cost $200,000. Henschien & McLaren, Archts., 431 Dearborn Street, Chicago, Ill.

Saltcoats, Sask.—Plant of Saltcoats Flour Milling Company, reported destroyed by fire, will be rebuilt and new machinery installed.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Buffalo, N. Y.**—Contract awarded H. P. Kehr Company, Inc., 2432 Fillmore Avenue, for erecting two-story, 100 x 176-ft. brick factory at 1557 Niagara Street for Acme Pattern & Machinery Company, Inc (Adam Shabtac, President); cost $50,000. G. Morton Wolfe, Archt., Henkel Building.

★William Bettendorf, 191 Glenwood Avenue, secured contract to erect one-story, 149 x 300 ft., freight house at City Ship Canal and South Michigan Avenue for Keystone Warehouse Company, Seneca and Hamburg Streets.

Buffalo, N. Y.—See "Reinforced Concrete."

★**Philadelphia, Pa.**—Contract awarded Philip Haibach Contracting Company, 2530 Thompson Street, for erecting two-story, 36 x 133-ft. stone, brick and concrete bottling house for John Jacob Wolf, at Ninth and North Fifth Streets; cost about $50,000. Peuckert & Wunder, Archts., 310 Chestnut Street.

Ashland, Wis.—See "Reinforced Concrete."

★**South St. Paul, Minn.**—Contract awarded by Swift & Company, South St. Paul, to Butler Brothers, 1002 New York Life Building, St. Paul, for constructing hog and cattle pens, loading chutes, water extensions and drainage. Pens will cover about 10 acres, paved with concrete. Initial cost $150,000.

★**Sherbrooke, Que.** — Contract awarded by The Canadian-Ingersoll-Rand Co., Ltd., Sherbrooke, to Anglins Ltd., Montreal, Que., for erecting an extension to their machine shop, one story and basement, 200 x 125 ft., steel and concrete construction, with sprinkler system; estimated cost $70,000.

★**Niagara Falls, Ont.**—Contract awarded Snyder & Gillett, Niagara Falls, N. Y., for erecting brick and steel foundry for Pollard Manufacturing Company, Ferguson Avenue; cost $50,000.

★**Toronto, Ont.**—Contract awarded H. C. Christman Company of Hamilton for erecting steel and concrete factory for William Wrigley, Jr., Co., Ltd., Carlaw Avenue; cost $250,000. Prack & Perrine, Archts., 808 Lumsden Building.

★**Edmonton, Alta.**—Contract awarded E. M. Nesbit, 10041 118th St., for erecting brick and concrete machine shops and storehouse for Canadian Northern Railway; cost $55,000.

BUILDINGS
Public and Private

PROPOSED WORK.

Chicopee, Mass.—Erection of city hall to cost about $70,000 contemplated. Address City Clerk.

Worcester, Mass.—Erection of $100,000 Lithuanian Church contemplated on Fifth Avenue. Bishop T. D. Beaven, of Springfield, reported interested.

Samuel Cohen of Fiskdale will erect theater and business block on Millbury Street; estimated cost $75,000.

Bridgeport, Conn.—Leonard Asheim, 211 State Street, engaged to prepare plans for 16-room Junior High School and assembly hall, to cost $110,000. Address Board of Education.

Brooklyn, N. Y.—Plans being prepared by J. J. Pettit, 103 Park Avenue, New York, for six-story, 60 x 99 ft., brick and limestone apartment building to be erected on Columbia Heights and Pierrepont Street, for Jerome H. Pennock, 177 Remsen Street; cost about $50,000.

Sketches being prepared by E. T. Meisinger, 394 Graham Avenue, for four-story, 40 x 88 ft., brick hospital to be erected for Industrial Home Association, 153 South Third Street; cost about $75,000.

Medina, N. Y.—School bonds for $125,000 will be sold Aug. 30 (readvertisement) by Board of Education.

New York, N. Y.—Plans being prepared by G. Ajello, 1 West Thirty-fourth Street, for 11-story, 50 x 100 ft., brick and limestone store and apartment building, to be erected at Lexington Avenue and Fiftieth Street for Kalfa Realty Corporation; cost about $250,000.

Preliminary plans prepared by Starrett & Van Vleck, 8 West Fortieth Street, for 22-story, 50 x 91 ft., brick and limestone office building to be erected at Madison Avenue and Fortieth Street for Anderson Galleries; cost $350,000.

Plans filed for erecting following buildings: 5-story brick tenement at 173d Street and Longfellow Avenue for Harsin Building Company, cost $55,000, Kreymborg Architectural Company, Archts., 1029 East 163d Street; 5-story brick tenement at 181st Street and Valentine Avenue for Ensign Improvement Company, cost $65,000, Kreymborg Architectural Company, Archts., 1029 East 163d Street; 5-story brick tenement at 180st Street and Tiebout Avenue for Traf Building Company, cost $55,000, John P. Boyland, Archt., 2526 Webster Avenue.

Rochester, N. Y.—Reported erection of Junior High School in Exposition Park being considered; probable cost, about $300,000. Address Board of Education.

Lyndhurst, N. J.—School bonds for $75,000 will be sold Sept. 5, by Henry Danton, District Clerk, Lyndhurst, for Board of Education of Union Township, Bergen County.

Newton, N. J.—Board of Chosen Freeholders will construct 5½ miles of Branchville-Beemerville Road, estimated cost $11,000. Address Clerk of Board of Freeholders.

Trenton, N. J.—Reported New Jersey Children's Home Society, Forst-Ritchey Building, plans erecting $50,000 receiving home on Brunswick Avenue.

Coraopolis, Pa.—Plans being prepared for high school, to cost $100,000. Address Board of Education.

Johnstown, Pa.—Erection of new municipal building reported under consideration. Jackson R. Crissey, City Engineer.

Munhall, Pa.—Borough officials reported planning erecting $75,000 addition to high school. Address Borough Clerk.

Philadelphia, Pa.—Preliminary sketches being prepared by Oliver Randolph Perry, 1631 Chestnut Street, for 12-story, 85 x 145-ft., reinforced concrete, brick, limestone and terra cotta hotel.

Germantown Christian Church contemplates erecting $200,000 edifice.

Pittsburgh, Pa.—John Bergeson, 135 West 126th Street, New York, N. Y., is architect for proposed $100,000 Russian Orthodox Catholic Church. Rev. S. Bazilowich, Pastor.

Pittsburgh, Pa.—Edward Stotz, Monongahela Bank Building, engaged to prepare plans for addition to Passavant Hospital, Reed and Miller Streets; cost $100,000.

Uniontown, Pa.—County Commissioners adopted resolutions for constructing mile of road in Lower Tyrone Township. Address County Clerk.

Zelienople, Pa.—Plans being prepared by Edward Stotz, Monongahela Bank Building, Pittsburgh, for brick and reinforced concrete addition to Lutheran Church Home.

Washington, D. C.—It is proposed renovating city hall with $200,000 appropriation by Congress. Elliott Woods, Superintendent of the Capitol, reported in charge.

Cumberland, Md.—School bonds for $75,000 will be sold Sept. 5 by County Commissioners (Angus Ireland, Clerk).

Baltimore, Md.—Knights of Columbus contemplate erecting clubhouse on Second Avenue; probable cost, $50,000.

Reported thirteen new buildings, including medical and isolation buildings, contemplated for Children's Hospital School, Green Spring Avenue and Forty-first Street.

Atlanta, Ga.—State House passed bill appropriating $200,000 to enlarge State Sanitarium for the Insane.

Columbus, Ga.—All bids opened Aug. 10 by Building Committee (T. Hicks Fort, Chmn.), for erecting the 3-story brick building at Twenty-fourth Street and Hamilton Avenue, for I. O. O. F. No. 480 rejected as being too high.

Oxford, Ga.—Sum of $50,000 has been given Emory University to erect an outpatient building to be used in connection with the medical department and will be known as the J. J. Gray Clinic. Address Board of Trustees.

Jacksonville, Fla.—Reported Jacksonville Terminal Company has approved plans of Kenneth M. Murchison, 101 Park Avenue, New York, for the union passenger station to be erected at Lee and West Bay Streets at a cost of about $1,000,000.

Mobile, Ala.—School bonds for $150,000 will be sold by Board of Revenue and Road Commissioners Sept. 11. Harry L. Fisher, Engineer, Mobile.

New Orleans, La.—All bids recently opened for remodeling U. S. Custom House rejected, being in excess of the amount available.

Akron, Ohio.—Northern Ohio Traction & Light Co. (W. H. Douglass, Supt., Akron) filed plans for a 4-story machine shop, power house, office and waiting room.

Cleveland, Ohio.—Reported Price Realty Company (Dr. Weston A. Price, President, 10406 Euclid Avenue) contemplates erecting 12-story building on Woodland Avenue and East Thirty-eighth Street.

Reported plans being prepared by A. F. Janowitz, 323 Permanent Building, for a $50,000 commercial and apartment building which Joseph Novogorder, 1971 East Sixty-third Street, contemplates erecting on Euclid Avenue and East Seventy-second Street.

Reported M. J. Mandelbaum, 1001 Hippodrome Building, intends erecting a residence on Ambelside Drive and Cedar Road, costing about $50,000.

East End Baptist Church, recently destroyed by fire, will be rebuilt; estimated cost $65,000. Rev. Ralph E. Bailey, Pastor, 6801 Euclid Avenue. Hubbel & Benes, Archts., 4500 Euclid Avenue.

East Liverpool, Ohio. — Steps being taken to erect municipal market house, city hall and public auditorium; cost about $90,000. Address City Clerk.

Elyria, Ohio.—Alfred Hopkins, 101 Park Avenue, New York, N. Y., engaged to prepare plans for two-story, 68 x 160 ft., bank building to be erected for Savings Deposit Bank (C. M. Braman, President).

Lima, Ohio.—Citizens voted $650,000 bonds for erecting new vocational high school. Address Board of Education.

Norwood, Ohio.—Citizens voted $150,000 bonds to erect an addition to Williams Avenue School. Address Board of Education.

Youngstown, Ohio.—H. C. Ellengberger, Market and Marion Avenue, is architect for proposed three-story brick apartment house to be erected on Wick Avenue and Baldwin Street for North Hill Apartment Company; cost approximately $75,000.

Chicago, Ill.—Frederick Becklenberg, 29 South La Salle Street, intends erecting fireproof high-grade apartment building at Chestnut Street and DeWitt Place; cost $300,000.

Plans prepared by George F. Lovdall, 953 Belmont Avenue, for eight-story, 50 x 175 ft., office building to be erected on Chicago Avenue and North State Street; cost about $130,000.

Kenosha, Wis.—Robert E. Messmer, Majestic Building, Milwaukee, engaged to prepare plans for proposed $100,000 Elks' clubhouse.

Ames, Iowa.—Three buildings, animal husbandry laboratory and dairy barn and dormitory, costing $115,000, are to be erected at the Iowa State College. Proudfoot, Bird & Ralston, Archts., Des Moines. Address C. H. Schemann, Iowa State College, Ames.

Duluth, Minn.—Contract soon to be let for erecting addition to Elks Club building; estimated cost $50,000. Kelley & Williams, Archts., First National Bank Building.

Proctor, Minn.—Citizens voted in favor of erecting proposed $50,000 high school. F. J. Paulu, President School Board.

Wichita, Kan.—Plans being prepared by Keene & Simpson, 400 Reliance Building, Kansas City, Mo., for two-story and basement, brick, reinforced concrete and tile residence, which L. W. Clapp, president of First Trust Company, intends erecting here. Cost $50,000.

Lincoln, Neb.—City Superintendent, in a report to Board of Education, recommends spending $175,000 for school improvements.

Omaha, Neb.—Plans being prepared by John McDonald, Omaha National Bank Building, for ten-story building, which Harry A. Wolf intends erecting at Sixteenth and Harney Streets; probable cost $700,000.

St. Louis, Mo. — Stedelin Brothers Wholesale Poultry Company, 823 North Fourth Street, purchased site at Grand Avenue and Herbert Street and intends erecting a three-story building to cost $75,000.

Cave Springs, Ark.—Reported Snowden Engineering Company, Kansas City, Mo., considering erecting $100,000 hotel here.

Jonesboro, Ark.—School Board engaged R. H. Hunt, 225 James Building, Chattanooga, Tenn., in connection with proposed $85,000 school.

Little Rock, Ark.—Central Supply Company (C. C. Rose, President), reported planning erecting four-story, fireproof building, to cost about $90,000.

Texarkana, Ark.—Reported plans prepared for $300,000 hotel to be erected here by Frost interests. E. W. Frost, State Bank Building, may be able to give information.

Beaumont, Tex.—Sanquinet & Statts of Fort Worth engaged to prepare plans and specifications for proposed $300,000 school improvements, for which bonds were recently voted.

Dallas, Tex.—Reported Missouri, Kansas & Texas Railroad Company (L. F. Lonnbladh, Ch. Engr., Dallas) contemplates erecting office building here to cost approximately $150,000.

Paris, Tex.—Bonds amounting to $110,000 sold; $100,000 to be used for school improvements and $10,000 for sewage disposal. Address City Clerk.

Taylor, Tex.—Howard Blank and T. W. Marse of Taylor reported interested in erecting $75,000 hotel here.

Spokane, Wash.—Spokane Arena Company, recently incorporated with a capital of $100,000, plans erecting artificial skating rink. W. H. Wraight, 824 Nora Street, reported interested.

Astoria, Ore.—Whitehouse & Fouilhoux, Wilcox Building, Portland, selected to prepare plans for two-story and basement, brick and concrete grade school, to cost approximately $80,000.

Portland, Ore.—Reported contract will soon be let by J. F. Bennes, Archt., Chamber of Commerce Building, for erecting proposed five-story brick and tile building on Broadway for Antone Huth of Tacoma, Wash.; cost $150,000.

Alameda, Cal. — Reported plans and specifications being prepared for new unit of Lincoln School to be erected on site bounded by Central Avenue, Mound, Court and Van Buren Streets; cost $80,000. Address Board of Education.

Bakersfield, Cal.—Hochheimer & Company, 1924 Chester Street, intend erecting four-story and basement, steel and concrete department store building at Nineteenth and Chester Streets; cost, $150,000.

Fresno, Cal.—See "Reinforced Concrete."

Los Angeles, Cal.—Pacific Hospital Association, 1329 South Grand Avenue, reported contemplating erecting new hospital building to cost approximately $1,000,000.

Plans being prepared by J. Schulz, Engineer, 359 Court House, for tuberculosis buildings to be erected at County Hospital, consisting of six one-story units, about 190 x 50 ft., connecting to corridor 1100 ft. long; two-story, 85 x 40 ft., dining hall, and one-story, 109 x 50 ft., maternity building, of reinforced concrete foundations and floors, steel frames and roof trusses and brick walls; probable cost $250,000.

Oakland, Cal.—Pacific Gas & Electric Company (John A. Britton, First Vice-Pres. and Gen. Mgr., San Francisco) will erect an office building at Sixteenth and Clay Streets, to cost $200,000.

Santa Monica, Cal. — See "Reinforced Concrete."

Visalia, Cal.—Site being selected for proposed County Hospital. Address County Clerk.

Contract will be let about Sept. 15 by Board of School Trustees for erecting two brick and reinforced concrete schools; total cost about $85,000. Swartz & Swartz, Archts., Rowell Building, Fresno.

Jerome, Ariz.—United Verde & Pacific Railway Company (T. C. Roberts, Chief Engineer, Clarksdale) plans improvements to cost $100,000, including removal of present depot and constructing switchback.

Burley, Idaho.—See "Water Works and Sewerage Systems."

Idaho Falls, Idaho.—Contract soon to be let for erecting four schools, to cost $100,000. Address School Board.

Moscow, Idaho.—Soda Springs Hotel & Sanitarium Company reported incorporated with Everett S. Sloane of Soda Springs, and others, for purpose of erecting hotel and summer resort here to cost $100,000.

St. John, N. B.—Plans being prepared by F. Neil Brodie, 42 Princess Street, for brick and steel school, to cost $75,000. Contract for construction will be let early in September.

Sherbrooke, Que. — The Congregation Notre Dame, Grove Street, has engaged J. W. Gregoire, 191a Wellington Street, to prepare plans and specifications for a normal school; estimated cost $150,000.

Toronto, Ont.—Plans being prepared by J. W. Gray, Confederation Life Building, for brick, steel and concrete theater to cost $150,000.

Vancouver, B. C.—Reported contract will soon be let for erecting 800 x 50 ft. iron and steel freight shed and two-story brick office building on False Creek for Canadian Northern Railway Company. A. F. Stewart, Ch. Engr., Toronto, Ont.

BIDS DESIRED.

Holyoke, Mass.—Reported desired until Sept. 1 for erecting isolated hospital on Cherry Street. Oscar Beauchimin, Archt., 380 High Street.

Medford, Mass.—Reported desired until Aug. 30 by city for erecting a 3-story junior high school; cost $125,000.

Blackwell's Island, N. Y.—See "Piers, Foundations and Dams."

Brooklyn, N. Y.—Until Sept. 12, by James A. Wetmore, Acting Supervising Archt., Washington, D. C., for alterations to building adjacent to U. S. Post Office at Brooklyn.

Central Islip, N. Y.—Until Sept. 5, by State Hospital Commission, Capitol, Albany, for construction work and laundry equipment for extension to laundry at Central Islip State Hospital, advertised in Engineering Record.

Ithaca, N. Y.—Until Aug. 31, E. L. Williams, Comptroller Cornell Univ., for erecting, including heating, plumbing and electrical work, for palm and decorative plant house and insectary; for constructing work of sheep barn, and heating work for new underground conduits and steam connections at the N. Y. State College of Agriculture at Cornell Univ. Lewis F. Pilcher, State Archt., Albany.

New York, N. Y.—Until Sept. 13, by Public Service Commission for First Dist., 120 Broadway, for station finish for part of the Broadway-Fourth Avenue line being 2 stations at Fourteenth Street and extending to Twenty-eighth Street, and one station on said road beginning at Canal Street and extending to a point east of the Bowery.

Until Sept. 11, by C. B. J. Snyder, Supt. School Bldgs, New York, for Item I, general construction, Item II, structural steel and iron work, Item III, plumbing and drainage, of Manhattan Trade School, Lexington Avenue and Twenty-second Street, Borough Manhattan. Security $60,000, $20,000 and $8,000 respectively.

West Point, N. Y.—Until Sept. 20, by Quartermaster for fireproof construction in artillery stable, advertised in Engineering Record.

Clifton, N. J.—Reported desired until Sept. 12, by Board of Education of Acquackanok Township (George Browley, Lakeview, Pres.), for erecting a 14-classroom addition to School No. 7; cost $65,000. William T. Fanning, Archt., Colt Building, Paterson.

Philadelphia, Pa.—Until Sept. 8, by James A. Wetmore, Acting Supervising Archt., Treas. Dept., Washington, D. C. for mail conveying machinery in U. S. Post Office at Philadelphia.

Pittsburgh, Pa. — Until Aug. 31, by George W. Gerwig, Secy. Board Public Education, for general work at William H. McKelvy School.

Washington, D. C.—Until Oct. 4, by Department of Interior (E. J. Ayers, Acting Secy.) for installing two electrically operated elevators in St. Elizabeth Hospital, Washington, D. C.

Cleveland, Ohio.—Until Sept. 11, by Frank G. Hogen, director of schools, for erecting an annex to East Clark School, including plumbing, heating, etc.

Defiance, Ohio.—Reported desired until Sept. 1, by Board of Education (A. M. Minse, Pres.) for erecting a high school; cost $200,000. McLaughlin & Halsken, Archts., 610 Savings Bank Building, Lima.

Maumee, Ohio.—Reported desired until Aug. 31, by Board County Commissioners, for erecting County Children's Home. G. Cooper, Co. Aud., Toledo.

Bedford, Ind.—Until Sept. 11, by County Commissioners, for erecting a brick Infirmary building, including heating, lighting, etc. Ezra W. Edwards, Co. Aud.

Eaton, Ind.—Until Sept. 1 (readvertisement), by William E. Gump, Trustee Union Township, for erecting brick school.

Detroit, Mich.—Until Sept. 12, by Chas. A. Gadd, Secy. Bd. of Education, for erecting a 20-room school at Cicotte, McGraw, Pittsburgh and Gilbert Avenues. Bids will be received as a whole or separately on heating, ventilating, etc. Malcombson & Higginbotham, Archts., 404 Moffat Bldg.; Ammerman & McColl, Engrs., 2348 Penobscot Bldg.

Flint, Mich.—Until Aug. 31, by A. J. Wildanger, Secy. Bd. of Trustees Union School District, Flint, for erecting an 8-room addition to Hazelton School, also remodeling present building. Malcombson & Higginbotham, Archts., 404 Moffat Bldg., Detroit.

Mason City, Iowa.—See "Reinforced Concrete."

Sioux City, Iowa.—Until Sept. 4, by Board Library Trustees, for erecting Leeds Brand Library. Edward L. Tilton, Archt., 32 Broadway, New York, N. Y.

Slater, Iowa.—Until Sept. 8, by A. A. Lande, Pres. Bd. Education, for erecting a school; separate bids for heating, plumbing, etc. Thorwald Thorson, Archt., Forest City.

Faribault, Minn.—Until Aug. 29, by State Bd. of Control, St. Paul, for alterations and additions to hospital building and alterations to operating room at School for Feeble Minded, Faribault, including heating, plumbing, etc. C. H. Johnston, Archt., 715 Capital Bank Bldg., St. Paul.

Mounds, Minn.—Reported desired until Sept. 14, by Mary A. Fairfield, Secy. Board Educ., for erecting a consolidated school. F. E. Halden, Archt., Kasota Building, Minneapolis.

St. Peter, Minn.—Until Aug. 29, by State Board of Control at St. Paul, for repairs to Criminal Insane Building, State Hospital, St. Peter. C. H. Johnson, Archt., 715 Capital Bank Bldg., St. Paul.

Wabasha, Minn.—Until Sept. 8, by John W. Murdock, Clerk Bd. of Education, for erecting a high school. Chandler & Park, Archts., Racine, Wis.

Winnebago, Minn.—Until Sept. 1, by First National Bank of Winnebago, for erecting a brick and stone fireproof building. F. H. Ellerbee, Archt., St. Paul.

Nashville, Kan.—Until Aug. 28, by Board of Education (A. H. Millard, Clk.), for erecting school. S. S. Voigt, Archt., Wichita.

Smith Center, Kan.—Reported desired until Sept. 4, by Board of Education (P. A. Moyer, Secy.), for erecting a brick, cut stone and reinforced concrete semi-fireproof 2-story and basement high school; cost $45,000. T. W. Williamson & Co., Archts., 418 Central Bank Bldg., Topeka.

Wichita, Kan.—Until Sept. 11, by H. M. Barrett, County Clerk, for erecting a county jail and sheriff residence.

Alvo, Neb.—Until Sept. 6, by School Board, District No. 102 (L. Muir, Secy.), for furnishing material and erecting a high school. R. A. Bradley & Sons, Archts., Hastings.

Buchanan, N. D.—Until Sept. 6, by School Board (S. F. Northrup, Clerk), for erecting a school.

Maddock, N. D.—Reported desired until Sept. 9, by A. H. Elken, Clerk District No 7, for erecting a 2-story and basement school.

Parshall, N. D.—Until Aug. 28, by School Board, for erecting a school. W. D. Gillespie, Archt., Fargo.

Mitchell, S. D.—Reported desired until Sept. 5, for erecting hospital. John C. Chapman, Archt., Sioux Falls.

Sioux Falls, S. D.—Until Sept. 14, by N. O. Monserud, Sioux Falls, for erecting a 2-story and basement main building for Lutheran Normal School. Joseph Schwarz, Archt., Sioux Falls.

Kansas City, Mo.—Until Sept. 5, by Board Public Works (W. H. Benham, Secy.) for furnishing material and installing an electrically operated freight elevator of the sidewalk type of 6000 lb. capacity on the municipal wharf at foot of Main Street in Kansas City.

Willows, Cal.—Until Oct. 2, by James A. Wetmore, Acting Supervising Archt., Washington, D. C., for erecting post office at Willows. Advertised in Engineering Record.

St. Norbert de Cap Chat, Que.—Until Sept. 2, by Thomas Raymond, Architect 43 Caron Street, Quebec, for erecting steel and stone church and sacristy, to cost $65,000.

Toronto, Ont.—Until Aug. 30, by Electric Commission, care Engineering Dept., Duncan and Nelson Streets, for a brick, concrete and steel extension to Duncan Street substation; cost $90,000.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Worcester, Mass.**—Contract for erecting police station awarded by Superintendent of Public Buildings to John J. Power, Worcester; cost about $200,000. George H. Clemence, Worcester, Mass., Archt.

★**New Haven, Conn.**—Contract awarded H. Wales Lines Company, Meriden, for erecting three-story, 63 x 153-ft. brick building for Yale School of Music at about $137,500. Coolidge & Shattuck, Archts., 122 Ames Building, Boston, Mass.

★**Brooklyn, N. Y.**—Contract reported awarded Webber Construction Company, 29 West Thirty-fourth Street, for erecting two additional wings of two stories each over the gymnasium and boys' department of the Greenpoint Y. M. C. A. branch.

Buffalo, N. Y.—Lowest bid opened Aug. 21 by U. S. Engineer's Office, Buffalo, for constructing office storehouse building and six operation houses at Black Rock Lock and storehouse at Ferry Street Bridge, submitted by W. S. Crooker, 120 Fordham Drive, at $158,289 if houses have terra cotta exterior wall or trimming, and from John W. Cowper Co., Inc., Fidelity Bldg., at $168,453 if houses have cut cast stone exterior walls or trimming.

★**Schenectady, N. Y.**—Contract awarded by The Carl Company, 428 State Street, to Brown & Lowe Company, 111 Foster Avenue, for erecting two-story and basement department store building on State Street; cost $100,000.

Dover, N. J.—All bids opened Aug. 16 by Board of Education for erecting high school rejected. The lowest bidder was Charles E. Preston of White Plains, N. Y., at $90,850.

Ridgewood, N. J.—King Lumber Company of Charlottesville, Va., submitted lowest bid on general contract for erecting high school, at $219,700.

★**Town of Union, N. J.**—Reported contract awarded Germania Construction Company, Fifteenth Street, Hoboken, for erecting six-story office building at Union Street and Bergenline Avenue for Aaron Birnbaum; cost about $50,000.

★**Altoona, Pa.**—Contract for erecting two-story bank building for Lincoln Deposit & Trust Company on Twelfth Avenue awarded P. W. Finn of Altoona, at about $50,000.

★**Coudersport, Pa.**—Contract for erecting high school awarded Finn & Company of Altoona at about $51,850. Hersh & Hersh, architects, Altoona.

★**Marcus Hook, Pa.**—Contract awarded W. W. Lindsay & Company, Harrison Building, Philadelphia, for erecting brick and steel frame printing and coating building at plant of Congoleum Company, a subsidiary company of Barrett Manufacturing Company, at $119,000.

★**Philadelphia, Pa.**—Contract awarded Cramp & Company, Denckle Building, for erecting nine-story brick and reinforced concrete automobile service station for Pennsylvania Taximeter Cab Company, at about $346,000.

★Contract awarded Nickson-Duggan Construction Company, Bailey Building, for erecting at 20 South Fifteenth Street for Franklin Trust Company an 11-story office building and power house building, including tearing down of buildings now on site, with exception of lighting fixtures and bank vault, at $300,000. DeArmond, Ashmead & Bickley, Archts., 618 Chestnut Street. Scofield Engineering Company, Commercial Trust Building, Engineers.

★**Philipsburg, Pa.**—Contract awarded W. A. Hoyt of Altoona for erecting theater, store and office building for Philipsburg Theater Company; cost $60,000.

★**Baltimore, Md.** — Contract awarded James J. O'Connor, 1110 Park Avenue, for erecting St. Bernard's Roman Catholic Church on Gorsuch Avenue; cost $125,000.

Washington, D. C.—See "Foundations, Piers and Dams."

★**Washington, D. C.**—Contract awarded by Board of Governors of Soldiers' Home to Boyle-Robertson Co., 1516 H Street, N. W., for erecting nurses home and a building for a hydrotherapeutic ward, at $98,506.

Burlington, N. C.—Following are four lowest bids opened Aug. 11 by Supervising Architect, Washington, D. C., for erecting U. S. Post Office—(a) limestone, (b) sandstone: McAdams & Mitchell, Burlington, (a) $62,696; King Lumber Company, Charlottesville, Va., (a) $64,927, (b) $66,500; R. B. Richardson, Hampton, Va., (a) $65,870, (b) $68,670; Olin Gerlach, Frostburg, Md., (a) $67,262, (b) $68,500; H. S. Richardson, Bainbridge, Ga., (b) $69,000.

★**Memphis, Tenn.** — Contract awarded James Alexander Construction Company, 388 N. Front Street, at $141,500, for erecting seven-story, reinforced concrete, brick and terra cotta building at Second Street and Gayoso Avenue for VanVlee-Mansfield Drug Company. Charles O. Pfeil, Archt., Tennessee Trust Building.

Newark, Ohio.—Following are four lowest bids opened Aug. 16 by Supervising Architect. Washington, D. C., for erecting U. S. Post Office—(a) limestone, (b) sandstone: Thomas W. Cissell, Wooster, (a) $101,400, (b) $110,000; Charles McCall Company, Philadelphia, Pa., (a) $104,480, (b) 111,180; R. S. Moore, Lafayette, Ind., (a) $109,657, (b) $116,429; Westchester Engineering Company, White Plains, N. Y., (a) $109,900, (b) $117,900.

★**Wellington, Ohio.**—Contract for erecting 2-story and basement brick and stone addition to high school costing $60,000 awarded as follows by School Board (Charles Jamieson, President): General contract to E. Converse & Sons, Massillon; heating, Brice Heating Company, Toledo; plumbing, J. W. Shock, Wellington; and wiring, Richland Electric Company, Mansfield. Althouse & Jones, Archts., Mansfield.

★**Monticello, Iowa.**—Contract for erecting John McDonald Memorial Hospital (bids opened Aug. 4), awarded A. H. Neumann, Des Moines.

Muscatine, Iowa.—Lowest bid opened Aug. 15 by School Board for erecting high school submitted by Logan Brothers, Clinton, Iowa, at $58,500.

★**Eveleth, Minn.**—Contract for erecting high school awarded McLeod & Smith of Duluth at $117,000. W. T. Bray, Archt., Fidelity Building, Duluth.

★**Tekamah, Neb.**—Contract awarded by County Board of Supervisors for erecting court house to S. P. Gould & Son of Omaha. Cost $75,000.

★**St. Louis, Mo.**—Contract awarded John Hill Construction Company, Syndicate Trust Building, for erecting fourteen-story, granite, stone and brick shop and store building at Eighth and Olive Streets for Finance & Mortgage Company; cost $650,000. T. P. Barnett Company, Archts., Central National Bank Building.

★**Portland, Ore.**—Contract for erecting U. S. Post Office awarded Grant Fee, 2440 Sixteenth Street, San Francisco, Cal., at $762,200.

★**Galt, Ont.**—Contract awarded P. H. Secord & Son, 133 Nelson Street, Brantford, for erecting brick and stone school; cost $50,000.

★**Pembroke, Ont.**—H. P. Beck, 18 Woodlawn Avenue, Ottawa, secured contract for erecting tile, reinforced concrete and limestone school; cost $55,000.

★**Yorkton, Sask.**—Contract for erecting stone and reinforced concrete school for Ruthenian Sisters awarded Logan & Black, Laurier Street; cost $50,000.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Fall River, Mass.—Professor H. K. Barrows, 6 Beacon Street, Boston, has been engaged by the Quequechan River Commission as consulting engineer and to prepare plans for the improvement of the stream.

New York, N. Y.—Agreement between city and state for a barge canal terminal at Harlem River and 138th Street has been approved by Board of Estimate and Apportionment. Address W. W. Wotherspoon, State Supt. Public Works, Albany

Oswego, N. Y.—Contract soon to be let by Maj. Lawrence V. Frazier, Buffalo, for the section of the breakwater about 1400 ft. long.

Mobile, Ala.—Army Board of Engineers for Rivers and Harbors recommends deepening Mobile ship canal from 27 to 30 ft. and widening from 200 to 300 ft. at a cost of about $1,100,000.

Gueydan, La.—Reported steps being taken by Gueydan Drainage Board, to construct the drainage system for the 8th Ward, to cost $250,000. H. L. Gueydan & Company, Gueydan, may be able to give information.

Paris, Tenn.—District soon to be formed for the purpose of draining about 100,000 acres of land along the Big Sandy River. The drainage canal will be 60 miles long. Owners of the land to be drained are to bear the expense of the project. W. I. Dale, Clerk of County Court, may be able to give information.

Quincy, Ill.—The Indian Grave Drainage District, Quincy, is about to sell $300,000 bonds, proceeds to be used to construct a system of diversion channels, about 3 miles, open ditches—main ditch 12 miles and laterals 18 miles—tile drains 2¾ miles and pumping plant. William A. Grieser, Chairman Commissioners, Quincy; John T. Inghram, Attorney, Quincy.

Muscatine, Iowa.—Contract soon to be let by Joint Board of Supervisors of Muscatine and Louisa Counties, Iowa, acting in behalf of the Muscatine Island Levee District, for reconstruction of about 6½ miles of levee along the Mississippi River, estimated at about 645,000 cu. yd. The Elliott & Harman Engineering Co. are preparing plans and specifications for the work.

Ada, Minn.—County Commissioners contemplate constructing a ditch, including main ditch and 10 laterals in Lockhart Township.

St. James, Minn.—All bids opened Aug. 15 by J. Jensen, County Auditor, for constructing Judicial Ditch No. 11, rejected.

Fargo, N. D.—Commissioners of Clay County considering construction of ditches 26 and 27 and No. 38 in the vicinity of Spring Prairie, Flowing Morland and Morton; total estimated cost $27,871. Ditch No. 39, costing $39,000, is to be constructed.

Wabbaseka, Ark.—Drainage District No. 7, Jefferson County, has been organized, and engaged Parkes Engineering Company, Pine Bluff, to prepare plans. District is east of Wabbaseka, and affects about 8000 acres.

Terra Bella, Cal.—Citizens of Terra Bella Irrigation District voted $1,000,000 bonds for constructing an irrigation system. Said bonds will be sold Sept. 23. S. E. Kieffer, Engr., 57 Post Street, San Francisco; E. R. Clemens, Secy. of the District.

BIDS DESIRED.

Boston, Mass.—Until Sept. 9, by Bureau of Yards and Docks, Navy Department, Washington, D. C., for dredging about 10,000 sq. yd. material at U. S. Navy Yard, Boston. Specification No. 2256.

Albany, N. Y.—To sublet 329,000 cu. yd. steam shovel and dragline work, advertised in Engineering Record. Address John A. O'Connor, 100 State St., Albany.

Pittsburgh, Pa.—Until Aug. 31, by George W. Gerwig, Secy. Bd. Education, for excavating and grading lot for elementary school, known as new Greenfield School, Hawthorne and Anthony Streets.

Baltimore, Md.—Until Aug. 29 by Lighthouse Inspector, Baltimore, for furnishing and placing 800 tons of riprap at Thimble Shoals Light Station, Va.

St. Francisville, La.—Until Sept. 5 by City Clerk for constructing three protection levees in lower St. Francisville, aggregating 15,487.7 cu. yd.

Belzoni, Miss.—Until Sept. 6, by Commissioners of Drainage District of Washington County, at Belzoni, for constructing about 1¾ miles of levee, 6 ft. wide at top, side slopes 2½ to 1, average height about 4 ft., containing approximately 21,000 cu. yd. C. E. Downing, Engr. of District, Belzoni.

Memphis, Tenn.—Reported desired until Sept. 4, U. S. Engineer, Memphis, for 2,655,000 cu. yd. levee work on Mississippi River.

Boone, Iowa.—Until Sept. 11, by Board Supervisors, Boone, for Drain No. 134, in Harrison Township, about 11,464 ft. 6 to 16-in. tile required.

Logan, Iowa.—Reported desired until Sept. 5, by J. M. Albertson, County Auditor, for drainage work in Upper Willow Drainage District; estimated cost $85,000 and in Upper Boyer and Rowley Creek District; estimated cost $8,000.

Red Oak, Iowa.—Until about Sept. 18, by Board of Supervisors at Red Oak, for approximately 21,000 cu. yd. of earthwork on the Overland Highway. Length of improvement about 4000 ft. C. D. Forsbeck, County Engineer.

Olivia, Minn.—Until Sept. 1, by J. L. Johnson, County Auditor, for County Ditch No. 4, about 5 miles north Hector: main ditch 113,994 cu. yd. excav., cost $11,394. Laterals 1, 2, 3 and 4 respectively, 25,870, 7,191, 7,016 and 21,472 cu. yd. and cost $2,587, $1,078, $701 and $2,147; furnish and lay 2000 ft. 8-in. tile, cost $250, total $18,159. John A. Dahlgren, Engr., Hector; separate bids for Ditch No. 70, about one mile from Olivia, requiring 63,380 ft. 5 to 28-in. hard-burned clay tile or cement tile; total cost $26,437. L. C. Vader, Engr., Olivia; also separate bids for Ditch No. 59, northwest of Olivia and near Danube. Ditch is divided into 12 divisions and requires a total of 282,608 ft. 5 to 30-in. tile, 238,889 cu. yd. excav. in open ditch, etc.; cost $26,278 open work, $81,139 tile portion; total $107,417. L. A. Vader, Engr., Olivia.

Slayton, Minn.—Until Sept. 5 for constructing Judicial Ditches Nos. 18 and 21, of Murray County, Ditch No. 18 to consist of 18,040 ft. 6 to 16-in. tile, average haul 6 miles, estimated cost $3,172; Ditch No. 21 to consist of 31,300 ft. 6 to 18-in. tile, estimated cost $6,752. Also separate bids for constructing Judicial Ditches 15 and 16, Ditch No. 15 to consist of 62,630 ft. 6 to 30-in. tile, average haul 1½ miles, estimated cost $31,060; Ditch No. 16 to consist of 30,100 ft. 6 to 20-in. tile, average haul ½ mile, estimated cost $7,356. H. V. O'Brien, County Aud.

Warren, Minn.—Until Aug. 29, by A. G. Lundgren, County Auditor, for constructing County Ditch No. 25. Approximate quantities 287,638 cu. yd. excav., 20 miles leveling highways and furnishing and installing 3200 ft. 18-in. culvert pipe through road grade.

Fort Laramie, Wyo.—Until Sept. 28, by U. S. Reclamation Service, Fort Laramie, for earthwork and structures on about 19 miles of main canal, Fort Laramie unit, North Platte Project, Nebraska, Wyo., involving approximately 1,656,000 cu. yd. material and placing approximately 1450 cu. yd. concrete, advertised in Engineering Record. Work is situated near Bridgeport-Guernsey line of C. B. & Q. R. R.

Alicia, Ark.—Reported desired until Sept. 4 by Lower Running Water Drainage Comrs. (G. R. Bush, Chmn.) for constructing 8½ miles canal, 25-ft. bottom, slope 1 to 1, average depth 6 ft.

Grand Junction, Col.—Until Sept. 14 by U. S. Reclamation Service, Grand Junction, for about 142,700 cu. yd. lateral excavation. Work in vicinity of Mack, Col.

Los Angeles, Cal.—Until Sept. 1, by Department of Public Service (James P. Vroman, Secy.), Knickerbocker Bldg., for furnishing riveted steel pipe for irrigation system in Improvement District No. 2.

Ventura, Cal.—Until Sept. 8, by Board of Supervisors (J. B. McCloskey, Clerk) for excavating main and lateral ditches, constructing levees, timber bulkheads and bridges for Section B of Saticoy protection work, near Saticoy, involving approximately 18,500 cu. yd. excavation, 15,400 ft. timber, of which about 2200 lin ft. is to be driven. C. W. Petitt, County Engr.

St. Maries, Idaho—Until Aug. 31 by Court M. Sargent, Secretary, Drainage District No. 2, Benewah County, St. Maries, for 120,000 cu. yd. embankment, 23,000 cu. yd. ditches. M. S. Parker, Engineer, St. Maries.

PRICES AND LETTINGS

★*Indicates award of contract.*

Dunkirk, N. Y.—Following are unit figures of the four lowest bids opened Aug. 15 by Major L. V. Frazier, Corps Engrs., U. S. A., Buffalo, for dredging and rock excavation at Dunkirk Harbor, N. Y. (a) 35,800 cu. yd. bed rock per cu. yd. place measurement, (b) 7000 cu. yd. loose material per cu. yd. place measurement, (c) total: O. E. Dunbar, Detroit, Mich., (a) $1.31, (b) 48 cts., (c) $50,258; Great Lakes Dredge & Dock Company Buffalo, (a) $1.49, (b) 30 cts., (c) $55,442; Eugene Breymann, Boston, Mass. (a) $2.49 (b) 30 cts. (c) $91,242; H. S. Kerbaugh, Inc., Buffalo, (a) $2.48, (b) 52 cts., (c) $92,424.

★**Quincy, Ill.**—Contract awarded by the Commissioners of Fabius Drainage District, to Geo. T. Crouch of Hannibal, for a pumping station.

★**Mason City, Iowa.**—Contract awarded by County Commissioners (bids opened Aug. 14) for constructing county Drainage district No. 26 to Nels Paulson, Thornton, at $20,372. George E. Frost, County Auditor.

★**Waterloo, Iowa.**—Contract reported awarded Anderson & Empie, Marshalltown, for drainage district No. 5 in East Waterloo, in all about 41,830 ft. from 8 to 24-in. tile, together with bulkhead, etc., at $14,850. Reinforced tile to be used.

★**Litchfield, Minn.**—Contract awarded George E. Brown, Litchfield, at 11 cts. per cu. yd. for constructing Judicial Ditch No. 3, about 141,742 cu. yd. excavation. A. Polquist, County Auditor.

★**Rushville, Neb.**—Contract for cleaning water course and ditch construction (bids open Aug. 15 by Horseshoe Lake Drainage District) awarded Fred M. Crane Co., City National Bank Bldg., Omaha, at 17.5 cts., total cost about $20,000. Paul E. Brown, engineer in charge, 206 N. Elm Street, Gordon, Neb.

★**San Marino, Cal.**—Contract awarded J. H. Bullard and Mlagenovich & Gillespie, 3941 Wisconsin Place, Los Angeles, at about $32,000 for constructing an open concrete storm water ditch about 26 ft. wide, 6 ft. deep and 2400 ft. long in Winston, Wash., for Huntington Land & Improvement Co., Pacific Electric Bldg., Los Angeles.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Albany, N. Y.—Reported contract will be let about October for constructing barge canal terminal at mouth Newtown Creek, Brooklyn. Address W. W. Wotherspoon, State Superintendent Public Works, Albany.

Badin, N. C.—Tallahassee Power Co., controlled by the Aluminum Company of America, Pittsburgh, Pa., it is reported, plans constructing of power dam on Yadkin River at Gunsmith Shoals, 6 miles below Badin. Arthur V. Davis, Oliver Building, Pittsburgh, Pa., Mgr.

Gainesville, Ga. — Etowah Milling & Power Company of Gainesville, Ga., organized for the purpose of building a hydroelectric plant on Etowah River.

Pass Christian, Miss.—Plans approved for concrete sea wall and reinforced concrete revetment, 13,200 ft., to cost $150,000. Address City Clerk.

Dayton, Ohio.—Reported City Commission authorized issue of $43,000 bonds for construction of the dam and for various other improvements at Island Park. Plans being prepared in city engineer's department, assisted by O. M. Floyd of Miami Conservancy force of engineers.

Ashland, Wis.—Reported Chicago & Northwestern R. R. Co. (W. H. Finley, Ch. Engr., Chicago, Ill.) will build a $1,500,000 ore dock.

St. Paul, Minn.—The Prudential Light & Power Co. of St. Paul, recently incorporated, proposes to construct a hydroelectric power plant on Mississippi River.

Barnston, Neb.—Preliminary plans being prepared for hydro-electric plant on Blur River at Barnston. G. W. Steinmeyer of Beatrice, interested.

Mendota, Cal.—Reported probably next year the San Joaquin & Kings River Canal & Irrigation Company (F. W. Bomar, Resident Manager) will construct a reinforced concrete dam, costing $75,000, to replace the earth restraining dam and timber diversion dam and bridge across San Joaquin River, recently washed out.

Santa Ana, Cal.—Citizens, Aug. 7, voted to build a dike about 7 miles long on east bank of Santa Ana River. Address S. C. Flippen, R. D. No. 2, Orange.

Williams, Ariz.—The Grand Canyon reservoir and hydro-electric project, it is reported, has been taken over by E. P. Ripley, Chicago, Ill., president of the Atchison, Topeka & Santa Fe R. R., and his associates, the proposed project involves the construction of a dam across one of the laterals of the Grand Canyon and the storage of water for operating a large hydro-electric plant, the irrigation of transmission lines, it is understood, will be erected to mining districts, towns and industrial centers within a radius of 200 miles of the generating plant.

BIDS DESIRED.

Blackwell's Island, N. Y.—Until Aug. 31, by John A. Kingsbury, Commissioner Department of Public Charities, Room 1091 Municipal Building, New York, for furnishing material and constructing the concrete foundations for a 9-story and basement fireproof elevator storehouse on Blackwell's Island. Surety, $7,000.

Cocoa, Fla.—Until Sept. 12, by the City of Cocoa and County Commissioners at Titusville, for constructing highway bridge across Indian River at Cocoa, advertised in Engineering Record. Work includes 20,000 cu. yd. dredge earth embankment, 4400 ft. four pile bent timber trestle 16 ft. wide, one draw span, two 55-ft. openings, one frame toll house, 12,000 lin. ft. concrete protection pile, 3000 sq. yd. riprap. C. M. Rogers, Engr., Daytona.

Nashville, Tenn.—Until Sept. 28, by U. S. Engineers Office, for constructing concrete locks E and F, Cumberland River, advertised in the Engineering Record.

Ventura, Cal.—Until Sept. 7, by Bd. of Supervisors (J. B. McCloskey, Clerk), for constructing protection work along Santa Clara River, near Camulos, involving 29 35-ft. reinforced concrete piles, 5640 ft. ½-in. steel cable, 6800 ft. barbed wire, etc. Until Sept. 12, for constructing west extension of Montavlo, involving 270 ft. of reinforced concrete pile trestle with timber deck, 10,665 lb. reinforced steel, 61,710 ft. timber, 700 cu. yd. earth fill, etc. C. W. Petitt, County Engineer.

Port Burwell, Ont.—Until Sept. 8, by R. C. Desrochers, Secy. Dept. Public Works, Ottawa, Ont., for repairs to East Pier at Port Burwell.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Johnson City, N. Y.**—Contract for the foundation for the concrete and steel bridge which Erie R. R. will construct at Lester Avenue awarded Robert Grace Contracting Company, Pittsburgh, Pa. The steel superstructure, two 29-ft. and one 95-ft. span will be taken from an old bridge and will be placed by the company's own forces. Cost $18,000.

★**Rockaway, L. I., N. Y.**—Contract awarded D. Danegan & Company, 5904 Fourteenth Street, Brooklyn, at $29,178, for constructing timber jetties and bulkhead at beach at Jacob Riis Park, Rockaway, Boro. Queens (bids opened Aug. 10 by Commissioners of Parks, New York, N. Y.).

Erie, Pa.—Lowest bid opened Aug. 18 by F. Hanlon, City Clerk, for construction drift catcher consisting of 20 reinforced concrete piers submitted by F. H. Diefendorf, Erie, at $8,942.

Washington, D. C.—Following are bids opened Aug. 10 by Lincoln Memorial Commission, Washington, D. C., for erecting terrace retaining wall and masonry approaches to the Lincoln Memorial (prices ranging according to material): Marble Arch Company, Broadway and 226th Street, New York, N. Y., fifteen bids ranging from $100,650 to $321,000; P. T. Cox, 154 Nassau Street, New York, N. Y., twelve bids, from $107,130 to $332,983; George A. Fuller Company, Washington, D. C., three bids, from $272,500 to $317,500; Boyle-Robertson Construction Company, Washington, D. C., three bids, from $285,000 to $332,000.

★**Dixon, Ill.**—Contract for constructing dam across Rock River for Illinois Northern Utilities Company awarded W. J. McAlpine, Dixon; cost $75,000. L. L. Wheeler, Engineer, Sterling, Ill.

★**Mount Vernon, Wash.** — Contract awarded to W. T. Butler Contracting Company, Central Bldg., Seattle, for constructing for Great Northern Ry. Co. seven concrete piers for bridge at Mount Vernon, also 12 concrete piers for bridge at Berlin.

Everett, Wash.—Following are three lowest bids opened Aug. 10 by Council for extending Norton Street by constructing 1000-ft. dock: (a) fir piling, (b) cedar piling: American Piledriving Co., Everett (a) $11,485; (b) $11,660; D. W. Rutherford, Everett (a) $11,550; George Clarke, Everett (b) $11,769; Alex Thompson, Everett (a) $11,490; J. A. McEachern, Everett (b) $11,693.

★**Sherbrooke, Que.**—Following are four bids opened Aug. 11 by H. C. King, Assistant Secretary-Treasurer, for constructing a dam at municipal hydroelectric plant: T. L. McBean and M. L. Williams, Montreal, $62,858 (awarded contract); Carlton Construction Company, Ottawa, Ont., $68,372; Arsenault & Plamondon, Montreal, $72,123, and Galbraith & Cate, Montreal, $80,106.

MISCELLANEOUS

PROPOSED WORK.

Transmission Line—Great Barrington, Mass.—Great Barrington Electric Light Co. contemplates extending transmission lines to New Marlboro and Southfield.

Transmission Line—Cooperstown, N. Y.—Colliers Light, Heat & Power Co. has received authority from Public Service Commission to extend its transmission lines into Otsego Co.

Street Signs—New Brighton, S. I., N. Y.—Contract soon to be let by Calvin D. Van Name, Borough President, for furnishing indestructible street signs. Henry P. Morrison, Commissioner Public Works.

Garbage Incinerator—Bayonne, N. J.—City Commissioners plan erecting a garbage incinerator.

Transmission Line, Etc.—Birmingham, Ala.—Alabama Power Company, it is reported, plans spending about $1,000,000 in transmission system extensions, substations and power plants.

Garbarge Disposal — Canton, Ohio. — Council is considering constructing a garbage reduction plant. Address City Clerk.

Cement — Cincinnati, Ohio.—Contract soon to be let by Major R. R. Ralston, Cincinnati, District No. 1, Corps of Engineers U. S. A., for 9500 bbl. of cement, to be used in the construction of Government dock and dam.

Transmission Line—Belpre, Kan.—City voted $10,000 bonds recently to erect transmission line and electric distributing system. I. C. Bushong, Ottawa, Engr.

Transmission Line—Lewis, Kan.—City voted bonds recently for the erection of a transmission line from Kinsley to Lewis. Address City Clerk.

Transmission Line—Reserve, Kan.—The City Council is considering calling an election to vote on erecting a transmission line to Hiawatha.

Transmission Line—Ravenwood, Mo.—Franchise granted to Maryville Electric Light & Power Co. to extend transmission line to Ravenwood and to install a distributing system.

Transmission Line — Shawnee, Okla.—The Shawnee Gas & Electric Co. considering erection of a transmission line from Shawnee to Ada, a distance of 80 miles.

Transmission Line—Bakersfield, Cal.—Southern Sierras Power Co., Riverside, has asked Board of Supervisors for franchise to construct a power transmission line across about twelve townships.

Garbage Incinerator—Saskatoon, Sask.—Citizens voted $100,000 bonds to construct an incinerator. G. D. Archibald, City Engineer.

BIDS DESIRED.

Pump—Boston, Mass.—Until Sept. 5, by Richard A. Lynch, Supt. Pub. Bldgs., for furnishing a simplex compound elevator pump with appurtenances, including foundation in Suffolk County Court House.

Signs—New Brighton, S. I., N. Y.—Until Sept. 12, by President Borough Richmond, New Brighton, for 930 indestructible road signs, advertised in Engineering Record.

Steel Lockers in Armory—New York, N. Y.—Until Sept. 7, by President Board of Aldermen, for steel lockers, Item 1-a and steel furniture (exclusive of lockers) Item 1-b in New Eighth Coast Defense Command Armory, Jerome Avenue and Kingsbridge Road, Borough Manhattan, and for lockers for Fifteenth Infantry, N. G. N. Y., 132d Street and Seventh Avenue, Borough Manhattan.

Cables—New York, N. Y.—Until Aug. 31, by Fire Commissioner, 11th floor, Municipal Building (Clarence H. Fay, Acting Commissioner), for furnishing and installing underground lead covered distributing cables from Eighty-second Street to Fort George Avenue, Borough of Manhattan.

Grouting — New York, N. Y. — Until Sept. 12, by Bd. Water Supply, Municipal Building, New York, for Contract 178, grouting the rock above Eastview tunnel of Catskill Aqueduct, advertised in Engineering Record.

Greenwood, Miss.—Until Sept. 4 by Board County Supervisors, for two auto trucks, trailers and road roller, and gravel-loading machine for county. A. R. Bew, Co. Clk.

Concrete Seats—Cleveland, Ohio.—Until Sept. 1, by F. H. Betz, City Architect, for constructing first unit of 2500 concrete seats in the Brookside Park stadium; estimated to cost $20,000.

Fire Escapes—Independence, Ohio.—Until Aug. 30, by John A. Cline, Village Clerk, for erecting one style "C" standard fire escape on the north side and style "D" standard fire escape on the south side of village hall.

Garbage Disposal Plant—Mattoon, Ill.—Until Sept. 5, by City Clerk, for constructing a garbage disposal plant.

Cement—Los Angeles, Cal.—Until Sept. 15, by Major Pillsbury, Corps Engineers, U. S. A., 723 Central Building, for furnishing at Fort MacArthur, San Pedro Harbor, 18,500 bbl. cement, 11,000 tons sand and 22,000 tons crushed stone.

PRICES AND LETTINGS

★*Indicates award of contract.*

Sprinkler System—Los Angeles, Cal.—Lowest bid opened recently by Board of Harbor Commissioners for installing automatic sprinkler system in six-story harbor warehouse submitted by Pacific Fire Extinguisher Co., R. W. Hellman Bldg., at $14,000.

★**Hydraulic Machinery—San Francisco, Cal.**—Contracts awarded by Bd. of Public Works to the General Electric Co., Rialto Bldg., to furnish electric generators for power plants in Hetch Hetchy, at $14,321, and for hydraulic machinery and equipment to the Pelton Water Wheel Co. of San Francisco, for $19,841.

Hydraulic Machinery and Equipment—San Francisco, Cal.—Following are bids opened Aug. 8 by Board Public Works (F. G. Churchill, Secy.), for hydraulic machinery and equipment for lower Cherry River power development: Pelton Water Wheel Company, Nineteenth and Harrison Streets, $18,814, and N. D. Phelps, $32,500.

Bucket Dredge—Vallejo, Cal.—Only bid opened Aug. 12 by Bureau Docks and Yards, Navy Department, Washington, D. C., for a gravity swing bucket dredge for Navy Yard at Mare Island submitted by Union Iron Works, San Francisco, at $45,000.

Proposals

For Proposals Advertised See Pages 43, 44, 45 and 46.

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.		See Eng. Record.
Aug. 28.	Sheridan, Mont. Adv. Aug. 19.	Aug. 19
Aug. 28.	Boston, Mass.	Aug. 26
Aug. 29.	Hamilton, Ohio	Aug. 5
Aug. 29.	Bayonne, N. J.	Aug. 19
Aug. 29.	Long Island City, L. I., N. Y.	Aug. 26
Aug. 29.	Clayton, N. M.	Aug. 26
Aug. 29.	Boston, Mass.	Aug. 26
Aug. 30.	Scotia, Neb.	Aug. 19
Aug. 30.	Cincinnati, Ohio	Aug. 26
Aug. 30.	Claremont, Minn.	Aug. 26
Aug. 30.	Cincinnati, Ohio	Aug. 26
Aug. 31.	Boston, Mass.	Jul. 29
Aug. 31.	West Park, Ohio	Aug. 12
Aug. 31.	Chicago, Ill. Adv. Aug. 12.	Aug. 12
Aug. 31.	Janesville, Minn. Adv. Aug. 19, 26.	Aug. 19
Aug. 31.	Claremont, Minn.	Aug. 19
Aug. 31.	Cleveland, Ohio	Aug. 26
Sep. 1.	Chaska, Minn.	Aug. 19
Sep. 1.	Conduit, etc., St. Louis, Mo.	Aug. 19
Sep. 1.	Natchitoches, La.	Aug. 19
Sep. 1.	Cincinnati, Ohio	Aug. 19
Sep. 1.	Mora, Minn.	Aug. 26
Sep. 1.	Hudson, Wis.	Aug. 26
Sep. 5.	Washington, D. C. Adv. Aug. 12.	Aug. 12
Sep. 5.	New York, N. Y. Adv. Aug. 12.	Aug. 12
Sep. 5.	Beardstown, Ill. Adv. Aug. 12.	Aug. 12
Sep. 5.	Shreveport, La. Adv. Aug. 19, 26.	Aug. 19
Sep. 5.	Fresno, Cal.	Aug. 19
Sep. 5.	Toledo, Ohio.	Aug. 26
Sep. 5.	Rocky Ridge, Ohio	Aug. 26
Sep. 5.	Mount Morris, N. Y. Adv. Aug. 26.	Aug. 26
Sep. 5.	Riverside, Cal.	Aug. 26
Sept. 6.	Wilmington, Del. Adv. Aug. 5, 19, 26.	Aug. 5
Sep. 6.	Bridgeport, Conn. Adv. Aug. 19, 26.	Aug. 19
Sep. 7.	Downs, Kan.	Aug. 26
Sep. 8.	Evanston, Ill. Adv. Aug. 12, 19.	Aug. 12
Sep. 11.	Brookings, S. D.	Aug. 26
Sep. 11.	Bay Head, N. J. Adv. Aug. 26.	Aug. 26
Sep. 12.	Billings, Mont.	Aug. 26
Sep. 12.	Thief River Falls, Minn.	Aug. 26
Sep. 12.	Sauk Center, Minn.	Aug. 26
Sep. 12.	Brookhaven, Miss.	Aug. 26
Sep. 12.	New York, N. Y. Adv. Aug. 26.	Aug. 26
Sep. 15.	Dannebrog, Neb. Adv. Aug. 26.	Aug. 26
Sep. 16.	Cleveland, Ohio.	Aug. 26
Sep. 18.	South Bethlehem, Pa. Adv. Aug. 19, 26.	Aug. 19
Sep. 18.	Cleveland Heights, Ohio	Aug. 26
Oct. 15.	Hermosa Beach, Cal.	Aug. 26

STEEL BRIDGE WORK.

Bids Close.		See Eng. Record.
Aug. 29.	Panama	Aug. 19
Aug. 31.	Kansas City, Mo.	Aug. 12
Aug. 31.	Austin, Minn.	Aug. 19
Aug. 31.	Newark N. J. Adv. Aug. 19.	Aug. 19
Sep. 1.	Greensburg, Pa.	Aug. 26
Sep. 2.	Norfolk, Va.	Aug. 19
Sep. 5.	Deer Lodge, Mont.	Aug. 26
Sep. 5.	Oacoma, S. D.	Aug. 26
Sep. 5.	Piggott, Ark.	Aug. 26
Sep. 6.	Cleveland, Ohio	Aug. 19
Sep. 6.	Albany, N. Y. Adv. Aug. 12 to 26.	Aug. 12
Sep. 7.	Logansport, Ind.	Aug. 26
Sep. 11.	Salem, N. J.	Aug. 26
Sep. 12.	Buffalo, N. Y. Adv. Aug. 19.	Aug. 19
Sep. 15.	Dayton, Ohio	Aug. 26

REINFORCED CONCRETE.

Bids Close.		See Eng. Record.
Aug. 29.	Clair City, Minn.	Aug. 19
Aug. 31.	Santa Barbara, Cal.	Aug. 19
Aug. 31.	Peekskill, N. Y.	Aug. 19
Aug. 31.	Algona, Iowa.	Aug. 26
Sep. 1.	Middlebourne, W. Va.	Aug. 19
Sep. 1.	Milwaukee, Wis.	Aug. 26
Sep. 2.	Berkeley Springs, W. Va.	Aug. 12
Sep. 2.	West Liberty, Ky.	Aug. 26
Sep. 5.	Clearwater, Fla.	Aug. 19
Sep. 5.	York, Pa.	Aug. 19
Sep. 5.	Salem, S. D.	Aug. 26
Sep. 6.	Ann Arbor, Mich.	Aug. 19
Sep. 6.	Washington	Aug. 19
Sep. 7.	Florence, S. C.	Aug. 19
Sep. 8.	Ventura, Cal.	Aug. 26
Sep. 9.	Michigan.	Aug. 19
Sep. 11.	Hastings, Minn.	Aug. 26
Sep. 12.	Manhattan, Kan.	Aug. 19
Sep. 14.	Ludlow, Ky.	Aug. 26
Sep. 18.	Mason City, Iowa. Adv. Aug. 26.	Aug. 26
Sep. 19.	Los Angeles, Cal.	Aug. 19

ROADS AND PAVING.

Bids Close.		See Eng. Record.
Aug. 28.	New Orleans, La. Adv. Aug. 12, 19.	Aug. 12
Aug. 28.	Wilburton, Okla. Adv. Aug. 19.	Aug. 19
Aug. 28.	Edwardsville, Ill. Adv. Aug. 26.	Aug. 26
Aug. 29.	Maryland Adv. Aug. 12, 19.	Aug. 12
Aug. 29.	Boise, Idaho	Aug. 12
Aug. 29.	Seattle, Wash.	Aug. 19
Aug. 29.	Xenia, Ohio Adv. Aug. 26.	Aug. 19
Aug. 29.	New Brighton, S. I., N. Y.	Aug. 26
Aug. 29.	Jersey City, N. J.	Aug. 26
Aug. 29.	North Wilkesboro, N. C.	Aug. 26
Aug. 29.	Indiana	Aug. 19
Aug. 29.	Kansas City, Mo.	Aug. 26
Aug. 30.	Kenton, Ohio	Aug. 19
Aug. 30.	Columbus, Ohio	Aug. 19
Aug. 30.	Aitkin, Minn.	Aug. 26
Aug. 30.	Illinois	Aug. 26
Aug. 30.	Baltimore, Md.	Aug. 26
Aug. 30.	Lakewood, Ohio	Aug. 26
Aug. 31.	Lewisburg, W. Va.	Aug. 12
Aug. 31.	Indiana	Aug. 19
Aug. 31.	Springfield, Mass.	Aug. 26
Aug. 31.	Ohio	Aug. 26
Aug. 31.	Morristown, Tenn.	Aug. 26
Aug. 31.	Connecticut	Aug. 26
Sept. 1.	Globe, Ariz.	Jul. 29
Sept. 1.	Indiana	Aug. 5
Sep. 1.	Sioux City, Iowa	Aug. 19
Sep. 1.	Santa Barbara, Cal.	Aug. 19
Sep. 1.	Indiana	Aug. 19
Sep. 1.	Wheaton, Ill.	Aug. 19
Sep. 1.	Twin Falls, Idaho	Aug. 26
Sep. 1.	Lexington, Miss.	Aug. 26
Sep. 1.	Springfield, Ore.	Aug. 26
Sep. 1.	Harrisburg, Pa.	Aug. 26
Sep. 2.	Cleveland, Ohio	Aug. 26
Sep. 4.	Hughesville, Pa.	Aug. 19
Sep. 4.	Opelousas, La.	Aug. 19
Sep. 4.	Marysville, Ohio	Aug. 19
Sep. 4.	Indiana	Aug. 19
Sep. 4.	Friars Point, Miss.	Aug. 19
Sep. 4.	Newport Beach, Cal.	Aug. 26
Sep. 4.	Hughesville, Pa.	Aug. 26
Sep. 4.	Okolona, Miss.	Aug. 26
Sep. 4.	Darby, Pa.	Aug. 26
Sep. 4.	Indiana.	Aug. 26
Sep. 5.	Indiana	Aug. 12
Sep. 5.	Hackensack, N. J.	Aug. 19
Sep. 5.	Plainfield, N. J.	Aug. 19
Sep. 5.	Indiana	Aug. 19
Sep. 5.	Holly Springs, Miss.	Aug. 19
Sep. 5.	Cleveland Heights, Ohio	Aug. 26
Sep. 5.	Bakersfield, Cal.	Aug. 26
Sep. 5.	Perry, Fla. Adv. Aug. 26.	Aug. 26
Sep. 5.	Maryland Adv. Aug. 26.	Aug. 26
Sep. 5.	Paterson, N. J.	Aug. 26
Sep. 5.	Jersey City, N. J.	Aug. 26
Sep. 5.	Wenatchee, Wash.	Aug. 26
Sep. 5.	Indiana.	Aug. 26
Sep. 5.	Starkville, Miss. Adv. Aug. 26.	Aug. 26
Sep. 6.	Cleveland, Ohio Adv. Aug. 12.	Aug. 12
Sept. 6.	Mt. Holly, N. J. Adv. Aug. 5.	Aug. 5
Sep. 6.	Santa Ana, Cal.	Aug. 26
Sep. 6.	Casper, Wyo.	Aug. 26
Sep. 6.	New Concord, Ohio	Aug. 26
Sep. 6.	Indiana.	Aug. 26
Sep. 6.	Georgetown, Del. Adv. Aug. 26.	Aug. 26
Sep. 7.	Indiana.	Aug. 26
Sep. 7.	Indiana	Aug. 19
Sep. 7.	Santa Barbara, Cal.	Aug. 26
Sep. 7.	Ventura, Cal.	Aug. 26
Sep. 7.	Cartersville, Mo.	Aug. 26
Sep. 7.	Newark, N. J.	Aug. 26
Sep. 8.	Indiana.	Aug. 26
Sep. 8.	Port Angeles, Wash.	Aug. 26
Sep. 8.	Ventura, Cal.	Aug. 19
Sept. 11.	Birmingham, Ala. Adv. Jul. 29.	Jul. 29
Sep. 11.	Bonds, Titusville, Fla. Adv. Aug. 26.	Aug. 26
Sep. 11.	Akron, Ohio	Aug. 26
Sep. 12.	Ventura, Cal.	Aug. 26
Sep. 12.	New Orleans, La.	Aug. 26
Sep. 13.	Billings, Mont.	Aug. 26
Sep. 14.	Indiana.	Aug. 26
Sep. 18.	Cleveland Heights, Ohio	Aug. 26
Sep. 19.	Pasco, Wash.	Aug. 26
Sep. 19.	New Orleans, La.	Aug. 26
Sep. 20.	Phoenix, Ariz.	Aug. 12
Sep. 20.	Phoenix, Ariz.	Aug. 19
Sep. 26.	New Orleans, La.	Aug. 26
Sep. 29.	New Orleans, La.	Aug. 26
Oct. 3.	Bakersfield, Cal.	Aug. 26
———	Ocean City, N. J. Adv. Jul. 15.	Jul. 15

RAILWAYS.

Bids Close.		See Eng. Record.
Aug. 30.	New York, N. Y.	Aug. 19

INDUSTRIAL PLANTS AND WAREHOUSES.

Bids Close.		See Eng. Record.
Sept. 2.	Pekin, China	Aug. 5

BUILDINGS. Public and Private.

Bids Close.		See Eng. Record.
Aug. 29.	Baltimore, Md.	Aug. 19
Aug. 29.	Boston, Mass.	Aug. 19
Aug. 29.	Moberly, Mo.	Aug. 19
Aug. 29.	Toledo, Ohio	Aug. 19
Aug. 29.	Augusta, Ga.	Aug. 19
Aug. 29.	St. Peter, Minn.	Aug. 26
Aug. 29.	Faribault, Minn.	Aug. 26
Aug. 30.	Newark, N. J.	Aug. 12
Aug. 30.	Seattle, Wash.	Aug. 19
Aug. 30.	Toronto, Ont.	Aug. 26
Aug. 30.	Medford, Mass.	Aug. 26
Aug. 31.	St. Paul, Minn.	Aug. 12
Aug. 31.	Philadelphia, Pa.	Aug. 12
Aug. 31.	Havelock, Neb.	Aug. 12
Aug. 31.	Chester, Iowa	Aug. 12
Aug. 31.	Cedar Rapids, Iowa	Aug. 19
Aug. 31.	Philadelphia, Pa.	Aug. 19
Aug. 31.	Ithaca, N. Y.	Aug. 26
Aug. 31.	Maumee, Ohio	Aug. 26
Aug. 31.	Flint, Mich.	Aug. 26
Aug. 31.	Pittsburgh, Pa.	Aug. 26
Sept. 1.	Mitchell, S. D.	Aug. 5
Sep. 1.	Stapleton, S. I., N. Y.	Aug. 19
Sep. 1.	Cincinnati, Ohio	Aug. 19
Sep. 1.	Appleton, Wis.	Aug. 19
Sep. 1.	Eaton, Ind.	Aug. 26
Sep. 1.	Holyoke, Mass.	Aug. 26
Sep. 1.	Winnebago, Minn.	Aug. 26
Sep. 1.	Defiance, Ohio	Aug. 26
Sept. 2.	Huntington, Ind.	Aug. 5
Sep. 2.	Jacksonville, Fla.	Aug. 12
Sep. 2.	Buffalo, Minn.	Aug. 12
Sep. 2.	St. Norbert de Cap Chat, Que.	Aug. 26
Sep. 4.	Sioux City, Iowa	Aug. 26
Sep. 4.	Smith Center, Kan.	Aug. 26
Sep. 5.	Port Arthur, Tex.	Aug. 19
Sep. 5.	Plainfield, N. J.	Aug. 19
Sep. 5.	Kansas City, Mo.	Aug. 26
Sep. 5.	Mitchell, S. D.	Aug. 26
Sep. 5.	Central Islip, L. I., N. Y. Adv. Aug. 26.	Aug. 26
Sep. 6.	Berlin, Wis.	Aug. 19
Sep. 6.	Buchanan, N. D.	Aug. 26
Sep. 6.	Alvo, Neb.	Aug. 26
Sept. 7.	Athens, Ala. Adv. Aug. 5.	Aug. 5
Sep. 7.	Knoxville, Iowa Adv. Aug. 19.	Aug. 19
Sep. 7.	Dayton, Ohio	Aug. 19
Sep. 8.	Fredericktown, Ohio	Aug. 19
Sep. 8.	Rochester, N. Y.	Aug. 19
Sep. 8.	Jacksonville, Fla.	Aug. 19
Sep. 8.	Wabasha, Minn.	Aug. 26
Sep. 8.	Philadelphia, Pa.	Aug. 26
Sep. 8.	Slater, Iowa	Aug. 26
Sept. 9.	Irwin, Iowa	Aug. 19
Sep. 9.	Maddock, Minn.	Aug. 26
Sep. 11.	Covington, Ky.	Aug. 19
Sep. 11.	Bedford, Ind.	Aug. 26
Sep. 11.	Cleveland, Ohio	Aug. 26
Sep. 11.	Wichita, Kan.	Aug. 26
Sep. 11.	New York, N. Y.	Aug. 26
Sept. 12.	Orlando, Fla. Adv. Aug. 5, 12.	Aug. 5
Sept. 12.	Warrenton, Va.	Jul. 29
Sep. 12.	Jesup, Iowa	Aug. 19
Sep. 12.	Brooklyn, N. Y.	Aug. 26
Sep. 12.	Clifton, N. J.	Aug. 26
Sep. 12.	Detroit, Mich.	Aug. 26
Sep. 13.	New York, N. Y.	Aug. 26
Sep. 14.	Mounds, Minn.	Aug. 19
Sep. 14.	Sioux Falls, S. D.	Aug. 26
Sep. 14.	Mounds, Minn.	Aug. 26
Sep. 20.	West Point, N. Y. Adv. Aug. 26.	Aug. 26
Sep. 21.	Highland Park, Mich. Adv. Aug. 19, 26.	Aug. 19
Oct. 2.	Willows, Cal. Adv. Aug. 26.	Aug. 26

FOUNDATIONS, PIERS AND DAMS.

Bids Close.		See Eng. Record.
Aug. 31.	Evanston, Ill.	Aug. 19
Sep. 8.	Port Burwell, Ont.	Aug. 26
Sep. 5.	Gulfport, Miss.	Aug. 12
Sep. 6.	Albany, N. Y. Adv. Aug. 12 to 26.	Aug. 12
Sep. 6.	Santa Ana, Cal.	Aug. 26
Sep. 7.	Ventura, Cal.	Aug. 26
Sep. 12.	Ventura, Cal.	Aug. 26
Sep. 12.	Cocoa, Fla. Adv. Aug. 26.	Aug. 26
Sep. 14.	Chicago, Ill. Adv. Aug. 19.	Aug. 19
Sep. 16.	Chicopee, Mass.	Aug. 12
Sep. 16.	Baltimore, Md.	Aug. 12
Sept. 25.	Houston, Tex.	Aug. 5
Sep. 28.	Nashville, Tenn. Adv. Aug. 19, 26.	Aug. 19

EXCAVATION, DREDGING AND DRAINAGE.

Bids Close.		See Eng. Record.
Aug. 29.	Boston, Mass.	Aug. 19
Aug. 29.	Warren, Minn.	Aug. 26
Aug. 29.	Baltimore, Md.	Aug. 26
Aug. 30.	Albany, N. Y.	Aug. 12
Aug. 30.	Foley, Minn.	Aug. 12
Aug. 31.	Clinton, Iowa	Aug. 19
Aug. 31.	Pittsburgh, Pa.	Aug. 26
Aug. 31.	St. Maries, Idaho.	Aug. 26
Sep. 1.	Los Angeles, Cal.	Aug. 26
Sep. 1.	Olivia, Minn.	Aug. 26
Sep. 4.	York, S. C. Adv. Aug. 19.	Aug. 19
Sep. 4.	Walnut Ridge, Ark.	Aug. 19
Sep. 4.	Alicia, Ark.	Aug. 26
Sep. 4.	Memphis, Tenn.	Aug. 26
Sep. 5.	Miami, Fla. Adv. Aug. 12 to 26.	Aug. 12
Sep. 5.	Slayton, Minn.	Aug. 26
Sep. 5.	St. Francisville, La.	Aug. 26
Sep. 5.	Logan, Iowa	Aug. 26
Sep. 6.	Belzoni, Miss.	Aug. 26
Sep. 7.	New York, N. Y.	Aug. 26
Sep. 8.	Ventura, Cal.	Aug. 26
Sep. 9.	Boston, Mass.	Aug. 26
Sep. 11.	Boone, Iowa	Aug. 26
Sep. 14.	Chicago, Ill. Adv. Aug. 19, 26.	Aug. 19
Sep. 14.	Grand Junction, Col.	Aug. 26
Sep. 15.	Montrose, Col.	Aug. 19
Sep. 18.	Sioux City, Ia. Adv. Aug. 19, 26.	Aug. 19
Sep. 20.	St. Ignatius, Mont. Adv. Aug. 19.	Aug. 19
Sep. 28.	Fort Laramie, Wyo. Adv. Aug. 26.	Aug. 26
———	Rock Island, Ill. Adv. Aug. 5, 12.	Aug. 5
———	Albany, N. Y. Adv. Aug. 26.	Aug. 26

TUNNELS AND SUBWAYS.

Bids Close.		See Eng. Record.
Aug. 30.	Chicago, Ill.	Aug. 19

MISCELLANEOUS.

Bids Close.		See Eng. Record.
Aug. 29.	Light and Plant Franchise, Danbury, Iowa. Adv. Aug. 19, 26.	Aug. 19
Aug. 30.	Fire Escapes, Independence, Ohio	Aug. 26
Aug. 31.	Iron and Steel, Dallas, Tex. Adv. Aug. 5 to 26.	Aug. 5
Aug. 31.	Cables, New York, N. Y.	Aug. 26
Sep. 1.	Concrete Seats in Stadium, Cleveland, Ohio	Aug. 26
Sep. 4.	Road Roller, Greenwood, Miss.	Aug. 26
Sep. 5.	Garbage Disposal Plant, Mattoon, Ill.	Aug. 26
Sep. 5.	Pump, Boston, Mass.	Aug. 26
Sep. 6.	State Canal Work, Terminal Contract 31, Albany, N. Y. Adv. Aug. 12 to 26.	Aug. 12
Sep. 12.	Grouting, New York, N. Y. Adv. Aug. 26.	Aug. 26
Sep. 12.	Signs, New Brighton, S. I., N. Y. Adv. Aug. 26.	Aug. 26
Sept. 13.	Traveling Cranes, New Orleans, La.	Jul. 29
Sep. 13.	El. Ry., New York, N. Y.	Aug. 26
Sept. 14.	Cement, Savannah, Ga.	Aug. 5
Sep. 15.	Cement, Los Angeles, Cal.	Aug. 26
Oct. 4.	Elevator, Washington, D. C.	Aug. 26

Steel Prices Stiffen Considerably as Markets for Other Materials Fluctuate But Slightly

Hot Weather Keeping Down Production and Continued Orders Responsible for Advances—Railway Dispute Holds Center of Stage and May Mean Serious Interruption to Business

THE QUESTION of whether a complete tieup of the traffic of the country will result from the railway wage dispute is of immediate concern to contractors who would have to shut down their work in the event of any serious interruption to traffic. The more important and far-reaching question, however, is whether the public will have to pay a bill running into many millions of dollars for increased cost of transportation. If the men win this burden will fall on the country whether rate increases are granted or whether they are not granted and a large number of costly receiverships will result. Moreover, in order to retain at least a part of our foreign trade after the war industrial efficiency and lower production costs are essential. Raising the wages of a group of transportation employees will put an additional tax on every article we export. If the point is decided in favor of the men their demands will be repeated by other employees, and with even greater chances of success.

The present period of prosperity is well advanced. It has run at a high level, both as regards transactions and prices, for a year. The expansion of 1906-7 lasted 18 months, that of 1911-12 two years. The present activity is pretty sure to last longer because of the war. When peace comes, conditions in this country will be ripe for a decline. If we lose our foreign trade, if we find ourselves unable to sell Europe peaceful products in place of shells, the decline may become a panic. Efforts are being made to take this trade out of the hands of foreign brokers and put it on the firm basis of sales direct to the consumer in Europe. Present prohibitive ocean freight rates are sure to drop at the close of the war if affairs are allowed to take their natural course. The high cost of production which war prices appear to have induced can be cured only by ourselves. It is to be hoped, therefore, that the railway brotherhoods will fail to secure the substance of the demands for which they are willing to assail the economic structure of the country.

Meanwhile, the controversy has done contractors one good turn by postponing railroad construction. It has often been urged that public work be undertaken in periods of depression, but, unfortunately, public bodies lack the foresight to sell bonds when the market for them is good and hold the money till the market for labor and materials is favorable. During the most prosperous period the railroads have enjoyed for some years the present wage dispute has accomplished something very similar to this proposal. Railroad work postponed will run over into, and possibly a good volume of it be undertaken during the next period when other classes of construction will be slackening off. It is not likely that all the funds of the railroads would be exhausted by a strike. In fact the prediction is freely made that a strike would be of short duration, and that if they loose, the railroads may secure rate concessions.

So far as materials of construction are concerned, few changes of importance have occurred outside of the steel market. Mills have become more crowded as a result of the renewed buying for export and the reduced production caused by a hot month, and prices on structural material, plates and steel bars have generally advanced. The recent increase in the buying of yellow pine from the mills noted on these pages Aug. 19 has continued, but no increase in mill production appears yet to have taken place.

Iron and Steel

Steel Products.—The present prices of steel are so firmly fixed at high levels that consumers of structural material in the building field appear to have given up waiting for a recession. Work is to go forward, according to the *Iron Age*, on several large projects. The implement makers, who have been seeking lower prices for steel bars, have given up the attempt. Much more war steel is wanted, and some reservations have even been made of Lake Superior ore for 1917. Prices of certain steel products per 100 lb. f.o.b. the points named are given below:

	Immediate delivery	Future delivery	Warehouse
Pittsburgh:			
Structural material	$3.00	$2.60	$3.25
Plates	4.00	3.00	....
Steel bars	3.00	2.60	3.10
Iron bars	3.00	2.60	3.10
Rivets	....	4.00	....
New York:			
Structural material	3.17	2.77	3.25
Plates	4.17	3.17	4.00
Steel bars	....	2.77	3.25
Iron bars	2.67	2.67	3.25
Rivets	....	4.17	....
Chicago:			
Structural material	....	2.79	3.10
Plates	3.50	3.17	3.50
Steel bars	2.92	2.77	3.10
Iron bars	2.35	2.35	3.10
Rivets	....	4.00	....

Sheets.—Galvanized sheets have declined still further during the month. Recent prices per 100 lb. for No. 28 gage black and galvanized sheets, f.o.b. the points named, are given below:

	Black	Galvanized
Pittsburgh	$2.90	$4.15
Chicago	3.17	4.29

Cast-Iron Pipe.—Pipe founders are carefully watching the pig-iron market, though no advance in pipe has occurred yet. Public buying is light, though private buying is holding up satisfactorily. Prices per ton are as follows:

	Class A and Gas Pipe	Class B and Heavier
New York	$31.50	$30.50
Chicago	31.50	30.50

Wrought Pipe. — Black steel pipe declined during the month, while galvanized steel pipe advanced considerably. Prices of iron pipe are unchanged. Prices in carload lots per ton f.o.b. Pittsburgh for 2½ to 6-in. lap welded pipe are given below:

	Black	Galvanized
Steel pipe	$64.00	$93.00
Iron pipe	86.00	116.00

Cement. — Prices remain unchanged, those quoted below being per barrel in large lots to contractors without containers, f.o.b. the points named:

Boston	$1.52	Memphis	$1.74
New York	1.32	Duluth	1.66
Pittsburgh	1.41	St. Paul	1.73
Cleveland	1.54	Cedar Rapids	1.65
Cincinnati	1.69	Kansas City	1.52
Detroit	1.55	Denver	2.07
Chicago	1.46	Phoenix	2.85
Atlanta	1.64	Seattle	2.10
Jacksonville	1.60	Los Angeles	2.00
New Orleans	1.75	Houston	1.65

Sand.—Prices, washed and screened, per cubic yard to contractors in large lots f.o.b. the points named are as follows:

New York	$0.50	Phoenix	$1.00
Cincinnati	.70	Los Angeles	.35
Chicago	1.05	Houston	1.00
St. Paul	1.00	Seattle	.50

Gravel and Crushed Rock.—Prices in large lots per cubic yard to contractors, f.o.b. points named:

	Gravel		Crushed rock	
	1½-in.	¾-in.	1½-in.	¾-in.
New York	$1.00	$1.10	$1.00	$1.15
Cincinnati	.70	.70	.85	.85
Chicago	1.05	1.05	.85	.85
St. Paul	1.00	1.00	†1.45	†1.45
Phoenix	1.50	2.00	1.75	1.75
Los Angeles	.85	.85	.95	1.00
Houston	1.75	1.85	1.75	1.85
Seattle	.50	....	1.00	....

†Price delivered.

Brick.—Recent prices per 1000, wholesale, f.o.b. the points named, are as folows:

	Common	Paving
New York	$7.25	.....
Cincinnati	3.50	$21.00
Chicago	7.00	.....
St. Paul	7.50	.....
Phoenix	8.00	.....
Los Angeles	6.75	.....
Houston	10.00	26.00
Seattle	6.25	30.50

Granite and Wood Paving Blocks.—Prices per square yard in large lots to contractors f.o.b. the points named:

	Standard stone block	4-in. wood block
New York	$2.15	$2.00
Cincinnati	†70.00	†30.00
St. Paul	1.80	1.50
Seattle	....	1.35

†Per 1000.

Asphalt.—Price per ton wholesale f.o.b. points named:

Cincinnati	$20.50
St. Paul	15.00
Los Angeles	10.00
Seattle	12.30

Yellow Pine.—Wholesale prices per 1000 ft. b. m., f.o.b. points named:

	1 x 10 Rough	2 x 10 D & M	8 x 8 20	12 x 12 20
New York	$22.50	$22.00	$30.00	$35.00
Chicago	23.00	20.00	23.50	27.00
St. Paul	31.00	26.00	30.00	35.50
Houston	17.00	30.00	20.00	23.00

Fir.—Wholesale prices per 1000 ft. b. m., f. o. b. points named:

	1 x 10 Rough	2 x 10 D & M	8 x 8 20	12 x 12 20
Chicago	.....	.....	$30.25	$30.25
St. Paul	$26.00	$24.50	25.00	35.00
Phoenix	38.00	38.00	34.00	34.00
Los Angeles	21.00 base price			
Seattle	15,00 base price			

Spruce and Hemlock.—Prices, wholesale per 1000 ft., f.o.b. points named:

	Hemlock 1 x 10 Rough	Hemlock 8 x 8 20	Spruce, 8 x 8 20
Chicago	$20.00	$21.00	.....
St. Paul	25.00	22.00	$32.00
Los Angeles	20.00	.....	.....

Sewer Pipe.—Prices in large lots to contractors, cents per linear foot, f.o.b. points named:

	3-in.	5-in.	8-in.	12-in.	24-in.	36-in.
New York	7¼	11 3/5	16	29	94¼	294
Cincinnati	6¼	10	13¾	25	104	...
Chicago	6¼	10	13¾	30	113¾	350
St. Paul	5½	8¼	13¾	24¾	87	...
Phoenix	7½	12½	22½	37½	125	300
Los Angeles	5½	9	16	26½	100	...
Houston	5½	9½	18½	35½	130	370
Seattle	7½	..	22½	56¼	175	...

Hollow Building Tile.—Price per 1000 in large lots to contractors, f.o.b. the points named:

	4 x 12 x 12	8 x 12 x 12	12 x 12 x 12
New York	$65.00	$110.00	$162.50
Cincinnati	65.00	85.00	.....
Chicago	52.00	97.50	135.00
St. Paul	48.00	80.00	120.00
Phoenix	100.00	172.50	.....
Los Angeles	40.00	75.00	.....
Houston	70.00	112.50	.....
Seattle	50.00	90.00	160.00

Oil.—Price per barrel of 50 gal. to contractors, delivered or f.o.b. according to local custom at points named:

	Fuel	Black	Red Engine	Steam Cyl.	Gasoline
New York	....	....	....	.....	$11.50
Cincinnati	$4.25	$4.75	$9.00	$14.00	11.00
Chicago	1.62	4.40	9.00	16.50	8.75
St. Paul	....	7.00	9.00 to 11.50	17.00	9.25
Phoenix	1.70	8.50	11.50	20.00	12.25
Los Angeles	1.10	6.75	9.25	19.00	8.90
Seattle	1.33	5.00	10.00	19.00	13.75

Manila Rope.—Price per pound, full coils, ¾, 1 and 1½-in., local delivery at points named:

New York	$ .19	St. Paul	$0.195
Cincinnati	.22	Phoenix	.23
Chicago	.185	Los Angeles	.21
		Seattle	.19

Dynamite.—Prices in cents per pound to contractors, delivered at the points named:

	20 Per Cent Low Freezing	40 Per Cent Gelatine	60 Per Cent Gelatine	80 Per Cent Gelatine
New York	.....	$ .22	$ .27	.....
Cincinnati*	$14.75	16.75	19.26	$29.50
Chicago*	13.50	18.75	22.75	28.75
St. Paul*	15.00	17.50	21.50	.....
Phoenix	.....	.27	.....	.....
Los Angeles	.17	.25	.30	.....
Seattle	10.00	16.75	20.75	26.25

*Price per 100 lb.

Lead.—The price of lead in 25-ton lots in New York is now $6.65 per 100 lb. and $6.55 in East St. Louis.

Copper.—Slackening of demand for copper is attributed to the railroad strike situation. The present New York quotation is 28¾ cents per pound.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

New Britain, Conn.—Construction of a sewage experimental station being considered. Address Mayor.

Woodmont, Conn.—Reported town officials considering constructing sewerage system to connect with New Haven system.

Poughkeepsie, N. Y.—City Council voted to construct storm water sewers on Main, North Clinton Streets, Conklin Street and silt basins on Bement and Dutchess Avenues.

Rochester, N. Y.—City Council voted $200,000 bonds for sewage disposal.

New Brunswick, N. J.—City Engineer directed to prepare plans for storm sewer to be constructed from filtration plant at reservoir and extend along Millers Brook.

Millville, N. J.—City Council passed ordinance providing for constructing pumping station and sewage system on Buck Street.

Stewartsville, N. J.—Stewartsville Water Co. will construct a reservoir in nearby mountains; cost, $25,000.

Trenton, N. J.—City Comm. will issue $77,000 sewer bonds. Albert G. Howell, acting city clk.

Kittanning, Pa.—City considering constructing waterworks; cost, $125,000. Leo Hudson, Pittsburgh, engr. Harry J. Walter, secy. council.

Hagerstown, Md.—In a report to Hagerstown Sewerage Comm. estimated cost of constructing activated sludge disposal plant is about $52,000 and for old sprinkler system cost about $90,000. J. B. Ferguson, engr.

Birmingham, Ala.—Reported city is considering purchasing water works. Address City Engineer.

Bristol, Tenn.—Knight & Quale, Chattanooga, submitted report on proposed water works; cost $190,000 to $460,000.

Owensboro, Ky.—City sold $225,000 bonds for improvements and extensions to sewerage system.

Akron, Ohio—City Council voted to construct sewers on Weeks and Harold Streets.

Alliance, Ohio.—Chester & Fleming, Pittsburgh, Pa., engaged to prepare detailed plans and specifications for additional pumping machinery, rebuilding pump station and a new concrete covered reservoir; $150,000 bonds sold for these improvements.

Cleveland, Ohio.—W. E. Davis, Comr. Heat & Light, in report to Thos. S. Farrell, Dir. Public Utilities, recommended installation of centrifugal pumps, motor-driven, in water works pumping stations.

Frank Fauver, State Supt. Public Wks. at Columbus, is preparing plans for reservoir at intersection of Summit, Cuyahoga, Geauga and Portage Counties.

McLaughlin Realty Co. (Louis D. Cosgrove, mgr.), Guardian Bldg., will spend about $175,000 for water, sewer and paving improvements in 75-acre site at Lorain Ave. and W. 117th St.

Rocky River, Ohio.—Plans for sewage disposal and sewers for Rocky River completed by R. Winthrop Pratt, 708 Hippodrome Bldg., Cleveland.

Galesburg, Ill.—City Council voted to extend water system and mains on Jefferson, North Cherry, South Pearl and West First Streets; cost, $25,000.

Two Rivers, Wis.—All bids opened Aug. 19 by Bd. Pub. Wks. for constructing sewer system rejected. J. R. Currens, mayor.

Emmetsburg, Iowa.—Construction of a storm water sewer system contemplated by city; cost about $100,000.

Volga, Ia.—Election Aug. 21 to vote $14,000 bonds for waterworks defeated.

Randolph, Neb.—Preliminary plans approved for constructing sanitary sewer system. Address Town Clk.

Worland, Wyo.—Proposed to construct sewer system and disposal plant; cost, $15,000. R. G. Culbertson, Town Clk. Denton Eng. Co. of Worland, Engrs.

Dallas, Tex.—City Council voted to construct 6-in. water main between Henderson and Fulton. Address City Engr.

Ft. Worth, Tex.—City Comm. appropriated $100,000 for completing Lake Worth conduit and extending filtration plant. Address City Engr.

Houston, Tex.—Contract about to be let for constructing sanitary and storm sewers. City Council approved plans and specifications of E. E. Sands, city engr.

Kingsville, Tex.—The Attorney General at Austin approved $100,000 waterworks bond issue. Address Mayor, Kingsville.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Temple, Tex.—Plans to be prepared by R. D. Morgan, city engineer; R. T. Smith, consulting engineer, and D. M. Seybold, superintendent water works, for constructing concrete reservoir with two compartments with capacity of 4,000,000 gal.

Waxahachie, Tex.—See "Buildings."

Greeley, Col.—Contract soon to be let by Council for 4000 ft. of 20-in. steel pipe to replace several mains.

Idabel, Okla.—Contract to be let by city for constructing reservoir, settling basin and water service pumps, capacity 500 gal. per min. to throw water out of reservoir into tank. F. D. Taafe, engr. T. J. Bookout, city clk.

Brawley, Cal.—City Trustees are about to purchase pump for water dept.

Claremont, Cal.—Co-operative Water Co. (E. W. Browning, mgr.) will engage engr. to prepare plans for a 1,500,000 gal. reservoir.

East San Diego, Cal.—Plans being prepared by F. D. Ford, city engr., for sewerage system.

Murray, Utah—Election will probably be held to vote $150,000 bonds for new water supply. Address City Commission.

Seal Beach, Cal.—S. H. Finley, engr., Santa Ana, engaged by City Trus. to prepare plans for domestic water system.

Olmsted & Gillelen, engrs., 1112 Hollingsworth Bldg., Los Angeles, engaged to prepare plans for sewerage system.

Vernal, Utah—Citizens voted to spend $23,500 for extending water system. Address City Clerk.

New Glasgow, N. S.—N. S. Fraser, city engr., preparing plans for extensions to waterworks; cost, $100,000.

Sherbrooke, Que.—City decided to postpone until spring asking bids for constructing proposed trunk sewer in South Ward, as it is too late to complete work before frost sets in. Estimated cost $45,000. E. G. Gatien, Secy.-Treas.; Thomas Tremblay, Engr.

St. Lambert, Que.—Contract will soon be let for constructing c.-i. trunk sewers; cost, $17,000. H. A. Gibeau, engr.

BIDS DESIRED.

New York, N. Y.—Until Sept. 7 by Douglas Mathewson, Pres, Bronx Boro, for sewers in several streets, including 243d, 238th and Lyvere Streets, 4007 lin. ft. 8, 12 and 15-in. pipe.

Until Sept. 8, by Marcus M. Marks, pres. Boro. Manhattan, for Contract No. 2, alterations and improvements to outlet sewer at Dyckman St. and Hudson River, including constructing of a submerged outlet and screening chamber complete; security $25,000.

Montclair, N. J.—Until Sept. 12, by Harry Trippett, town clk., for sanitary sewer and separate bids for curbs, sidewalks and paving on Laurel Pl., advertised in this issue.

Columbia, S. C.—Until Sept. 19, by City Council, for laying about 23 miles of vitr. sewer pipe and 6 miles of c. i. water pipe, with specials advertised in this issue. T. Keith Legare, city engr.

Key West, Fla.—City desired to grant water and sewerage franchise advertised in this issue. Chas. S. Williams, City Clerk.

Columbus, Ohio.—Until Sept. 12, for constructing Sect. 3, Third Ave., relief sewer, advertised in this issue. Address Henry Maetzel, ch. engr., City Hall.

Cuyahoga Falls, Ohio.—Reported desired until Oct. 1 by N. F. Williston, village clk., for trunk sewers, 8 to 24-in. vitr. tile.

Mansfield, Ohio.—Until Sept. 12, by Director Pub. Service, for water meters to cost $27,000.

Middletown, O.—Until Sept. 12 by John Kunz, clk. city comm., for constructing tile storm and sanitary sewers in Highland, Bellmonte and other avenues.

Port Clinton, Ohio.—Until Oct. 3, by City Clerk to rebuild sewers in Monroe and other streets; cost $9,000.

Rocky River, Ohio.—Reported desired until Sept. 5 (readvertisement), by D. W. Nichols, town clerk, for mains in North Ridge Avenue.

Toledo, Ohio.—Reported desired until Sept. 7, by Gabe Cooper, co. aud., for 16 miles sanitary sewers.

Youngstown, Ohio.—Reported desired until Sept. 8 by City Auditor, for centrifugal air compressor and motor.

Ann Arbor, Mich.—Until Sept. 6, by Board Public Works, for completion of abandoned sanitary sewer contract, about 6700 lin. ft. 8- and 2300 ft. 10-in. virt. tile. Manly Osgood, City Engr.

Area, Ill.—Until Sept. 5 by Bd. Local Improv. for sanitary sewer system, advertised in this issue. John R. Rouse, village clk.

Chicago, Ill.—Reported desired until Sept. 6 by Dept. Pub. Wks. for power piping, valves fittings and special equipment in boiler and engine room at Mayfield pumping station.

Rockford, Ill.—Until Sept. 7 by Board of Local Improvements (W. W. Bennett, Pres.), for sewer in Greenwood Avenue, Rural Street and Highland Dist., advertised in Engineering Record.

Sandwich, Ill.—Until Sept. 11, by E. L. Ingersoll, city clk. for storm drains, including 4180 ft. 15, 18 and 24-in. tile drain, 14 manholes, etc. W. D. Shields, engr., Hartford Bldg., Chicago.

St. Charles, Ill.—Until Sept. 14, by Bd. Local Improv., for system sanitary sewers in Sewerage Dist. No. 2 and small extension to city water mains, advertised in this issue. John W. Wilson, engr., St. Charles.

Viola, Ill.—Until Sept. 21 for laying 20,400 ft. 4 to 8-in. mains, fittings, etc., advertised in this issue. B. D. Baxter, pres. village bd.

Anthon, Iowa.—Until Sept. 12 (extension of date) by city, for constructing sewers. Paul D. Cook, engr., 518 U. B. Bldg., Sioux City.

Decorah, Iowa.—Reported desired until Sept. 6 by F. M. Hughes, city clk., for sewers in various streets.

Germania, Iowa.—Until Sept. 7, by M. H. Stoddard, clerk, for constructing sewer system and disposal plant, 9000 ft. 8- to 12-in. pipe.

Staples, Minn.—Until Sept. 12, by F. W. Findsen, city clk., for a reinforced concrete reservoir, capacity 200,000 gals., and connections to well and pump, etc. O. B. Nelson, engr., 942 Seventeenth Ave. S. E., Minneapolis.

St. Paul, Minn.—Until Sept. 5, by H. W. Austin, purchasing agent, for constructing sewers in Page and James Sts.

Winthrop, Minn.—Reported desired until Sept. 11 by J. A. Chilstrom, city clk., for constructing 7600 ft. 8 to 15 in. pipe sewers.

Lincoln, Neb.—Reported desired until Sept. 12 by Theodore H. Berg. City Clerk, for furnishing and erecting two centrifugal motor driven pumps of 2200 gal. capacity per min. Cost, $5,500.

Marmarth, N. D.—Until Sept. 11, by City Auditor for constructing a system of waterworks. Cory & Dubois, engrs., Baker, Mont.

Chamberlain, S. D.—Reported desired until Sept. 5 by City Clerk, for sinking artesan well.

Three Forks, Mont.—Until Sept. 18, for 5½ miles, 9 to 20-in. pipe sewer, collection well and lift, 2 pumps 500 gal. ea., Swearingen & McCulloh, engrs., Great Falls.

Huntsville, Tex.—Until Sept. 5, by Mayor for constructing sanitary sewer system. M. Griffin O'Neil & Sons, engrs., Dallas.

Denver, Col.—Until Sept. 20 by U. S. Reclamation Service, Denver, for furnishing needle valves for north tunnel of Roosevelt Dam, Salt River Project, Ariz.

Loveland, Col.—Until Sept. 5, by G. C. Rist, city clk., for constructing sanitary sewer, Dist. No. 12, requiring about 14,575 ft. 6 and 8 in. sewer.

Santa Barbara, Cal.—Until Sept. 7 by A. C. Holmberg, city clk., for 4000 lin. ft. of Emerson-Freelon sewer.

Panama—Until Sept. 18 by Maj. Earl I. Brown, Corps Engrs., U. S. A., general purchasing officer, The Panama Canal, Washington, D. C., for circular 1076, including pipe fittings, valves, galvanized steel sheets, etc.

PRICES AND LETTINGS

★*Indicates award of contract.*

Olean, N. Y.—Lowest bid opened Aug. 23 for constructing sanitary and storm sewers in W. State St., in all about 13,250 ft., submitted by Fure & Fote, Olean, at $11,482. E. F. Allen, supt. sts.

★**Keyport, N. J.**—Contract for repairing beds at water station and installing reinforced iron rods in reservoir awarded to Bowne Bros. of Keyport.

★**New Brunswick, N. J.**—Contract for installing 3 centrifugal pumps at reservoir awarded to New York Continental Jewell Filtration Co., 15 Broad St., New York, at $8,552.

★Lexington, Ky.—Following are unit figures of four lowest bids opened Aug. 8 by Bd. Pub. Wks., for constructing sewage disposal plant: (a) Sullivan Constr. Co., Lexington, $207,184 (awarded contract); Sullivan, Long & Hagerty and Case & Cothran, Bessemer, Ala., $213,682; (c) T. S. Moudy & Co., Chattanooga, Tenn., $216,918; (d) Suburban Engineering Co., 15 West Thirty-eighth Street, New York, N. Y., $218,806. Solomon-Norcross Co., Engrs., Atlanta, Ga.

	a	b	c	d
Engineer's office (lump sum)	$300.00	$420.00	$282.00	$450.00
10,000 cu. yd. earth excavation	0.42	0.42	0.40	1.05
12,000 cu. yd. rock excavation	2.00	1.62	1.40	2.20
2,000 cu. yd. rolled embankment	0.20	0.36	2.00	0.32
2,150 cu. yd. plain concrete	7.25	6.75	6.60	8.30
3,250 cu. yd. reinforced concrete, class A	8.50	10.00	10.00	11.60
175 cu. yd. reinforced concrete, class B	11.70	15.00	18.00	21.00
75 tons steel reinforcement	0.0435	0.054	85.00	0.05
24-in. siphons and air locks (lump sum)	8,400.00	8,000.00	9,350.00	9,500.00
18-in. siphons (lump sum)	750.00	840.00	862.00	850.00
310 tons c.-i. B. & S. pipe	41.00	48.00	50.00	50.00
50 tons c.-i. B. & S. special castings	82.50	90.00	80.00	100.00
5 tons c.-i. flanged pipe	59.00	84.00	100.00	140.00
4 tons c.-i. flanged special castings	120.00	120.00	150.00	140.00
101,000 lin. ft. 6-in. ½ tile vit. underdrains	0.08	0.084	0.065	0.088
1,000 lin. ft. 8-in. vit. tile pipe	0.20	0.18	0.22	0.30
100 lin. ft. 6-in. vitr. tile pipe	0.18	0.12	0.20	0.25
Filter laterals and fittings (lump sum)	5,713.00	5,328.00	4,470.00	5,800.00
Sprinkler nozzles (lump sum)	662.50	755 00	717.00	900.00
20,000 cu. yd. broken stone in filter	3.076	3.00	3.41	1.90
700 cu. yd. sand and gravel	1.98	2.70	3.55	1.90
8 rect. sluice gates and H. wheels, 2 x 3 ft.	258.75	282.00	211.50	225.00
11 rect. sluice gates and H. wheels, 3 x 3 ft.	304.75	330.00	217 00	250.00
4 30-in. sluice gates	155.25	174.00	202.50	200.00
3 24-in. sluice gates	118 45	144.00	127.50	140.00
4 12 x 12-in. rectangular sluice gates	44.85	54.00	67.80	75.00
1 20-in. I. B. gate valves	120.75	150 00	141.70	175.00
1 18-in. I. B. gate valve	130.50	144.00	131.60	140.00
4 12-in. I. B. gate valves	39.10	48.00	57.70	57.50
8 8-in. I. B. gate valves	29 90	36.00	26.40	30.00
4 6-in. I. B. gate valves	13.25	15.00	18 12	20.00
39 4-in. I. B. gate valves	11.50	13.20	12.16	12.00
10 2½-in. valves and hose connections	10 65	12 00	14.70	15.00
4 4-in. lift valves	15.25	18.00	23 30	15.00
2 6-in. I. B. check valves	16.40	18.00	27.65	25.00
2 4-in. I. B. check valves	10.35	12.00	18 55	20.00
16 8-in. shear gates and handles	14.15	18.00	16.00	16.00
8 2-in. brass gate valves	5.70	6 00	8.00	6.25
43 operating stands	10.80	18.00	10.00	35.00
Ball bearing operating stand (lump sum)	54 00	60 00	84.00	75.00
1,400 lin. ft. 2-in. galv. w.-i. pipe and fittings	0.31	0.30	0.20	0.50
2.5 M ft. weirs, scum boards and stop planks	150.00	120.00	150 00	220.00
5 M ft. miscellaneous timber	40.00	54.00	80.00	100.00
10,000 lb. miscellaneous castings	0.06	0.048	0.10	0.09
1,000 lb. miscellaneous steel and wrought iron	0 06	0 072	0.15	0.09
4 hydrants	30.00	36.00	32.60	42.50
Sludge removal, ry. and appurtenances (lump sum)	1,607 00	1,500 00	1,265.00	1,900.00
2 6-in. pumps and motors	773.00	2,010 00	641 00	1,075.00
1 4-in. pump and motor	488 00	840.00	443 00	850.00
Pump houses (lump sum)	950.00	840.00	2,187.00	1,300.00
Laboratory building (lump sum)	4,224 00	4,000.00	3,022 20	4,650.00
1 catch basin	35 00	24 00	60.00	60.00
4,000 sq. yd. sodding	0.20	0.12	0.25	0.19
4 acres sowing grass seed	25.00	30.00	50.00	50.00
1,500 sq. yd. macadam roads	1.00	0.90	1.25	1.25
6 valve boxes	3.50	4.20	10 00	4.00

★**Hoboken, N. J.**—Following are unit figures of bids opened Aug. 16 by Council for constructing Seventh, Eleventh and Fifteenth Sts. sewer systems: (a) Hoboken Contr. Co., 54 Fifth St., Hoboken (awarded contract), Contract I—$377,979, omitting Item 35a $375,627; Contract II—$285,063, omitting Item 23 $280,403, omitting Item 35a $282,711, omitting Item 23 and 35a $278,051; Contract III—$307,180; omitting Item 23 $301,223, omitting Item 35a $304,828, omitting Item 23 and 35a $298,871; (b) N. Y. & N. J. Constr. Co., 30 E. Forty-second St., New York, Contract I—$443,139 and $441,939; Contract II—$386,347, $371,827, $385,247 and $370,727; Contract III—$420,131, $403,231, $418,631 and $401,731; (c) James Ferry & Sons, Inc., Baltimore, Md., Contract II—$289,025, $282,425, $288,275 and $281,675. Jas. H. Fuertes, engr., 140 Nassau St., New York, N. Y.

Contract I:

	*(a)	(b)
1—33,300 cu. yd. earth excav	$1.47	$3.00
2—3,000 cu. yd. rock excav	7.06	4.00
3—536 M ft. timber in foundations	58.80	60.00
4—140,000 lin. ft. piling	0.47	0.50
5—10 M ft. sheet piling	76.44	70.00
6—1,173 lin. ft. 6-in. vitr. pipe	0.59	0.60
7—4,456 lin. ft. 8-in. vitr. pipe	0.71	0.80
8—1,736 lin. ft. 10-in. vitr. pipe	0.82	0.90
9—1,846 lin. ft. 12-in. vitr. pipe	1.06	1.00
10—7,955 lin. ft. 15-in. vitr. pipe	1.18	1.20
11—25 lin. ft. 20-in. vitr. pipe	1.41	1.80
12—320 lin. ft. 24-in. vitr. pipe	2.06	2.00
13—432 6-in. c.-i. spurs	3.06	1.50
14—70 12-in. c.-i. spurs	3.53	6.00
14a—41 6-in. expans. joints	8.82	8.00
14b—154 8-in. expans. joints	10.58	10.00
14c—60 10-in. expans. joints	12.35	13.00
14d—36 12-in. expans. joints	14.11	16.00
14e—268 15-in. expans. joints	20.29	20.00
15—17 manholes, Class A	88.20	70.00
16—15 manholes, Class B	29.40	10.00
17—24 manholes, Class C	58.80	30.00
18—80 frames and covers	19.40	12.00
19—153 tons reinforcing steel	117.60	100.00
20—875 lin. ft. 12-in. c.-i. pipe	2.06	3.00
21—11 lin. ft. 16-in. c.-i. pipe	3.06	4.00
22—44 lin. ft. 20-in. c.-i. pipe, cop. scr	4.41	5.00
25—15 12-in. hydraulic valves	211.68	200.00
26—2 16-in. gate valves	88.20	100.00
27—4 30-in. flap valves	147.00	300.00
28—2,073 cu. yd. concrete	14.70	12.00
29—2,818 lin. ft. 7-ft. x 4-ft. 9-in. con. sewer	12.94	18.50
30—869 lin. ft. 6-ft. x 4-ft. 9-in. con. sewer	11.76	15.00
31—796 lin. ft. 5-ft. x 4-ft. 9-in. con. sewer	9.41	12.00
32—531 lin. ft. 4-ft. x 4-ft. 9-in. con. sewer	8.23	11.00
32a—1,268 lin. ft. 27-in. x 42-in. con. sewer	5.88	10.00
33—2,917 lin. ft. 24-in. x 39-in. con. sewer	5.88	7.00
34—2,309 lin. ft. 21-in. x 36-in. con. sewer	4.70	6.00
35—1 underdrain, etc	1,243.03	700.00
35a—1 set screens, etc	2,352.00	1,200.00
36—850 lin. ft. ¾-in. galv.-iron pipes	0.12	1.00
37—8 flush tank control apparatus	441.00	500.00
39—36 storm water inlets	88.20	70.00
40—7 junc. between sewers	588.00	500.00
41—300 lin. ft. removing old sewers	29.40	10.00
42—2,350 lin. ft. reconnecting sewers	2.35	3.00

Contract II:

	*(a)	(b)	(c)
1—31,700 cu. yd. earth excav	$1.47	$3.18	$3.60
2—100 cu. yd. rock excav	7.06	5.00	10.00
3—410 M ft. timber in foundations	58.80	45.00	60.00
4—117,000 lin. ft. piling	0.37	0.35	0.50
5—10 M ft. sheet piling	76.44	50.00	70.00
6—1,340 lin. ft. 6-in. vitr. pipe	0.59	0.30	0.60
7—4,374 lin. ft. 8-in. vitr. pipe	0.70	0.35	0.80
8—535 lin. ft. 10-in. vitr. pipe	0.82	0.50	0.90
9—2,140 lin. ft. 12-in. vitr. pipe	1.06	0.60	1.00
10—2,556 lin. ft. 15-in. vitr. pipe	1.18	0.80	1.20
12—360 lin. ft. 24-in. vitr. pipe	2.06	2.00	2.00
13—492 6-in. c.-i. spurs	3.06	2.50	1.50
14—74 12-in. c.-i. spurs	3.53	6.00	6.00
14a—45 6-in. expans. joints	8.82	7.50	8.00
14b—147 8-in. expans. joints	10.58	11.00	10.00
14c—18 10-in. expans. joints	12.35	15.00	13.00
14d—12 12-in. expans. joints	14.11	17.50	16.00
14e—95 15-in. expans. joints	20.29	22.50	20.00
15—12 manholes, Class A	88.20	75.00	70.00
16—7 manholes, Class B	29.40	75.00	10.00
17—29 manholes, Class C	58.80	75.00	30.00
18—70 frames and covers	19.40	20.00	12.00
19—115 tons reinforcing steel	117.60	100.00	100.00
20—1,260 lin. ft. 12-in. c.-i. pipe	2.06	2.50	3.00
21—122 lin. ft. 16-in. c.-i. pipe	3.06	5.00	4.00
21a—3 lin. ft. 16-in. c.-i. pipe, cop. scr	5.88	10.00	50.00
23—660 lin. ft. 30-in. c.-i. pipe	7.06	10.00	22.00
25—13 12-in. hydraulic valves	211.68	100.00	200.00
26—1 16-in. gate valve	88.20	150.00	120.00
27—1 30-in. flap valve	147.00	200.00	350.00
28—1,639 cu. yd. concrete	14.70	9.00	12.00
29—2,156 lin. ft. 7-ft. x 4-ft. 9-in. con. sewer	12.94	8.90	18.00
30—582 lin. ft. 6-ft. x 4-ft. 9-in. con. sewer	11.76	7.00	15.00
31—520 lin. ft. 5-ft. x 4-ft. 9-in. con. sewer	9.41	5.60	12.00
32—255 lin. ft. 5-ft. x 4-ft. 9-in. con. sewer	8.23	4.85	11.00
32a—463 lin. ft. 27-in. x 42-in. con. sewer	5.88	4.50	10.00
33—2,808 lin. ft. 24-in. x 39-in. con. sewer	5.88	4.20	6.00
34—4,014 lin. ft. 21-in. x 36-in. con. sewer	4.70	3.70	5.00
35—1 underdrain, etc	1,243.03	500.00	700.00
35a—1 set screens, etc	2,352.00	750.00	1,100.00
36—610 lin. ft. ¾-in. galv.-iron ser. pipe	0.12	0.25	1.00
37—8 flush tank control apparatus	441.00	200.00	500.00
38—1 wooden tide gate	179.93	250.00	500.00
39—64 storm water inlets	88.20	30.00	70.00
40—9 junc. between sewers	588.00	1,000.00	500.00
41—60 lin. ft. removing old sewers	29.40	10.00	10.00
42—320 lin. ft. reconnecting sewers	2.35	3.50	3.00

Contract III:

	*(a)	(b)
1—20,120 cu. yd. earth excav	$1.47	$5.00
3—513 M ft. timber in foundations	58.80	60.00
4—157,500 lin. ft. piling	0.57	0.60
5—10 M ft. sheet piling	76.44	70.00
6—5,004 lin. ft. 6-in. vitr. pipe	0.59	0.50
7—530 lin. ft. 8-in. vitr. pipe	0.71	0.80
8—500 lin. ft. 10-in. vitr. pipe	0.82	0.90
9—5,156 lin. ft. 12-in. vitr. pipe	1.06	1.00
12—656 lin. ft. 24-in. vitr. pipe	2.06	2.00
13—488 6-in. c.-i. spurs	3.06	1.50
14—74 12-in. c.-i. spurs	3.53	6.00
14a—172 6-in. expans. joints	8.82	8.00
14b—18 8-in. expans. joints	10.58	10.00
14c—18 10-in. expans. joints	12.35	13.00
14d—57 12-in. expans. joints	14.11	16.00
16—12 manholes, Class B	29.40	10.00
17—43 manholes, Class C	58.80	30.00
18—86 frames and covers	19.40	12.00
19—93 tons reinforcing steel	117.60	100.00
20—1,560 lin. ft. 12-in. c.-i. pipe	2.06	3.00
20a—3 lin. ft. 12-in. c.-i. pipe, cop. scr	5.88	50.00
23—845 lin. ft. 30-in. c.-i. pipe	7.05	20.00
25—7 12-in. hydraulic valves	211.68	200.00
26a—1 12-in. gate valve	32.34	100.00
27—1 30-in. flap valve	147.00	400.00
28—1,424 cu. yd. concrete	14.70	12.00
29—1,550 lin. ft. 7-ft. x 4-ft. 9-in. con. sewer	12.94	27.00
30—520 lin. ft. 6-ft. x 4-ft. 9-in. con. sewer	11.76	15.00
31—530 lin. ft. 5-ft. x 4-ft. 9-in. con. sewer	9.41	12.00
32—245 lin. ft. 4-ft. x 4-ft. 9-in. con. sewer	8.23	11.00
33—2,777 lin. ft. 24-in. x 39-in. con. sewer	5.88	8.00
34—4,573 lin. ft. 21-in. x 36-in. con. sewer	5.88	6.00
35—1 underdrain, etc	1,243.03	700.00
35a—1 set screens, etc	2,352.00	1,500.00
36—1,600 lin. ft. ¾-in. galv.-iron ser. pipe	0.12	1.00
37—7 flush tank control apparatus	441.00	500.00
38—1 wooden tide gate	179.93	500.00
39—88 storm water inlets	88.20	70.00
40—2 junc. between sewers	588.00	500.00
42—1,350 lin. ft. reconnecting sewers	2.35	3.00

Bogota, N. J.—Following are unit figures of lowest bidder, Averill-Matthews Co., 919 Essex Bldg., Newark (bids opened Aug. 25 by Boro. Council), on constructing a sewerage system: (Clyde Potts, engr., 30 Church St., New York), 8 in. vitr. pipe—4950 ft., 0 to 6 ft. deep., 70 cts.; 12,900 ft., 6 to 8 ft., 83 cts.; 1650 ft., 8 to 10 ft., $1.30; 330 ft., 10 to 12 ft., $1.69; 12 to 14 ft., $2.20; 14 to 16 ft., $2.93; 10 in. vitr. pipe—450 ft., 0 to 6 ft., 70 cts.; 875 ft., 6 to 8 ft., 87 cts.; 8 to 10 ft., $1.69; 10 to 12 ft., $1.97; 500 ft., deep ho. connec., $1.00; 12 M ft. lumber foundation, $10.00; 25 M lumber sheeting, $10.00; 3 tons c. i. pipe, $60.00; 50 cu. yd. concrete, 1:3:5, $8.00; concrete, 1:2½:4½, $9.00; 101 manholes, 8 ft. and under, $50.00; 500 ft. extra depth, over 8 ft., 50 cts. Total, $24,701. Total of other bidders: C. S. Edwards Co., 1 Montgomery St., Jersey City, $26,552; Martin, Miller & Pizzimenti, Caldwell, $29,534; John W. Heller, South Orange, $33,193, and Torielle & Sansone, Hackensack, $34,668.

★**Erie, Pa.**—Contract awarded by Water Comrs. on Aug. 15 to Dravo Doyle Co., Diamond Bk. Bldg., Pittsburgh, at $51,000, for a 20,000,000-gal, centrifugal pump.

★Contract awarded by Bd. Water Commrs. for new 20,000,000-gal. turbine pumping engine to De Laval Pump Co., Trenton, N. J. Chester & Fleming, engrs., Pittsburgh.

★**Harmony, Pa.**—Contract awarded J. I. Dick, Scottdale, for sewer system. C. H. Goehring, Secy. Council.

★**Mercer, Pa.**—Contract awarded by Mercer Water Co. for disinfection plant for water supply to Electro-Bleaching Gas Co., 20 E. Forty-first St., New York. Chester & Fleming, engrs., Pittsburgh.

★**Philadelphia, Pa.**—Contract for reconstructing and connecting sewer and raising water main in Jasper St. in connection with preliminary Frankford Creek intercepting sewer work, awarded to O'Neill Co., 7811 Germantown Ave., at $30,000.

★Contract awarded Snare & Triest Co., Woolworth Bldg., New York, at $33,700, for grading and riprap work in new sedimentation basin at Torresdale filtration plant.

★**Hogansville, Ga.**—Contract for laying water mains and constructing 4 miles sanitary sewers awarded to Dysard Constr. Co., Atlanta. O. Kauffman & Bro., engrs., Atlanta.

★**Medina, Ohio.**—Following are bids opened Aug. 19 by Board Public Service for 1,000,000-gal. filtration plant: Pittsburgh Filter Manufacturing Co., Pittsburgh, Pa., $28,625; Segwich Co., Medina, $29,440; F. W. Cissel, Wooster, $33,000, and Pitt Constr. Co., Pittsburgh, Pa., $39,310. Contract awarded Pittsburgh Filter Manufacturing Co. of Pittsburgh, Pa., the Board omitting several items. F. L. Rollins, Supt. Water Wks.

★**Du Quoin, Ill.**—Contract for constructing Sewer System No. 2 awarded by Bd. Local Improv. to Century Constr. Co. of St. Louis, Mo.

★**Granite City, Ill.**—Contract for constructing outlet sewer improvement (bids opened Aug. 15) awarded Walbridge & Jobst, 6 North Michigan Avenue, Chicago, at following unit bid: Concrete sewer: 2626 lin. ft. 9-ft., $30.77; 3686 ft. 8-ft., $22.33, $27.21 and $18.04; 1200 ft. 7-ft. 3-in., $16; 1790 ft. 4-ft. 6-in., $8.51; 1950 ft. 6-ft. 6-in., $15.88; 2467 ft. 6-ft., $14.50; 792 ft. 5-ft., $9.65; 1726 ft. 4-ft. 6-in., $10.29; 1625 ft. 4-ft. 3-in., $10.16; 3900 ft. 3-ft. 6-in., $8.38; pipe, 2640 ft. 3-ft., $7.24; 1381 ft. 3-ft., $7.24, and 300 ft. 2-ft., $3.81; pumping station, $7,000; 56 manholes, total, $379,967. Edmund Hall, Engr., Granite City.

★**Eldon, Iowa.**—Contract for constructing A, B and D of sewerage system (bids opened Aug. 21) awarded Harness Bros., 425 Burrhus St., Ott, and to J. L. Hausman, Des Moines, for C of system. H. C. Ritz, city clk.

★**Hampton, Iowa.**—Contract awarded Des Moines Bridge & Iron Co., Des Moines, for about 11½ blocks of mains, at $4,150. P. A. Van Pelt, Clk.

★**Mandon, N. D.**—Contract for constructing sewers (bids opened Aug. 24) awarded to Badger Constr. Co. of Fargo at $12,206. W. Seitz, city aud.

★**Corsicana, Tex.**—Contract for constructing sewage disposal plant awarded to Healey Constr. Co., Meridian, Miss., at $18,439.

★**Houston, Tex.**—Lowest bid opened by City Council Aug. 21, for constructing storm sewer on Montrose Boule., submitted by Houston Constr. Co. of Houston, at $9,496.

Seattle, Wash.—Following bids opened Aug. 18 by C. D. Bagley, secy. board pub. wks., for pipe lines in Twelfth Ave. north: Harrington Peters Co., Oriental Bldg. (3 bids), $66,541 to $94,376; Sparger Concrete Co., Colman Bldg., $98,807; Coluccio & Co., 1642 Lane St. (4 bids), $75,532 to $100,682; Booker, Kiehl & Whipple, Central Bldg. (3 bids), $75,942 to $99,781; R. H. Travers, Arcade Bldg. (4 bids), $85,386 to $112,249.

★Contract for laying water mains in Hudson St. awarded by Bd. Pub. Wks. to F. N. Badolato, 1102 Corwin Pl., at $22,162.

Lowest bid opened Aug. 18 by Bd. Pub. Wks. for constructing Cedar River pipe line, about 1 mile long, submitted by Pacific Lock Joint Co., Globe Bldg., at $54,585.

★Contract for constructing water main under west waterway at Chelan Ave., awarded by Bd. Pub. Wks. to R. H. Traverse, Arcade Bldg., at about $10,000.

★**Chino, Cal.**—Contract awarded Lon Fleming & Son, Pomona, at $30,953 (bids opened Aug. 15 by City Trus.) for constructing sewer system, using glazed cement pipe, involving about 57,100 ft. 8 to 16-in. pipe, 97 manholes and 16,500 ft. tile drain. Olmsted & Gillelen, 1112 Hollingsworth Bldg., Los Angeles.

★**Glendale, Cal.**—Following bids opened by City Clerk for furnishing about 1000 tons Class "B" c.-i. water pipe and special castings: U. S. C. I. Pipe & Foundry Co., 309 Union Oil Bldg., Los Angeles, $40.60 per ton for 4-in., $37.60 for 6, 8 and 20-in. and $65 per ton for special castings (awarded contract). American C. I. Pipe Co., Birmingham, Ala., $41.50 for 6, 8 and 20-in. and $65 for castings.

Los Angeles, Cal.—Lowest bid recently received by Bd. Pub. Service for furnishing 10,500 ft. riveted steel water pipe submitted by American Steel Pipe & Tank Co., 354 Pacific Electric Bldg., at $1.0275 per ft.; total, $10,789.

★**Nordhoff, Cal.**—Contracts awarded as follows by F. E. Trask, Engr., 616 Union Oil Bldg., Los Angeles, for constructing water works on private estate of E. D. Libbey: 1,000,000-gal. circular reinforced concrete reservoir, to Bent Bros., 825 Central Bldg., Los Angeles, at $10,500; furnishing 14,000 ft. 8-in. and 1130 ft. 6-in. O. D. water casing, to Smith, Booth, Usher Co., 228 Central Avenue, Los Angeles, at $11,300; deep well turbine pump, Smith Vale triplex pump and settling basin, to Layne & Bowler Corp., 900 Santa Fe Avenue, Los Angeles, at $6,869.

★**St. John, N. B.**—Contract for furnishing c. i. pipe for extension to waterworks awarded to Vroom & Arnold of St. John at $25,000.

★**Brampton, Ont.**—Contract for constructing sewers awarded to J. H. McKnight Constr. Co., 88 St. David St., Toronto; cost, $12,000.

★**New Toronto, Ont.**—Contract for constructing sewer system awarded to R. C. Huffman, Mimico, at $43,878, and for pipe to Dominion Sewer Pipe Co. Swansea, at $9,270. Bids opened Aug. 14 by G. D. Scott, village clk.; T. Lowes, Mimico, engr.

★**Assiniboia, Sask.**—Contract awarded H. S. Holmes Souris for constructing water works and light plant (bids opened Aug. 15) and for furnishing and laying about 17,500 ft. 4 to 8-in. steel pipe (bids opened Aug. 8), to Canada Iron Foundry Co., Winnipeg, Man. J. R. Nolan, Secy.-Treas. Murphy & Underwood, Saskatoon, Sask., Engrs.

STEEL BRIDGE WORK

PROPOSED WORK.

Elmira, N. Y.—Proposed to construct an 800-ft. bridge over Chemung River at Main Street. Address City Clerk.

Rahway, N. J.—Board of Freeholders at Elizabeth will repair Milton Avenue bridge; cost, $12,000. Address Clerk of Board.

Lexington, Ky.—Commissioners of Madison and Fayette Counties plan constructing bridge across Kentucky River at Clay's Ferry; cost $90,000. Address County Clerk, Lexington.

Minneapolis, Minn.—Construction of bridge over Minnesota River at Lyndale Ave. is being agitated. Commissioners of Dakota and Hennepin Counties are interested.

Corning, Ark.—Contract will soon be let for constructing bridge over Black River. Address County Judge.

Ft. Allen, Tex.—City Council appropriated $25,000 for completion of Allen Ave. viaduct. Address City Engr.

Kalama, Wash.—Citizens will vote Nov. 7 on issuing $60,000 bonds for constructing bridge over Cowlitz River. Robert C. Westwick, Co. Engr.

BIDS DESIRED.

Pottsville, Pa.—Until Sept. 5, by J. E. Kantner, co. compt., for constructing steel girder bridge No. 142 over Wiconisco Creek, in Porter Township south of Orwin.

Chillicothe, Ohio.—Until Sept. 5, by Walter S. Barrett, co. aud., for constructing Kinnikinnick Bridge on River Road, Green Township; estimated cost $7,562.

Lisbon, Ohio.—Until Sept. 18, by County Comrs., for repairing bridge No. 1703, in Liverpool Township, about 24,500 lb. structural steel, separate bids for superstructure of bridge No. 1116, St. Clair Township, on East Liverpool-Warren Rd., about 28,100 lb. structural steel, 3500 lb. reinforcing steel. H. R. Dickey, clk.

Medina, Ohio.—Until Sept. 5, by County Comrs., for furnishing material and constructing highway bridge at Bank Street, Lodi Village. Bidders may also submit own plans. Geo. McNeal, Co. Aud.

Rensselaer, Ind.—Reported desired until Sept. 5 by J. P. Hammond, co. aud., for 6 steel bridges.

Logansport, Ill.—See "Reinforced Concrete."

Viroqua, Wis.—Reported desired until Sept. 6, by Alex. Restow, co. highway engr., for constructing several steel bridges, including Kellicut Bridge at Webster, 90 ft. riveted truss span; Peterson Bridge, Webster, 90 ft. riveted truss span; Laramo Bridge, 50 ft. span, and Newton Bridge, Harmony, 80 ft. riveted steel span.

Sioux City, S. D.—Reported desired until Sept. 5 by Harry H. Howe, County Auditor, for constructing three 60 ft. span bridges and two 40 ft. span bridges. All 20 ft. roadway and concrete floors.

San Bernardino, Cal.—Until Sept. 25 by Bd. Supervs. (L. R. Patty, clk.) for constructing 108-ft. steel truss highway bridge at Barton Ave., across San Timoteo Creek.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Grafton, W. Va.**—Contract awarded Luten Bridge Co., Clarksburg, for constructing bridge across Lost River on N. W. Turnpike, and two other bridges across Wickwire Creek (bids opened Aug. 22 by County Court). C. T. Bartlett, Clerk.

★**Mt. Holly, N. C.**—Contracts awarded by Piedmont & Northern Ry. as follows: to Virginia Bridge & Iron Co., Roanoke, steel work, to Thomas Sheahan, Hagerstown, Md., masonry, for an eight-span, deck-plate girder bridge, 700 ft. long; estimated cost $125,000.

Hamilton, Ohio. — Arpp-Simpson Co., Middletown, submitted lowest bids for construction Somerville and Kolp-Mee bridges at $14,886 and $17,772 respectively.

★**Bemidji, Minn.**—Contract for constructing steel and concrete bridge across Mississippi River to Lake Bemidji (bids opened Aug. 21) awarded Illinois Steel Bridge Co., Jacksonville, Ill. Geo. Stein, city Clk.

California.—Following are bids opened by California Highway Commn., Sacramento, for constructing a steel bridge and timber trestle in Santa Barbara County, Division V, Route 2, Sect. D: Estimate $130,397; Mercer Fraser Co., Eureka, $124,-650; The Snare & Triest Co., New York, N. Y., $131,969; Geo. E. Preble, Santa Ana, $133,218; W. M. Ledbetter & Co., Los Angeles, $133,480.

REINFORCED CONCRETE

PROPOSED WORK.

Bridgeport, Conn.—Bullard Machine & Tool Co., Railroad Ave., will erect 5-story concrete factory, to cost $50,000.

Wayne Junction (P. O. Philadelphia), Pa.—Morris & Erskine, Crozer Bldg., Philadelphia, are architects for 5-story reinforced concrete factory to be erected here.

Minneapolis, Minn.—Board of Comrs. approved specifications for concrete bridge at Excelsior Avenue, over tracks of Twin City Rapid Transit Co.; cost, $6,000.

Laurel, Mont.—Reported Globe Constr. Co. of Lewistown will erect concrete elevator of 30,000-bu. capacity at Laurel.

Ft. Worth, Tex.—Reporting Ft. Worth Elevator Co. contemplates erecting 500,-000-bushel capacity grain elevator of concrete.

Kirkland, Wash.—Standard Tire & Rubber Mfg. Co. (Max Freed, pres.), Kirkland, intends erecting 60 x 120-ft. class A concrete factory.

Santa Barbara, Cal.—Contract soon to be let by County Supervs. for constructing reinforced concrete arch bridge of two 110-ft. spans, 75 ft. high, and with approaches about 400 ft. in length, over Arroyo Quemado; estimated cost $48,000 C. A. Hunt, clk.

BIDS DESIRED.

Barre, Vt.—Until Sept. 11, by Robt. Gordon, mayor, for constructing arch bridge at S. Main St., advertised in this issue. Frank O. Lee, city engr.

Conklin, N. Y.—Reported desired until Sept. 5 by C. G. Bailey, town supt., for constructing steel or concrete bridge over Big Snake Creek, 120 ft. length. Plans with County Superintendent Highways, Court House, Binghamton.

Ebensburg, Pa.—Until Sept. 8, by Herman T. Jones, County Auditor, for constructing a 60-ft. concrete girder bridge over Little Conemaugh River near Rutherford Station, Adams and Croyle Townships. S. E. Dickey, Consulting Engr., 809 Johnstown Trust Bldg., Johnstown.

Lancaster, Pa.—Reported desired until Sept. 5 by David Swope, co. clk. for a 3-span reinforced concrete bridge in Hillway. F. N. Shaw, engr., Brennaman Bldg.

Waynesburg, Pa.—Until Sept. 11, by County Comrs., for substructure for bridge over Brissett Run near Deep Valley, Springhill Township. T. B. Dinsmore, co. engr.

Everson, W. Va.—Until Sept. 12, by Frank J. Wilfong, county road engr., Fairmont, for constructing concrete bridge across West Fork River, near Everson.

Cincinnati, Ohio.—Until Sept. 5, by Chas. F. Hornberger, dir. pub. service, for reinforced concrete steps and miscellaneous work at Third St. reservoir playground; engineer's estimate $12,000.

Indiana.—Until Sept. 11, by Co. Comrs., Peru, for constructing concrete and steel bridge on Wabash-Miami Co. line. F. K. McElheny, co. aud.

Shelbyville, Ind.—Until Sept. 6, by Frank W. Fagel, co. aud., Shelbyville, for constructing reinforced concrete wall on Barnes Road, Shelby Township.

Illinois.—Until Sept. 6, by State Highway Commission, Springfield, for constructing a reinforced concrete bridge in Clinton County on Route No. 4, to have five spans 18 ft. each; cost, $3,105.

Joliet, Ill.—Until Sept. 6, by W. H. Smith, Co. Supt. Highways, Joliet, for constructing reinforced concrete bridge in Manhattan Township, Will County; cost, $3,680.

Kankakee, Ill.—Until Sept. 5, by County Superintendent of Highways, Kankakee, for constructing reinforced concrete bridge across Kankakee River between Rockville Township, Kankakee County, and Custer and Wesley Townships, Will County; spans, 11 at 58 ft. each; roadway, 20 ft.; 2549.1 cu. yd. concrete, 362,890 lb. steel. Engineer's estimate: Bridge proper, $46,-740; approaches, $2,940.

Logansport, Ill.—Reported desired until Sept. 6 by A. P. Flynn, co. aud., for constructing 6 concrete and steel bridges.

Manhattan, Kan. — Reported desired Sept. 22, by County Comrs., for two concrete span bridges over Blue River. J. E. Williams, Co. Engr.

Visalia, Cal.—Until Sept. 8, Bd. Superv. (Geo. R. Prestidge, clk.) for constructing reinforced concrete bridge, 132 ft. long, over Tule River near Springville.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Westfield, Mass.—All bids opened Aug. 22 by J. L. Hyde, Town Engr., for constructing reinforced concrete superstructures and concrete foundations for Cowles Bridge over Little River and Loomis Street Bridge over Munces Brook rejected. Bids received were: W. J. Wood, Jr., Flushing, L. I., N. Y., $39,997, and Hynes Constr. Co., Springfield, $43,548.

★**Hartford, Conn.**—Contract awarded by Colt Patent Fire Arms Mfg. Co. for 4-story, 290 x 87½-ft. concrete addition to J. H. Crozier Co., 721 Main St.; estimated cost, $200,000.

★**Brooklyn, N. Y.**—Contract awarded Industrial Eng. Co., 30 Church St., New York, for erecting 6-story, 100 x 100 ft., reinforced concrete factory at Eleventh and Berry Sts., for McKesson & Robbins, 91 Fulton St., New York; cost $105,000. Wm. Higginson, archt., 21 Park Row, New York.

★**Buffalo, N. Y.**—Contract awarded Turner Constr. Co., 11 Broadway, New York, N. Y., for erecting three-story, 150 x 100-ft. reinforced building for Hoefler Ice Cream Co., 296 Connecticut Street.

★**Governeur, N. Y.**—Contract awarded to Eaton & Brownell of Watertown at $25,-000, for constructing reinforced concrete dam to replace old dam at Cranberry Lake.

★**Philadelphia, Pa.** — Irwin Leighton, Twelfth and Cherry Sts., have contract for erecting nine-story concrete and brick warehouse for C. J. Webb Co.; cost $400,000.

★**Clayton, Ala.**—Contract awarded by Co. Commrs. to J. H. Scruggs Constr. Co., Birmingham, at $7,875, for constructing reinforced concrete bridge over Chanahatchee Creek.

★**Indiananopis, Ind.**—Hall-Curry Construction Company, Board of Trade Bldg., has general contract for erecting 5-story, 70 x 170 ft., fireproof, reinforced concrete warehouse and storage plant at 853 Massachusetts Avenue for Hogan Transfer & Storage Co.; cost $150,000.

★**Indianapolis, Ind.**—Contract awarded E. F. Kottlowski Co., 1123 Olive St., for erecting 2 and 3-story reinforced concrete and brick lodge building at Capitol Ave. and North St. for Red Men; cost, about $60,000.

★**Colfax, Wash.**—Contract awarded by County Comrs. to H. C. Malot, Seattle, at $5,862, for constructing 3 Luten design reinforced concrete arch spans across Paradise Creek, near Pullman.

★**Seattle, Wash.**—Contract awarded by American Can Co. to A. W. Quist Co., Hoge Bldg., for erecting 5-story reinforced concrete factory, including wharf and warehouse on Cedar and Clay Sts. and Elliott and Railroad Aves.; cost, about $200,000 (bids opened Aug. 8).

★**Tekoa, Wash.**—Contract awarded by County Comrs. at Colfax, to Charles G. Huber, Seattle, at $5,987, for constructing 70-ft. concrete arch bridge across Hangman Creek, near Tekoa.

★**Berkeley, Cal.**—Contracts for erecting Hilgard Hall, reinforced concrete, at Univ. of California, awarded by Regents as follows: excav. and concrete, Sound Constr. Co., Hearst Bldg., San Francisco, $106,485; carpentry, S. Kulcher & Co., Oakland, $79,994; exterior cement finishing, Paul E. Denivelle, $27,900; roof, Forderer Cornice Wks., $10,750; marble and tarrazo, Jos. Musto Sons-Keenan Co., San Francisco, $7,545; plumbing, also heating and ventilating, Scott Co., Los Angeles, $19,640 and $46,660 respectively. W. H. Henderson, secy.

★**Los Angeles, Cal.**—Contract awarded Atlas Bldg. Co., 911 Haas Bldg., for erecting 4-story and basement, 110 x 200-ft. reinforced concrete laundry building at Eighth St. and Towne Ave. for Diamond Laundry Co. (J. M. Lancaster, mgr.), 241 E. Fifth St.; cost, including tanks and equipment, about $154,000. Train & Williams, archts., 226 Exchange Bldg.

★**San Andreas, Cal.**—Contract awarded by Bd. Superv. to E. A. Snyder, Sonora, at $9,333, for constructing concrete bridge below Genocchio's.

★**Santa Ana, Cal.**—Contract for constructing reinforced concrete bridge over Santa Ana River on W. Chapman Ave., awarded H. C. Kellogg, Jesse Wright, engr., Los Angeles; S. H. Finley, ch. engr., co. highway commrs.

★**Montreal, Que.**—Atlas Constr. Co., 37 Belmont St., secured contract to erect reinforced concrete and brick factory and power house for Thompson Norris Co., 355 Notre Dame St. East. Lockwood & Greene, archts., 60 Federal St., Boston, Mass.

ROADS AND PAVING

PROPOSED WORK.

Boston, Mass.—See "Prices and Lettings."

Utica, N. Y.—Street resurfacing bonds for $12,000 sold. Address City Clerk.

Loch Haven, Pa.—See "Prices and Lettings."

Clarksburg, W. Va.—Citizens of Stealy Heights voted $25,000 paving bonds. Address City Clk.

High Point, N. C.—Citizens voted $50,000 bonds for street improvements. Address City Clerk.

Lakeland, Fla.—Election soon to be held to vote $300,000 road bonds. Address County Clerk.

Lynn Haven, Fla.—Election to be held Sept. 19 to vote $375,000 road bonds. Address County Clk.

Perry, Fla.—Bonds for constructing macadamized or hard-surfaced highways in Taylor County will be sold Oct. 2 by Robt. L. Shipling, clk. bd. co. comrs.

West Palm Beach, Fla.—Citizens voted $150,000 road bonds. Address County Clerk.

Alexandria, La.—Citizens of Cheneyville and Le Compte Districts voted $100,000 road bonds. Address President Police Jury.

De Ridder, La.—Election will soon be held to issue $500,000 road bonds. Address Pres. Police Jury.

Natchitoches, La.—Citizens voted $250,-000 road bonds. Address President Police Jury.

De Kalb, Miss.—Snowden & Hauser, Jackson, making surveys in Kemper Co. (De Kalb County Seat), for 50 miles of macadam roads, part of Jackson Highway, contract to be let in October. Also making surveys for 100 miles of road in Grenada Co. (Grenada, Co. Seat), contract also to be let in October.

Cincinnati, Ohio.—Wm. Boeh, co. surv., submitted to Board of County Comrs., estimate at $18,443 as cost of improving Rapid Run Pike.

East Cleveland, Ohio.—City sold $55,-000 street improvement bonds. Address City Clerk.

Fremont, Ohio.—Co. Comrs sold $26,-000 Fremont-Bellevue Rd. bonds.

Jefferson, Ohio.—Co. Comrs. sold $102,-000 road bonds.

Oxford, Ohio.—City sold $15,000 street improvement bonds. Address City Clerk.

Xenia, Ohio.—Paving bonds for $86,000 will be sold Sept. 12 by C. F. Logan, city aud.

Shelbyville, Ind.—Co. Comrs. sold $12,-680 road improvement bonds.

Galesburg, Ill.—Ordinance adopted for paving Grand Avenue. Engineer's estimate, $46,512. Address City Clerk.

Greenup, Ill.—Contract will soon be let by City for 21,145 sq. yd. brick paving on Cumberland and Kentucky Sts., on 6-in. concrete found.; cost $70,276. E. L. James, engr., Mattoon; J. K. Dillon, city clk.

St. Paul, Minn.—Ordinance adopted for paving Minnehaha St.; cost $10,768. Address City Clerk.

Hastings, Neb.—Citizens voted $50,000 intersection paving bonds. Address City Clerk.

Arkansas.—State Highway Comn., Little Rock, will construct 22 miles of macadam road from Walnut Ridge to Rhea Bridge.

Dallas, Tex.—Petitions granted to pave Cabell, Cadiz and Pavillion Sts. with bitulithic. Address City Clerk.

Clarksville, Tex.—Contract will be let about Sept. 25 for concrete paving on Walnut, Main, Broadway and College Ave., including about 20,000 lin. ft. concrete curb and gutter; cost $9,000. J. Russell Johnson, Clarksville, engr.; John R. Webb., city secy.

Waxahachie, Tex.—See "Buildings."

Spokane, Wash.—Reported Board of Public Works passed resolution to pave Seventeenth Avenue its entire length. Morton Macartney, City Engr.

Walla Walla, Wash.—Reported resolution adopted providing for construction of 1¼ miles of Inland Empire Highway, westerly from nine-mile bridge. Grova Cookerly, co. engr.

Chino, Cal.—Contract will be let about Oct. 1 for constructing 73,920 sq. yd. 1½-in. Topeka surfacing on 4-in. concrete base on Riverside Drive, Chino Ave. and other streets. Probable cost $93,000. Paul E. Kressly, city clk.

Hermosa Beach, Cal.—Contract will be let about middle September for grading and paving with asphalt Third Street, Cochise and Railroad Avenues. B. F. Brown, City Clk.

Indio, Cal.—Contract will be let in October by Co. Supervs. at Riverside for constructing road through Coachells Valley from Indio to Mecca, about 25 miles.

Riverside, Cal.—County Supervs. sold $30,000 highway bonds. Address Clk. Supervs.

Idaho.—Reported State Highway Dept., Boise, having plans prepared for two roads, about 5 miles long, in Heyburn Park, Benewah County.

Orofino, Idaho.—City Engr. will prepare plans for improving Paving District No. 2; cost $10,000. Address City Clk.

BIDS DESIRED.

Fort Warren, Mass.—Until Sept. 21 by Quarter Master, Ft. Warren for constructing a bituminous macadam road at this post.

Massachusetts.—Until Sept. 5 by Massachusetts Highway Comm., Boston (Wm. D. Schier, chmn.), for following state highway work: about 15,000 ft. in towns of Hopedale and Upton; 3700 ft. town of Uxbridge; 8700 ft. towns of Arlington and Lexington.

Albany, N. Y.—Until Sept. 18, by State Commr. of Highways for state highway work in several counties, advertised in this issue.

Buffalo, N. Y.—Until Sept. 5, by Arthur W. Kreinheder, Comr. Pub. Wks., for repaving Bailey Avenue and South Cedar Street; paving Elmwood Avenue and St. John's Parkside, and improving Broadway Market grounds.

New Brighton, S. I., N. Y.—Until Sept. 5 by Calvin D. Van Name, borough president, for repaving with concrete Willow Brook Road and Port Richmond Road, 12,600 sq. yd., 4750 cu. yd. excavation, etc. Security, $9,000.

New York, N. Y.—Until Sept. 7 by Douglas Mathewson, president Bronx Boro., for paving University Avenue, 22,750 sq. yd. sheet asphalt (heavy traffic mixture) outside railroad area, 5 years maintenance and 6710 sq. yd. in railroad area, 2210 sq. yd. 3-in. asphalt block pavement outside railroad area, 5 year maintenance, and 1120 sq. yd. in railroad area, 6090 cu. yd. C1 class B concrete, etc. Security $35,000. Repaving Southern Boulevard, 5100 sq. yd. sheet asphalt (heavy traffic mixture) outside railroad and 2000 sq. yd. in railroad area, 1300 cu. yd. class B concrete. Security $7,000. Laying sidewalks on East 214th Street, 6850 sq. ft. 2-course concrete, and 1880 sq. yd. bituminous concrete on Bryant Avenue.

Until Sept. 11 by Douglas Mathewson, pres. Bronx boro., for completing abandoned contract to grade, curb, lay sidewalks, etc., on 213th St. from White Plains Rd. to Paulding Ave., about 2100 cu. yd. earth excav., 22,840 cu. yd. concrete sidewalk (including maintenance for 1 yr.). Security $8,500; a similar contract on Dyre Ave., from Boston Rd. to City Line, including 5900 cu. yd. excav., 3900 cu. yd. rock excav., 24,700 sq. ft. concrete sidewalk (including 1 yr. maintenance). Security $9.000.

Atlantic City, N. J.—Until Sept. 14, by Bd. Commrs., for improving portions of New Hampshire and other avenues, advertised in this issue. Chas. D. White, Dir. Dept. Sts. & Pub. Improv.

Elizabeth, N. J.—Until Sept. 7, by Bd. Pub. Wks., for paving with asphalt on a concrete foundation on Monroe Ave.

Montclair, N. J.—Until Sept. 12, by Harry Trippett, town clk., for paving Orange Road, with asphaltic concrete, advertised in this issue.

Montclair, N. J.—See "Waterworks and Sewerage Sytsems."

New Brunswick, N. J.—Until Sept. 12, by City Clerk for vitr. brick, asphalt block or Warrenite pavement on 10 streets, including curbing. Bonds for $66,000 will be issued for the work.

Westfield, N. J.—Until Sept. 13, by Board Park Comrs. (Chas. H. Van Doren, Secy.), for park improvements, including grading (12,500 cu. yd. excav.), seeding, sodding macadam roads (5820 sq. yd.), gravel path (5300 sq. yd.), gutters and drainage.

Frederick, Md.—Until Sept. 12, by County Comrs. (H. L. Gaver, clk.), for constructing the Monrovia-Hyattstown Road between Monrovia and Hyattstown, a distance of about 1.52 miles.

Washington, D. C.—Until Sept. 15 by Commissioners D. C. for laying cement sidewalks in District of Columbia, advertised in Engineering Record.

Fairmont, W. Va.—Until Sept. 5 by A. L. Lehman, commr. sts., for 8000 sq. yd. concrete paving and 5000 cu. ft. concrete curbing on Morgantown and E. Park Aves. Probable cost $15,000. G. B. Miller, Jacobs Bldg., engr. Albert J. Kern, city clk.

Charleston, W. Va.—Until Sept. 23, by County Court, for grading and paving about 8 miles of improved road in Big Sandy Dist., advertised in this issue.

Moundsville, W. Va.—Until Sept. 5 by J. E. Chase, clk. co. court, for paving one mile of Green Valley Rd. R. C. Yoho, co. surv.

Florence, S. C.—Until Sept. 20, by J. Newton Johnston, comr. sts., for about 21000 sq. yd. bitulithic, sheet asphalt, asphaltic concrete, brick and concrete laid on present old macadam on S. Church St. Chas. H. Carlisle, city engr.

Tallahassee, Fla.—Until Sept. 18, by County Comrs., for furnishing material and improving Meridian, Spring Hill, Quincy and Woodville Roads, in all 81,766 cu. yd. excav., 34 miles sand clay road, 14 and 16 ft. wide, 5 miles gravel or broken stone road, 14 ft. wide, 5 in. thick, 2187 ft. 12 to 36 in. drain, etc. O. C. Van Brunt, co. clk.

Goodwater, Ala.—Until Sept. 19, for building 23 miles of roads in Coosa County. Address Lefton Thomas, judge of probate; W. P. Moon, co. engr.

Scottsboro, Ala.—Reported desired until Sept. 20, by County Comrs, for surfacing Woodville and Limerock Highway with limestone macadam.

Carthage, Miss.—Until Sept. 7, by Commissioners (A. S. Blailock, chmn.), for constructing 17½ miles sand, clay road in District No. 3, Leake County. M. D. Smith, highway engr., Kosciusko.

Carthage, Miss.—Until about Oct. 1, by J. A. Walker, Comm., Carthage, for constructing about 20 miles of sand and clay roads, costing $25,000.

Lawrenceburg, Tenn.—Until Sept. 20, by County Highway Com. (E. G. Parkes, secy.) for improving Jackson Military Road, 36 miles, advertised in this issue.

Covington, Ky.—Until Sept. 5, by Fiscal Court, for waterbound macadam or glutrin road, approximately 94,205 sq. yd. 24-ft. wide shaping, 47,103 sq. yd. 12-ft. wide scarifying, 70,654 lin. ft. ditching, 62,804 sq. yd. (5 in. thick) surfacing.

Carrollton, Ky.—Until Sept. 8 by County Clk. for constructing 6.2 miles of Carrollton-Bedford Road, No. 21B1.

Henderson, Ky.—Until Sept. 5, by County Clerk, for improvement of State Aid Road, Mt. Vernon, No. 51A1, involving 17,010 cu. yd. earth excav., 8800 cu. yd. surfacing and 12.8 cu. yd. concrete, Class A, for culvert headwalls. S. H. Kimmel, County Road Engr., Henderson.

Jenkins, Ky.—Until Sept. 5, by Consolidated Coal Co., for 4400 sq. yd. one-course pavement, 3900 lin. ft. curb and gutter and 9000 sq. ft. cement sidewalks.

Owensboro, Ky.—Until Sept. 9 by Jas. Weir, co. clk., for improvements to River Rd., about 19,097 cu. yd. excav., 10,219 tons broken stone, 7742 cu. yd. river gravel and 100 cu. yd. concrete; separate bids for Livermore Rd., about 41,065 sq. yd. scarifying, 9033 tons broken stone, 6834 cu. yd. river gravel and 6834 cu. yd. bank gravel.

Alliance, Ohio.—Until Sep. 6 by J. H. McConnell, dir. pub. service, for brick block paving on Columbia, Patterson and South Sts., Park and S. Freedom Aves. and Ramsey Court, in all, about 17,920 sq. yd. with curb, etc.

Cable, Ohio.—Until Sept. 9 by Trus. Wayne Township at Cable (W. E. La Rue, clk.) for graveling Urbana and North Lewisburg Pike one mile both east and west.

Columbus, Ohio.—Until Sept. 8, by John Scott, clk. country comrs., Columbus, for grading, draining and macadamizing Gahanna and New Albany Road in Mifflin and Plain Townships.

Matamoras (P. O. New Matamoras), Ohio.—Reported desired until Sept. 6, by Village Clerk, for brick or concrete pavement on several streets. W. P. Mason, Engr., 406 German Bank Bldg., Marietta.

Niles, Ohio.—Until Sept. 5 by H. A. Burgess, dir. pub. service, for grading, paving and curbing South Bentley Ave. Bids will be considered on vitr. shale blk., asphalt blk., creosoted wood blk., asphaltic or other bituminous macadam on concrete base, also for sidewalks on Heaton Ave. and Depot St.

Indiana.—Until Sept. 16, by County Comr. at Columbus, for constructing 3 concrete roads in Columbia Township. W. H. Scott, co. aud.

Lebanon, Ind.—Reported desired until Sept. 25 by W. F. Smith, city clk., for 7 blocks brick paving, guttering, etc.

Illinois.—Until Sept. 6, by State Highway Comm. Springfield, for constructing state highway work as follows:

Clinton Co., Sect. D, reinforced concrete bridge, nearest P. O. Centralia, cost $3,805.

Douglas Co., Sect. F, brick, nearest P. O. Tuscola, 5,052 ft., cost $11,256.

Madison Co., Sect. C, bituminous macadam resurfacing, nearest P. O. Collinsville, 4,125 ft., cost $5,382. Sect. D, concrete, nearest P. O. Maryville, 4364 ft., cost $8,179.

Montgomery Co., Sect. C, earth, nearest P. O. Hillsboro, 20,900 ft., cost $6,728. Sect. E, earth, nearest P. O. Nokomis, 21,025 ft., cost, $6,638.

Union Co., Sect. B, earth, nearest P. O. Dongola, 1790 ft., cost $2,442, and Sect. C, nearest P. O. Anna, 4500 ft., cost $2,414.

Sandwich, Ill.—Until Sept. 11, by Bd. Local Improv. (D. F. Lowman, pres.), for brick paving on Portland cement foundation, Main and Railroad Sts., about 6256 sq. yd., 1040 ft. 6 x 30 in. concrete curb, etc. W. B. Shields, engr, Hartford Bldg., Chicago.

Elkhorn, Wis.—Until Sept. 16, by Committee on Streets, Alleys and Sidewalks (A. G. Groesbeck, chmn.), for reinforced concrete, vitr. brick, sheet asphalt, asphaltic concrete or bitulithic, about 45,000 sq. yd. paving, 22,500 lin. ft. curb and gutters, 23,000 cu. yd. excav., 31 catch basins, etc

West Milwaukee, Wis.—Until Sept. 6, by B. J. Brew, village clk., for reinforced concrete pavement on Thirty-seventh Ave., about 4173 sq. yd. in West Milwaukee and 4172 sq. yd. in town of Greenfield.

Estherville, Iowa.—Reported desired until Sept. 12 by Roy J. Ridley, co. aud., for graveling 20 miles county roads.

Kansas City, Mo.—Until Sept. 5 by Bd. of Pub. Wks. (W. H. Benham, secy.) for paving as follows: asphaltic pavement and artificial stone curb on Highland Ave. and 30th St.; vertical fibre vitr. brick on two alleys; combined Portland Cement pavement and curbing on Salda and Cleveland Aves.; creosoted wood block on McGee St.; bituminous macadam on Chestnut and Montgall Aves. and W. Prospect Pl.; and for sidewalks as follows: artificial stone sidewalks on both sides of 15th St. and west side Park Ave.

Georgetown, Tex.—Until Sept. 11, by W. W. Jenkins, co. aud., for constructing gravel roads, including 1½ miles Highsmith, 2 miles Hutto-Rices Crossing Rd., 2.6 miles Hutto-Pflugerville Rd., 2 miles Hutto-Georgetown Rd., 3.8 miles Hutto-Jonah Rd.

Houston, Tex.—Until Sept. 5, by H. L. Washburn, co. aud., for completion of Almeda Road.

Colfax, Wash.—Until Sept. 18 (readvertisement), by Co. Commrs., for grading, draining and bridging Permanent Highway No. 12, 11 miles between La Crosse and Dusty. G. H. Newman, deputy co. aud.

Seattle, Wash.—Until Sept. 25 by N. M. Wardall, co. clk., for grading, draining and graveling road connecting brick highway at Wayne near Bothell with Juanita bridge. Probable cost, $20,000. Arthur P. Denton, co. engr.

Hanford, Cal.—Until Sept. 7 by Bd. Superv. (E. F. Pickerell, clk.) for constructing Highway No. 3, Div. 2 and Highway No. 3, Div. 1A, Sec. 2, and Highway No. 3, Div. 1A, Sec. 3 (Guernsey east and south, Corcoran north and west), about 15.25 miles, about 18,000 cu. yd. excav., 1,221,172 or 1,302,369 sq. ft. 2½-in. asphaltic concrete base with 1½-in Topeka or Warrenite wearing surface, or same amounts of 4-in. asphaltic concrete pavement with sand wearing surface, and 300 ft. guard fence. Bonn Duffield, ch. engr. highway comm.

Los Angeles, Cal.—Until Sept. 11, by Bd. Superv. (A. M. McPherrin, clk.), for constructing 2.94 miles of concrete pavement, on Wright and Tweedy Roads near Cudahy Station in Road Dist. No. 94, about 4985 cu. yd. excav., 16,394 lin. ft. shaping, roadbed, 34,208 sq. yd. concrete pavement, 11,509 tons granite in base, 2929 tons screenings, and sand, etc.

Los Angeles, Cal.—Reported desired until Sept. 15, by city, for asphalt pavement on Boyle Avenue. W. Hamlin, City Engr.

Santa Barbara, Cal.—Reported desired until Sept. 7 by A. B. Cook, City Engr., for asphalt pavement on Anacapa and Valerio Streets. Until Sept. 21, separate bids for about 2 miles oil and screening wearing surface on Mission Ridge Road.

Visalia, Cal.—Until Sept. 8 Bd. Supervs. (Geo. R. Prestige, clk.) for constructing about 3 miles highway southwesterly from Springville.

Ogden, Utah.—Until about Sept. 12, by city, for paving in Dist. 122, reinforced concrete, 7 in. thick 50 ft. wide, cost $35,000; also Dist. 121, cost $24,000. J. M. Tracy, city engr.

PRICES AND LETTINGS

★Indicates award of contract.

★Boston, Mass.—Contract for paving (bids opened Aug. 14) awarded Bernard E. Grant, 99 West Cedar Street, at $362,265. Wm. J. McGleuchy, Supervisor of Contracts. For unit figures see Engineering Record, Aug. 26.

**★Contract for paving various streets (bids opened Aug. 18) awarded Warren Bros. Co., 142 Berkeley St., for sheet asphalt, at $75,310. Wm. J. McGlenchy, super. of contracts. For unit figures see Engineering Record, Aug. 26.

**★Following are three lowest bids opened Aug. 21 by Edw. F. Murphy, comr. pub. wks., for paving with granite block pavement portions of Armory and Washington Sts., West Roxbury: James Doherty, 133 Calumet St., Roxbury, $29,124 (awarded contract); Coleman Bros., Pearl St., Chelsea, $35,143; Martino De Matteo, Roslindale, $35,555; Michael Meehan, $39,032.

Massachusetts.—Lowest bid opened Aug. 23 by Massachusetts Highway Comn., Boston, for building section of state highway in Hamilton, appropriation $18,000, submitted by Chas. E. Whipple, Hamilton.

Boston, Mass.—Following are unit figures of bids opened Aug. 25 by Edw. F. Murphy, comr. of pub. wks., for paving various streets in Brighton, Dorchester, East Boston and West Roxbury Dists.: (a) Central Constr. Co., 6 Beacon St., asphalt $222,079, Topeka $220,607; the Bermudez Co., 246 First St., East Cambridge, asphalt $225,666, Topeka $227,776; Warren Bros. Co., 143 Berkeley St., bitulithic $228,513 (all bids rejected):

Items	(a)	(b)	(c)
1—Removing trees	$500.00	$400.00	$550.00
2A—26,965 cu. yd. earth excavation	.75	.80	.74
2B—20 cu. yd. setting water boxes	1.50	1.50	1.25
2C—390 cu. yd. rock excavation	5.00	5.00	4.00
2D—6,000 cu. yd. gravel filling	1.40	1.00	1.50
3A—30,790 lin. ft. straight edgestone	.24	.25	.26
3B—2,676 lin. ft. circular edgestone	.16	.16	.21
3C—1,884 lin. ft. edgestone, reset	.12	.15	.18
5A—55 sq. yd. granite block pavement, gravel joint	.45	1.00	.55
5B—315 sq. yd. granite block pavement relaid	.65	.75	.65
5E—230 sq. yd. granite block pavement hauled and laid, gravel joint	1.65	1.85	1.80
5F—315 sq. yd. granite block pavement relaid, grout joint	1.55	1.70	1.70
6B—15 sq. yd. crosswalks relaid, gravel joint	.45	.60	.50
6E—70 sq. yd. crosswalks hauled and laid, grout joint	1.50	1.45	1.45
6F—215 sq. yd. crosswalks relaid, grout joint	1.30	1.25	1.40
7A—52,750 sq. yd. sheet asphalt furnished and laid	2.12	2.16	...
7B—52,750 sq. yd. Topeka furnished and laid	2.13	2.20	...
7C—52,750 sq. yd. bitulithic furnished and laid	...	...	2.21
7D—9,915 sq. yd. brick block pavement hauled and laid	2.90	3.00	2.95
7E—35 sq. yd. wood block pavement for "brows"	3.50	3.50	3.65
8B—30 sq. yd. brick sidewalks relaid	.30	.50	.35
9A—229,235 sq. ft. artificial stone sidewalks	.14¾	.16	.15½
9B—1,620 sq. ft. artificial stone driveways	.16¾	.18	.16½
9C—24 lin. ft. artificial stone curbstones	1.90	1.00	1.00
11A—5,950 sq. yd. loam in place and seeded	.70	.70	.75
12A—1,300 lin. ft. wood fences, Plan 1	.30	.50	.45
12B—44 lin. ft. wood fences, Plan 2	1.00	1.00	2.00

New Brighton, S. I., N. Y.—Following are unit figures of the bids opened Aug. 29, by Calvin D. Van Name, pres. boro., for paving Amboy Road (1) proposition A; (2) proposition B: Uvalde Asphalt Paving Co., 1 Broadway, New York, 39,700 sq. yd. bituminous concrete pavement (1), $1.16; (2) $1.12; 7100 cu. yd. concrete foundation and edging (1), $6.75; (2) $6.75; 2000 lin. ft. underdrain, laid (1) and (2), 75 cts.; 10 cu. yd. reinforced concrete (1) and (2), $20.00; total (1), $96,677; (2) $94,089; Barber Asphalt Co., 50 Church St., New York, proposition A only, $1.48, $5.10, 68 cts., $20.00 respectively; total, $96,526.

★Elizabeth, N. J.—Contract awarded Van Keuren Contr. Co., Prior Street, Jersey City, for repaving portion of Elizabeth Avenue with reclipped or renapped block, at $49,512 (bids opened Aug. 21). Wm. P. Neafsey, St. Comr.

★Irvington, N. J.—Contract awarded by Board of Comrs. to Northern Construction Company, 655 Broad Street, Newark, at $121,154 for paving Twenty-first Street from Clinton to Avon Avenue with bitulithic.

★Ambridge, Pa.—Contract awarded by City Council to R. V. Baldwin, Corapolis, at $36,099 for paving Bryden Road, Church and Fourteenth Streets with wire cut block on cement base with sand dressing and stone curb.

★Fallston Borough (P. O. Beaver Falls), Pa.—Contract for grading, curbing and paving 8000 sq. yd. awarded R. W. Baldwin, Coraopolis, at $9,891. Carl S. Donaldson, Boro. Secy., Beaver Falls.

★Uniontown, Pa.—Contract awarded by County Comrs. to Mainwaring & Cummings, Philadelphia, for furnishing and supplying asphaltic surface material on road in Menallen Township.

★Chattanooga, Tenn.—Contract awarded by city to Gulf Paving Co., Chattanooga, at $108,000, for paving 42,000 sq. yd.

★Paducah, Ky.—Contract for wood block pavement at Broadway from First to Fourth Streets awarded Geo. Katterjohn, Paducah, at $14,265. Other bids: Thompson Graham Co., Nashville, Tenn., $16,141, and Prosser & Halliday, Cairo, Ill., $16,471 (bids opened Aug. 17 by L. A. Washington, Comr. Pub. Wks).

Lowest bid opened same time and place as above for concrete sidewalks on north side Clay, Fourth, Sixth and Second to Ninth Streets, submitted by Prosser & Halliday, Cairo, Ill., at $1,252, $4,385, $8,218 and $25,599 respectively.

★Cincinnati, Ohio.—Contract awarded by County Comrs. to John Funke, 2466 McMicken Ave., at $43,426, for improving Dry Ridge Rd. from E. Miami River Rd. to Colerain Ave.

★Dayton, Ohio—Contract awarded by County Comrs. to J. S. Tobitt, Dayton, for oiling 20 miles main thoroughfares.

★Defiance, Ohio—Contract awarded by County Comrs. to Charles Thomas, Chicago, Ill., at $57,900 for improving 6 miles Bellefontaine Road.

★Franklin, Ohio.—Contract awarded by city to Bigler Bros., Franklin, at $30,000 for paving S. Main and Second Sts.

★Lima, Ohio.—Contracts for 1¾ miles of Allentown Road (bids opened Aug. 18 by County Comrs.) awarded H. L. Solomon Co., Lima. R. John, Clk.

Salem, Ohio.—J. D. Paxson, Salem, submitted to Director Public Service lowest bid for improving Jennings Avenue and East and West Green Streets, at $19,572 and $12,990 respectively.

★Toledo, Ohio—Contract awarded by County Comrs. to Warner-McKechnie Co., Toledo, at $28,469 for reconstructing Treadway Road with concrete.

★**Youngstown, Ohio**—Contract awarded by Board of Control to Victor Olson Contracting Co., Youngstown, at $12,508 for paving Oakwood Avenue with monolithic pavement.

★**Illinois.**—Contracts for state aid work awarded by State Highway Commission, Springfield, as follows:

Aug. 9:

★La Salle County, Sections E and F, both brick; G, waterbound macadam, and H, concrete, to Public Service Constr. Co., East Peoria, at $17.975, $21,648, $17,302, $16,322.

★Crawford County, Sections C and D, both concrete, to L. A. McKnight, Robinson, at $7,152 and $7,380 respectively.

★Clark County, Section C, concrete, Claude Taggett, Martinsville, $8,177.

★Montgomery County, Section D, earth, T. A. Gasaway, East St. Louis, $6,650.

★Lee County, Section B, gravel, Gund Graham Co., Freeport, $7,920.

Aug. 16:

★Hancock County, Section B, earth, to T. W. McConnell, Carthage, $3,691, and Section D, earth, W. O. Kunkel, Carthage, $2,770.

★Monroe County, Section B, concrete, Wallace M. Harlan, Greenville, $2,154.

★**West Allis, Wis.**—Contract for 10,000 sq. yd. reinforced concrete pavement on Beloit Road (bids opened Aug. 14, E. G. Orbert, city engr.) awarded Kroening Constr. Co., Milwaukee. They bid $1.43 per sq. yd. without curb, $1.49 per sq. yd. with curb and $1.60 alleys and roadways.

★**Denison, Iowa.**—Contract awarded by City Clk. to W. L. Flinn Paving Co., Sioux City, at $1.425 per sq. yd. for 10,000 sq. yd., 7-in. concrete pavement and 38 ct. for curbing. Frank Woolston, city engr. (bids opened Aug. 21).

★**Independence, Mo.**—Contract awarded Paul A. Hartung, 200 Bryant Bldg., Kansas City, for improving Swope Park-Hickman Mills Road, Sect. 13 (bids opened Aug. 21 by A. W. Mosley, co. surveyor).

★**Everett, Wash.**—Reported contract awarded by city to Everett Constr. Co., Everett, at $11,535 for constructing elevated road at Fourteenth Street wharf.

★**Port Townsend, Wash.**—Contract awarded by County Comrs. to James H. Coyne, Port Townsend, at $12,986, for constructing Permanent Highway No. 3. Guy D. Edwards, county engr.

★**Republic, Wash.**—Contract awarded by County Comrs. to R. L. Picken, Tonasket, at $11,237, for extension of Permanent Highway No. .. B. N. Sharp, county engr.

Seattle, Wash.—Lowest bid submitted to Board of Public Works for constructing concrete sidewalks on Division St. by J. L. Smith, 143 Twenty-first St., at $23,-413.

★**Santa Monica, Cal.**—Contract awarded by City Council to Frank Ockert, Santa Monica, at $12,000 for paving alleys (bids opened Aug. 23).

Los Angeles, Cal.—Following lowest bids opened Aug. 21 by Board of Supervs. for constructing Sect. D of Mint Canyon Rd., involving 94,725 cu. yd. excavation, 124,793 sq. yd. concrete pavement, concrete culverts, etc., under: (a), Prop. A (county furnishes cement, oil, sand, screenings and crushed rock); (b), Prop. B (contractor operates county's rock plant, furnishing material from same, county furnishes materials as in Prop. A): Bent Bros., 825 Central Bldg., (a) $127,157, (b) $132,129; Lynn S. Atkinson, Story Bldg., (a) $127,746; Brashear-Burns Co., Van Nuys Bldg., (a) $129,126; Rogers Bros. Co., 506 Hibernian Bldg., (b) $125,-016; Peter L. Ferry, Glendale, (b) $138,-885.

★**Ontario, Cal.**—Contract awarded by City Council to S-C Contracting Co., 543 Title Insurance Bldg., Los Angeles, for grading, paving and otherwise improving Mountain Ave., and for paving and constructing curbs on San Antonio Ave., at $49,408 and $15,444 respectively. (Bids opened Aug. 21.)

★**Ventura, Cal.**—Contract awarded And. Holloway, Los Angeles, for 8.77 miles of 4 in. concrete road 16 ft. wide at $31,026. J. B. McCloskey, co. clk.

Pine Bluff, Ariz.—Following are totals of 4 lowest bids opened Aug. 10 by County Commrs. for constructing roads in Road Improv. No. 15; on (a) waterbound macadam, (b) stone and gravel road, (c) gravel, (d) bituminous macadam: J. A. Perdue & Co., Pine Bluff, (a) $191,518; (b) $202,392; (c) $203,667; (d) $214,-261; Edgar Howard, Thorndale, Tex., (b) $200,066; (c) $197,328; American Constr. Co., New Nelson Bldg., Kansas City, Mo., (a) $191,886; (b) $200,447; (c) $193,845; (d) $225,193; M. J. Cole, Jr., 2416 W. 13th St., Little Rock, (a) $198,391; (c) $202,204; (d) $223,023; Hensley, Brown & Froley, Pine Bluff, (a) $196,759; (b) $206,434; (d) $222,098.

Lowest bids opened same time and place as above for furnishing oil, submitted by S. E. & C. J. Finley at 5.33 ct. per gal. delivered, for both asphalt (penetration) and asphalt road oil, approximate quantities 321,000 gal. and 128,500 gal. respectively.

★**Salt Lake City, Utah.**—Contract awarded by City Comm. to Strange & Maguire, 13 E. and 9 S. Sts., at $31,019 for paving portions of State and 2 N. Sts. with bithulithic.

★**Lewiston, Idaho.**—Contract for paving certain streets with concrete awarded by city to C. M. Payne, Spokane, at $10,000.

★**Welland, Ont.**—Contract awarded by City Council to McRae & Campaigne, Niagara Falls, Ont., at $15,000, for new tarvia pavements.

RAILWAYS
Steam and Electric

PROPOSED WORK.

Pittsfield, Mass.—About $25,000 to be spent by Berkshire St. Ry. Co. for improvements in Pittsfield.

Danbury, Conn.—Construction of Bridgeport & Danbury Electric Ry. contemplated, estimated cost $400,000.

Rutherford, N. J.—Reported Erie RR. (R. S. Parsons, ch. engr., 50 Church St., New York), will eliminate 4-track grade crossing at Park Ave.

Cambridge, Pa.—Northwestern Connecting Ry. Co. of Meadville, chartered to construct a railway between Silverling's Corners and Cambridge, distance 3½ miles. Chas. M. Hatch, vice-pres. and gen. mgr. A. A. Culbertson, Erie, treas.

Charlestown, W. Va.—Kanawha & Michigan Ry. Co. reported will take over and improve Kanawha & West Virginia R. R.

Jacksonville, Fla.—Jacksonville-St. Augustine Public Service Corp. expects soon to begin construction on proposed electric railway connecting said cities.

McCulloh, Ala.—Chatahoochee Valley Ry. Co. (J. T. Barker, genl. mgr., West Point, Ga.) intends construction of line from McCulloh, 12 miles southeasterly to Bleecker.

Onward, Tenn.—Van Buren R.R. Co., incorporated by M. M. Allison, Chattanooga, and others to construct a line from Onward to Doyle, White Co., and to junction of Bear Hollow and Dry Fork Gulch.

Elizabethtown, Ky.—Reported Chesapeake & Ohio R. R. Co. (F. I. Cabell, ch. engr., Richmond, Va.) considering constructing road from Elizabethtown to Lexington, 98 miles, through Bardstown and Lawrenceburg.

Cleveland, Ohio.—Reported steps will be taken this fall to eliminate all grade crossings on East Side Pennsylvania RR. from Cedar to Holton Avenues, according to agreement reached between city and railroad. Address City Engr.

Lebanon, Tex.—Citizens of De Kalb Co. voted $150,000 to be subscribed to stock of Nashville & Eastern Electric R.R. to build a line from Lebanon to Smithville, about 35 miles.

Bartlesville, Okla.—Surveys and plans being prepared by W. K. Palmer Engrg. Co. of Kansas City, Mo., for electric interurban railway to connect Bartlesville with Nowata, Welch or Blue Jacket and Miami. Line will be about 70 miles long of heavy construction with catenary overhead. D. F. Mason and F. M. Overless, Bartlesville, interested.

Portland, Ore.—Citizen's committee of Newport has completed guaranty of $25,-000 to Portland & West Coast R. R. and Navigation Co. This company will construct a line 112.27 miles, from Portland to Newport. A. J. Faucett, Newport, interested.

Calipatria, Cal.—Southern Pacific Railway having survey made on proposed line from Calipatria southeasterly to Holtville, about 18 miles.

Los Banos, Cal.—Panoche Valley R.R. Co., incorporated by Harry A. Hollzer, 732 H. W. Hellman Bldg., Los Angeles, and others to construct a railroad, about 25 miles long from either Los Banos or South Dos Palos, on Southern Pacific R.R., in Merced Co., through Little Panoche and Big Panoche Valleys to Lanada, San Benito Co.

BIDS DESIRED.

New York, N. Y.—Until Sept. 8 by Public Service Commission for First District, 120 Broadway, for installing tracks for Seventh Avenue branch of Seventh Avenue-Lexington Avenue rapid transit from Forty-third Street and Broadway to Battery and from West Broadway and Murray Street to Fulton and Joralemon Streets; separate bids for supply of special work No. 10 (frogs and switches) for use in construction of rapid transit railroad. Until Sept. 13, separate bids for Sect. No. 1-B of Route No. 12 in Borough of Brooklyn, part of Broadway-Fourth Avenue Line.

PRICES AND LETTINGS
★Indicates award of contract.

★**Madison, Wis.**—Contract awarded by Wisconsin Interurban System for grading interurban line from Madison to Stoughton, to John T. Adams of Columbus, O. J. E. Jones, Madison, pres. and gen. mgr.

★**Lubbock, Tex.**—Contract awarded J. P. Nelson, San Antonio, for constructing 150 miles of railroad from Lubbock, Tex., to Hollis, Okla. J. M. Elliott, pres.

★**Exeter, Cal.**—Contract awarded by Visalia Electric RR. Co. for grading 20 miles line awarded to Robt. Sherrer Co., San Francisco.

★**Temecula, Cal.**—Contract awarded Sharp & Fellows Co., Central Bldg., Los Angeles, for constructing a railway between Temecula and Fallbrook, about 10 miles, for Atchison, Topeka & Santa Fe Ry. Co.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Attleboro, Mass.—Frank Mossberg Co., Lamb St., will erect two 1-story brick factories, 150 x 200 ft. and 120 x 80 ft.

Providence, R. I.—Plans being prepared by F. P. Sheldon & Son, 603 Industrial Trust Bldg., for brick and steel foundry for Universal Winding Co., to be erected on Elmwood Ave.

Bridgeport, Conn.—See "Reinforced Concrete."

Hartford, Conn.—Billings & Spencer Co., Park and Laurel Sts., will erect 2-story, 190 x 90 ft., brick and steel and 2-story, 70 x 120 ft. mill construction additions; cost about $200,000.

Albany, N. Y.—S. Wander & Sons Chemical Co., Albany, plans erecting three-story and basement, 127 x 70 x 100 ft., chemical factory; estimated cost $70,000.

New York, N. Y.—Plans filed for erecting 6-story brick factory addition for Jabez Burns & Sons, 600 W. Forty-third St.; cost, $60,000. Milton H. McGuire, archt., 101 Park Ave.

North Tonawanda, N. Y.—Plans being prepared for 3-story addition to plant of Rand Company, 97 Goundry Street; cost approximately $50,000.

Pittsburgh, Pa.—Baltimore & Ohio RR. Co. (F. L. Stuart, ch. engr., Baltimore, Md.) plans erecting 7 additional stories to Northside freight station.

Wayne Junction (P. O. Philadelphia), Pa.—See "Reinforced Concrete."

Cleveland, Ohio.—Reported plants of Mills-Carleton Co., 1886 Carter Rd., and Peters Millwork & Lumber Co., 1895 Carter Rd., recently destroyed by fire, will be rebuilt.

Peerless Motor & Truck Co. (L. H. Kittredge, pres.), Quincy Ave. and Nickel Plate R. R., reported contemplates enlarging plant; cost about $100,000.

Plans being prepared by W. C. Owens & Co., Leader-News Bldg., for 3-story, 80 x 140-ft. factory to be erected for Big Four Tire & Rubber Co., 736 New Guardian Bldg.

Reported W. J. Watson & Co., Leader-News Bldg., are archts. and engrs. for 6-story, 150 x 400 ft., reinforced concrete, brick and steel freight terminal and warehouse which the Cleveland & Youngstown RR. Co. contemplates erecting at Broadway and Orange Ave.

Lorain, Ohio.—Lorain Electric Co. reported contemplating improvements costing about $250,000.

Willoughy, Ohio.—See "Prices and Lettings."

Terre Haute, Ind.—Reported Terre Haute Paper Co. (E. B. Weston, Dayton, Ohio, pres.), Nineteenth St. and Vandalia RR., will erect new plant to cost about $300,000.

Kalamazoo, Mich.—Kalamazoo Vegetable Parchment Co., Kalamazoo, contemplates erecting paper mill to cost $600,000.

Milwaukee, Wis.—Briggs & Stratton Co., 258 Milwaukee St., intends erecting $100,000 auto plant at Hopkins Rd. and Center St.

Charles City, Iowa.—Hart-Parr Co., Charles City, intends erecting $100,000 addition to steel foundry.

Owatonna, Minn.—Reported Owatonna Farmers' Co-operative Packing Co. taking steps to erect packing plant; cost about $125,000.

St. Paul, Minn.—American Dump Car Co., 1004 Pioneer Building, considering erecting $2,000,000 steel car and general equipment plant in vicinity of White Bear.

Reported Nut House, Inc., 911 Western Ave., Seattle, Wash., contemplates erecting $50,000 factory here.

Laurel, Mont.—See "Reinforced Concrete."

Missoula, Mont.—Great Western Sugar Co. of Billings intends erecting sugar factory here, to cost about $1,000,000.

Ft. Worth, Tex.—See "Reinforced Concrete.

Kirkland, Wash.—See "Reinforced Concrete."

Stockton, Cal.—Samson Sieve-Grip Tractor Co., reported has taken over Sansom Iron Works at Stockton and intends spending $50,000 for new machinery.

Bagotville, Que.—Ha Ha Baie Sulphite Co. (J. E. A. Dubuc, mgr.), Chicoutimi, considering erecting $100,000 paper mill here.

Drummondville, Que.—Blending building of Aetna Chemical Co., destroyed by fire, will be rebuilt.

Fort William, Ont.—Plans being prepared by John King, 6 Roy Block, for steel and concrete grain elevator; cost $50,000.

Merritton, Ont.—Lincoln Paper Mills Co., Ltd., Merritton, plans erecting $200,-000 addition.

Port Stanley, Ont.—London & Port Stanley Ry. (Wm. Spittal, secy., Toronto) plans erecting grain elevator here to cost $100,000.

Wiarton, Ont.—Feldspar & Clay Products Co., purchased plant of Crown Cement Co. at Wiarton and will install machinery for manufacturing potash.

PRICES AND LETTINGS.
★Indicates award of contract.

Hartford, Conn.—See "Reinforced Concrete."

Brooklyn, N. Y.—See "Reinforced Concrete."

★**Lockport, N. Y.**—Contract awarded Wm. Boyser, 151 Baynes St., Buffalo, for erecting one- and two-story, 60 x 400 ft., factory for Lockport Glass Co. (M. Woodard, mgr.); cost $50,000.

★**Utica, N. Y.**—Contract awarded by Utica Warehouse Co., 252 Genesee St., to Griffith & Pierce, 618 Charlotte St., for erecting 100 x 400 ft. brick cotton warehouse on Broad St.; cost $100,000. Edw. G. Munson, Whitesboro, archt. and engr.

Philadelphia, Pa.—See "Reinforced Concrete."

★**Cincinnati, Ohio.**—Contract awarded by French Bros.-Bauer Co. to Ferro Concrete Constr. Co., Richmond and Harriet Sts., for erecting milk and ice cream plant on Plum and Canal Sts.; cost $500,-000. Taite & Nordmeyer, St. Louis, engrs.

★**Cleveland, Ohio.**—Crowell-Lundoff-Little Co., 1951 East Fifty-seventh Street, secured contract to erect plant on East 152nd Street for Dann Products Company; cost $100,000.

★Contract awarded West Lake Constr. Co., St. Louis, for erecting slaughter and storage house at W. Thirty-fifth St. and Storer Ave., for Cleveland Provision Co., 2527 Canal Rd.

★**Willoughby, Ohio.**—Contract awarded Paul Bros. Co., 615 Citizens Bldg., Cleveland, for erecting first unit of plant for Ben Hur Motor Co., 2-story, 150 x 400 ft., steel and concrete. Two additional units are contemplated. W. W. Hodges Co., 1218 Schofield Bldg., Cleveland, archts.

Indianapolis, Ind.—See "Reinforced Concrete."

★**Indianapolis, Ind.**—Contract awarded Hall-Curry Constr. Co., Bd. of Trade Bldg., for erecting 5-story fireproof warehouse and storage plant at 853 Massachusetts Ave. for Hogan Transfer & Storage Co.; cost $150,000.

★**Billings, Mont.**—Contract reported awarded by Yellowstone Packing Co. to Gagnon & Co., Billings, for improving and enlarging plant; cost $68,000.

★**Brighton, Mont.**—Contract awarded Larrowe Constr. Co., Detroit, Mich., for erecting beet sugar factory for Great Western Sugar Co.; cost $1,500,000.

★**Missoula, Mont.**—Contract for erecting beet sugar factory for Great Western Sugar Co. awarded Dyer Co., Cleveland, Ohio; cost $1,250,000.

Seattle, Wash.—See "Reinforced Concrete."

Los Angeles, Cal.—See "Reinforced Concrete."

Montreal, Que.—See "Reinforced Concrete."

★**Brantford, Ont.**—Contract awarded Austin Constr. Co., Cleveland, for erecting steel, concrete and glass factory for Dominion Steel Products Co.; cost $60,000.

★**Toronto, Ont.**—Contract awarded Thos. Essery, Elliott House, for erecting brick and mill warehouse for J. G. Kent, Confederation Life Bldg.; cost $50,000.

★Contract awarded S. L. Yolles, 67 Baldwin St., for erecting brick and mill construction warehouse for F. W. Woolworth Co., 4 Queen St. W.; cost $75,000.

BUILDINGS
Public and Private

PROPOSED WORK.

Newburyport, Mass.—All bids recently opened for erecting U. S. post office rejected, being in excess of $70,000 appropriation. Plans to be revised and new bids asked.

Newport, R. I.—Extensive improvements to Newport Hospital contemplated. Address. Bd. Trus.

Brooklyn, N. Y.—B. E. Muller, 477 Fifth Ave., New York, engaged to prepare plans and specifications for church to be erected on Fifth Ave.; cost about $50,000.

Hudson, N. Y.—New York State Firemen's Association (John Sells, pres., 142 Buena Vista Ave., Yonkers) appropriated $80,000 for erecting fireproof home at Hudson.

New York, N. Y.—Plans filed for erecting following buildings: Four 5-story brick apartments on Dyckman St., Nagle and Post Aves. for 302 Fifth Ave. Co., Inc., total cost $400,000, Geo. F. Pelham, Inc., archt., 30 E. Forty-second St.; 5-story fire-proof residence at 15 E. Sixty-fourth St. for Helen C. Thorpe, cost $100,000, John C. Greenleaf, archt., 15 W. Thirty-ninth St.

The 39-story brick and terra cotta, fireproof hotel which the Silk Realty Co. will erect on Broadway will be at 1587 instead of 587 as stated in Aug. 5 issue.

Jersey City, N. J.—Board of Education contemplates erecting school for crippled children.

Montclair, N. J.—Jos. Stammelman, 217 Glenridge Ave., will erect business and apartment block at Glenridge and Bloomfield Aves.; cost $100,000.

New Brunswick, N. J.—Plans and specifications being prepared by Wm. H. Boylan, 390 George Street, for isolation hospital.

Paterson, N. J.—Steps being taken to erect School No. 6 at Broadway and Fair St. John R. Wilson supt. of schools.

Butler, Pa.—Contract soon to be let for erecting high school; estimated cost $300,000. W. G. Eckles, archt., New Castle.

Harrisburg, Pa.—Election in Sept. to vote $1,190,000 school bonds. D. D. Hammelbaugh, secy. bd. educ.

Loretto, Pa.—Henry Hornbostel, Peoples Bank Bldg., Pittsburgh, engaged to prepare plans for regrouping buildings of St. Francis College; probable cost $500,000.

Philadelphia, Pa.—Plans being prepared by Hoffman Co., Globe Theatre Bldg., for 152 x 176 ft. Stanley theatre to be erected at Market and Nineteenth Streets; cost about $600,000.

W. C. Furber, 418 Walnut St., is archt. for 7-story office and store building to be erected at 5th and Arch Sts. for Smith, Kilne & French Co.

Reading, Pa.—Rajah Temple, Nobles of Mystic Shrine, contemplate erecting $100,000 building on present site, Pearl and Franklin Streets.

Baltimore, Md.—B. F. Wagamon and associates, Ocean City, plan developing 10-mile ocean front site and erecting hotel to cost about $60,000.

Parkersburg, W. Va.—School bonds for $125,000 sold. Address Bd. of Educ.

Berea, Ky.—Plans being prepared by Garber & Woodward, 2803 Union Central Bldg., Cincinnati, for 3-story fireproof dormitory to be erected for Berea College.

Shelbyville, Ky.—Contract soon to be let for erecting three-story and basement school; cost $50,000. Joseph & Joseph, archts., Great Southern Bldg., Louisville.

Cleveland, Ohio.—A. F. Humel, 3223 Daisy Avenue, purchased building at 1012 Superior and intends erecting three additional stories, to cost about $50,000.

School Bd. purchased site on E. Forty-able cost about $150,000. W. R. McCornack, E. Sixth St. and Rockwell Ave., archt.

Cleveland, O.—Reported Howard Realty Co., care Jos. Laronge Co., 214 Williamson Bldg., plans erecting two commercial and apartment buildings on E. 55th St. and Payne Ave.; cost $100,000.

Election Nov. 7 to vote $1,000,000 bonds to erect combined police headquarters and county jail building. Edw. Krause, secy. co. commrs.

H. F. Neighbors, Chester Ave. and E. 21st St., reported plans erecting service station and other buildings on Chester Ave. and E. Thirtieth St.; cost about $60,000.

Bellaire, O.—Bd. Educ. (H. T. Tyler, clk.) will sell Sept. 15 $109,000 school bonds.

Warrensville, O.—Beehive School Dist., Warrensville Township, Aug. 26, approved $50,000 bond issue for new school.

Grand Rapids, Mich.—Michigan Ry. Co. (H. D. Sanderson, ch. engr., Jackson) contemplates erecting 7-story terminal station here.

Pontiac, Mich.—Citizens voted $150,000 for enlarging High School, Central and Wilson Schools to relieve congestion.

Rock Island, Ill.—Knights of Columbus intend erecting building to cost about $50,000.

Mount Calvary, Wis.—Reported $50,000 students' hall is to be erected at St. Lawrence College.

Muscatine, Iowa.—All bids opened Aug. 15 for erecting high school rejected. New bids to be asked in about 6 weeks. L. V. Crull, secy. bd. educ.

Owatonna, Minn.—Election in September to vote $150,000 bonds to erect high school. Address Board of Education.

St. Paul, Minn.—Plans have been prepared by E. L. Masqueray, Endicott Bldg., for proposed $100,000 brick and stone church to be erected for St. Luke's Roman Catholic Parish.

Wichita, Kan.—Plans (not bids) will be received Sept. 11 by H. M. Barrett, Co. Clk., for a county jail and sheriff's residence in Wichita.

West, Tex.—Berch Easterwood, Waco, engaged to prepare plans for new city hall. Address City Clerk.

Waxahachie, Tex.—Election Oct. 10 to vote $120,000 bonds for high school, street improvements and sewage disposal plant. Address City. Clk.

Tacoma, Wash.—Plans being prepared for 4-story, 65 x 120 ft., brick apartment house which P. C. Creso, Spanaway Park, proposes erecting by day labor at Ninth and E Streets; cost $50,000.

Jerome, Ariz.—Plans being prepared by Rolland D. Kelly, Los Angeles, Cal., for $80,000 hospital to be erected here for United Verde Copper Co.

Idaho Falls, Idaho.—All bids opened Aug. 21 by Bd. of Educ. (Geo. M. Scott, pres.) for erecting school rejected as they exceeded amount available which is $85,000.

London, Ont.—Plans being prepared by Watt & Blackwell, Bank of Toronto Bldg., London, for tile, frame and stucco summer hotel and bath houses to be erected for London & Port Stanley Ry. Bd.; cost, $50,000.

BIDS DESIRED.

Skohegan, Me.—Until Oct. 6, by Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., for construction of U. S. post office.

Berlin, N. H.—Until Oct. 5, by Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., for construction of U. S. post office.

Dunkirk, N. Y.—Until Sept. 15 by Bd. Educ. (John A. Weidman, clk.) for erecting school advertised in this issue. E. E. Joralemon, archt., Buffalo.

New York Mills, N. Y.—Until Sept. 5, by Walter G. Frank, archt., Clarendon Bldg., Utica, for erecting two-story and basement high and grade school, 137 x 50 ft., for towns of New Hartford and Whitestown; estimated cost $75,000. O. J. Goff, pres. bd. educ., New York Mills.

Bayonne, N. J.—Until Sept. 21, by Bd. Educ. for erecting additions to High School and School No. 3.

Dover, N. J.—Reported desired until about Sept. 5, by Bd. Educ., for erecting a high school; cost about $100,000. John T. Simpson, archt. and engr., Essex Bldg., Newark.

Newton, N. J.—Reported desired until Sept. 21, by Board Education (R. Tuttle, Clerk), for erecting high school; cost $75,000. Rassmussen & Wayland, Archts., 1133 Broadway, New York, N. Y.

Chester, Pa.—Reported desired until Sept. 6, by Bd. Educ. (Wallace Gayley, chmn. bldg. com.) for erecting a 3-story school., Clyde S. Adams, archt., 1509 Arch St., Philadelphia.

Midland, Pa.—Until Sept. 5 by School Bd. (C. N. Atkinson, secy.) for erecting school. Separate bids for heating, plumbing, etc. F. I. Merrick, archt., Empire Bldg., Pittsburgh.

Pittsburgh, Pa.—Until Sept. 5, for erecting an apartment house at Forbes St. and Bellefield Ave. for F. F. Nicols. Rutan & Russell, archts., Magee Bldg.

Baltimore, Md.—Until Sept. 7 (extension of date) by Southern Hotel, for erecting 14-story Southern Hotel at German and Light Sts.

Huntington, W. Va.—Until Oct. 3, by Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., for extension, remodeling, etc., of U. S. post office and Court House.

Mannington, W. Va.—Until Sept. 5 by Bd. of Educ. (A. L. Thomas, secy.) for erecting brick school at Metz, Mannington Dist. C. H. Snyder, archt., Fairmont.

New Orleans, La.—Reported desired until Oct. 17 by F. S. Shields, Secy. Sewerage and Water Bd., for erecting an office building. Toledano, Morgan & Bernard, Archts., Perrin Bldg.

Brookfield, Ohio.—Until Sept. 18, by Bd. Educ. (D. H. Richards, pres.) for erecting a school. Frank L. Packard, archt., Columbus.

Springfield, Ohio.—Reported desired until Sept. 14, by C. H. Lyman, chmn. bd. trus. Odd Fellows Lodge, 198½ S. High St., for erecting a hospital, also a nursery; cost, $60,000. Sidney Aftel, archt., 948 Ohio Bldg.

Wilberforce, Ohio.—Until Sept. 21, by Bd. Trus. Combined Normal & Industrial Dept., Wilberforce Univ., addressed to Prof. J. A. Joiner, supt., Wilberforce, for erecting gymnasium.

Grand Rapids, Mich.—Reported desired until Sept. 15, by Bd. Educ. (H. N. Morrill, secy.) for erecting a grade school; cost, $65,000. H. H. Turner, archt., 254 N. Division St.

Jefferson, Iowa.—Until Sept. 25, by C. P. Lyon, secy. bd. educ., for erecting a school. Proudfoot, Bird & Rawson, archts., Hubbell Bldg., Des Moines.

Muscatine, Iowa.—Until Sept. 5, by Bd. Educ. (C. R. Staffors, secy.) for erecting 3-story high school, 75 x 125 ft. Eckland, Fryer & Knapp, 3 McKinnie Blk., Moline, Ill., and H. W. Zeidler, Muscatine, assoc. archts.

St. Paul, Minn.—Reported desired until Sept. 15, by A. M. Stem, archt., 601 Endicott Bldg., for erecting a 12-story and basement clubhouse and store for St. Paul Athletic Club. Cost $650,000. Toltz Eng. Co., engrs., 1410 Pioneer Bldg.

Ottawa, Kan.—Until Sept. 5, by Bd. Educ., for erecting fireproof two-story and basement brick high school, also ward school; total cost $120,000. Washburn & Son, archts., Ottawa; H. W. Chaffee, clk. bd.

Norfolk, Neb.—Until Sept. 25 by Norfolk Masonic Temple Co. (H. S. Thorpe, secy.) for erecting a 3-story fireproof temple 44 x 102 ft. Jas. C. Stitt, archt., Norfolk.

Jonesboro, Ark.—Until Sept. 15 by Bd. of Directors (A. E. Lockhart, secy.) for erecting high school, including plumbing, heating and lighting. R. H. Hunt, archt., Chattanooga, Tenn.

PRICES AND LETTINGS.

★Indicates award of contract.

★West New Brighton, S. I., N. Y.—Contract awarded John Milne Co., Staten Island, for erecting 2-story, 124 x 125 -ft. brick parochial school on Bergen and Castle Aves. for Church of Sacred Heart; cost about $100,000. Rev. Thos. J. Heafy, pastor. Fred L. Metcalf, 143 North Ave., Plainfield, archt.

Bayonne, N. J.—All bids onened Aug. 24 for erecting additions to High School and School No. 3 rejected. The lowest bidder for High School was Egan & Montague, Jersey City, at $298,397. See "Bids Desired."

★Hoboken, N. J.—Contract awarded Aug. 23, by City Comrs., to Robert J. Rath, 259 Sixth Street, for alterations and additions to firehouse, at $59,630.

Jersey City, N. J.—John J. Egan, 223 Mercer St., submitted lowest bid for erecting addition to Lincoln School, at $99,985.

★Middletown, N. J.—Contract awarded Geo. Sykes, Inc., 40 W. Thirty-second St., New York, for erecting 3½-story, 56 x 132-ft. residence on Riverside avenue for Wm. B. Kinney, 308 Kinney Bldg., Newark; cost about $50,000. Hiss & Weeks, archts., 452 Fifth Ave., New York.

★Morristown, N. J.—Sturgis Bros., Morristown, have contract for erecting stone edifice for Church of Redeemer; cost $90,000.

Trenton, N. J.—Following are two bids opened Aug. 24 by City Comm. for erecting fireproof police and fire alarm telegraph building: Jas. H. Morris, Broad St. Bank Bldg., $55,379; Scott & Day, 114 N. Montgomery St., $67,471.

★West Orange, N. J.—Contract awarded J. B. Everett & Son., Inc., East Orange, for erecting two-story brick school at Eagle Rock Ave. and Valley Way; cost about $50,000. Dillon, McLellan & Beadel, archts., 3 W. Twenty-ninth St., New York.

★Philadelphia, Pa.—Contract awarded F. W. Van Loon, Denckla Bldg., for erecting three-story brick storehouse for Reading Ry. Co. at Delaware Avenue and Cambria Street; cost $50,000.

★Pittsburgh, Pa.—Contract for rebuilding St. Stephen's Lutheran Church awarded E. Z. Peffer, Wilkinsburg; cost $50,000. O. M. Topp, Jenkins Bldg., Archt.

★West Liberty, W. Va.—Contract awarded Aug. 23 by State Bd. of Control for erecting girls' dormitory to Bluestone Constr. Co., Bluefield; cost about $60,000.

★Savannah, Ga.—Contracts for constructing auditorium awarded as follows: General construction, Wise Granite & Construction Co., Richmond, Va., $112,000; heating, Savannah Heating Co., Savannah, $4,888; plumbing, Peerless Plumbing Co., 108 Congress Street E., $4,839.

★Cincinnati, Ohio.—W. & R. Reuter, 52 Pickering Bldg., gen. contrs., for Lloyd Library and Museum, Court and Plum Sts., sublet following work: Excavation and limestone masonry, Frank Jacob, 147 Gage St.; brick, McGarvey & Co., 909 Gerke Bldg.; iron, Pothoff Constr. Co., Front and Harriet Sts.; cement, Billing Artificial Stone Co., 565 Reading Rd.; plumbing, Thomas Canary, 204 W. Seventh St.; electrical work, A. Becker & Son, 8 W. Sixth St.

★Circleville, O.—Contract for erecting high and grade school awarded A. F. Fry, Piqua, at $102,619.

★Struthers, Ohio.—Contracts for erecting municipal building, costing about $60,000, awarded as follows: Wood work, roof and sheet metal, Dittman Bros., Struthers; masonry, stone, etc., Hopkins Bros., Youngstown; plumbing, heating and ventilating, W. J. Shall Co., Youngstown; S. Richards, Village Clerk.

★Sturgis, Mich.—Following are bids opened Aug. 22 by Bd. Educ. for erecting high school: Beaumont & Williamson, Chicago, $96,462 (awarded contract); H. G. Christman Co., South Bend, Ind., $97,500; G. B. Bushnell, Elkhart, Ind., $96,524.

★Streator, Ill.—Contract for erecting Sherman School (bids opened Aug. 2) awarded D. C. Dewar, Streator, at $57,140; heating and ventilating, Thos. Healy Co., Racine, Wis., $10,335, and plumbing, Chas. Metcalf, Streator, $3,200. Philip Saunders, Secy. Board Education.

★Minneapolis, Minn.—Contract for rebuilding Franklin School, destroyed by fire, awarded Carlsted Bros., 300 Twentieth Ave., N., at $77,136.

★Austin, Tex.—Contracts for constructing power house, dormitory and laundry building for State Colony for Feeble Minded awarded as follows: General contract, A. A. Mundt, Austin, at about $40,000; plumbing and heating, J. L. Martin, Austin, at about $17,000; wiring, Barden Electrical & Machinery Co., Houston, at $2,200.

★Portland, Ore.—Contract awarded Frieberg & McLennon Co., Portland, for erecting first unit of Benson Polytechnic School at Twelfth and E. Gilsan Sts., at $170,325.

★Tracy, Cal.—Contract for erecting high school awarded James Furlong, San Francisco; cost about $52,000.

★Woodland, Cal.—Contract for erecting U. S. Post Office reported awarded Robt. Trost, 26th and Howard Sts., San Francisco, at $196,521.

★Toronto, Ont.—J. A. Wickett, Traders Bank Bldg., has contract for masonry work in connection with proposed $3,000,000 union station.

★Vancouver, B. C.—Contracts in connection with erecting Pantages Theater awarded as follows: masonry, concrete work and ornamental iron, etc., to Skene & Christie, Vancouver, $95,980; steel, J. Coughlin & Sons, Vancouver, $33,000. B. Marcus Pritica, archt., Pantages Bldg., Seattle, Wash.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Charleston, S. C.—Sanitary and Drainage Comm. considering building causeway from Mt. Pleasant to Sullivan's Island. Reid Whitford, engr. of Comm.

Savannah, Ga.—Contract to be let in about a month for constructing Casey Canal extension. E. R. Conant, City Engr.

Miami, Fla.—Citizens Dade County voted $600,000 bonds to build causeway across Biscayne Bay, 3½ miles long, connecting Miami with Miami Beach.

East Peoria, Ill.—Estimates being made by B. Smith, Pekin, for dike half mile long. Probable cost $25,000. Address Village Clerk.

Quincy, Ill.—Hunt Drainage Dist. Commrs. propose consolidating districts in vicinity and reclaim 30,000 acres; cost about $500,000.

Rock Island, Ill.—All bids opened recently by Comrs. Drury Drainage Dist., for about 9 miles levee along Mississippi River exceeded estimated cost $60,000. Elliott & Harman Eng. Co., Engrs., Peoria.

Minneapolis, Minn.—Minneapolis Park Bd. considering spending $8,000 to dredge Lake Nokomis.

Angleton, Tex.—State Reclamation Engineer A. A. Stiles approved plans for extension of Angleton Drainage Dist., construction of levee five or six miles in length, about 8 ft. in height. Probable cost $80,000. Address County Judge, Angleton.

McKinney, Tex.—Citizens of Improvement Dist. No. 1 voted $41,000 bonds to reclaim several hundred acres in Pilot Creek Bottom. Address County Clerk.

Alamosa, Col.—Harry Morrison, Monte Vista, engaged as engr. for an irrigation district being formed in Waverly County, 9 miles west of Alamosa.

Vale, Ore.—Warm Springs Irrigation Dist. voted $750,000 bonds for constructing a new dam, and for improvements to distribution system. John Rigby, Vale, engr. John R. Wheeler, city aud.

Bakersfield, Cal.—Walter Weir, drainage engr. of U. S. Dept. of Agriculture, Berkeley, prepared tentative plans and recommdations for drainage ditches costing about $60,000 to reclaim 5000 acres in Rosedale Dist. for association being formed by land owners. John Waters, Pres. Kern County Farm Bureau, interested.

Barclay McGowan, dist. attorney, Kern County, has been made trustee for people of county to reclaim about 400,000 acres and construct reservoirs and dams in mountains and an irrigation system.

BIDS DESIRED.

New York, N. Y.—Until Sept. 7, by Commissioners of Parks (Cabot Ward, Pres.), for filling swamp lands in Van Cortlandt Park, Boro. Bronx.

Rayville, La.—Until Sept. 5, by Bd. Commrs. Tensas Basin Levee Dist., at office of Bd. State Engrs., New Orleans Court Bldg., New Orleans, Gaines Landing Levee, Clucot County, Mississippi River (topping and repairing), about 20,000 cu. yd.

Memphis, Tenn.—Until Sept. 5 by Mississippi River Commission, U. S. Engineer's Office, Memphis, for constructing about 2,655,000 cu. yd. of earth work.

Fort Dodge, Iowa.—Reported desired until Sept. 14, by J. L. Hanrahan, co. aud., for constructing drain No. 230 in Johnson Township, involving 14,810 ft. 7 to 28 in. tile, estimated cost $12,042. D. W. Gibbs, engr., Fort Dodge.

Cambridge, Minn.—Until Sept. 14, by G. C. Smith, co. aud., for county ditch No. 11, 59,921 cu. yd., cost $8,958. No. 13, 79,867 cu. yd., cost $12,137. No. 15, 63,470 cu. yd., cost $8,944.

Morris, Minn.—New bids desired about Sept. 30 by C. R. Wollshan, co. aud., for tile work for Ditch No. 25. Bids opened Aug. 22 rejected.

Windom, Minn.—Until Sept. 15, by S. A. Brown, aud. Cottonwood County, and P. D. McKellar, aud. Jackson County, at court house, Windom, for constructing Judicial Ditch No. 54 of said counties, including 43,500 ft. 6 to 28-in. tile, etc., estimated cost $26,790; also separate bids same time and place for following ditches for Cottonwood County: Judicial Ditch No. 25, about 42,900 ft. 6 to 15-in. tile, etc., cost $8,743; No. 29, 35,630 ft. 6 to 28-in. tile, etc., cost $10,442; No. 30, 45,100 ft. 6 to 24-in. tile cost $22,237; and No. 31, 24,075 ft., 6 to 24 in. tile, cost $16,868.

Malta, Mont.—Until Sept. 27 by U. S. Reclamation Service, Malta, for construction of structures on Milk River Project, Montana, involving about 10,000 cu. yd. excavation, 600 cu. yd. reinforced concrete, 1300 sq. yd. paving, placing 40,000 lb. reinforced steel and about 134 M ft. lumber. Work is in vicinity of Saco and Beaverton, Mont., on Great Northern Ry.

Cottleville, Mo.—Until Sept. 12, by M. L. Currier, pres. bd. superv. of Cottleville Drainage Dist., for about 282,234 cu. yd. excav. for drainage ditches in Dardenne Creek Bottoms, Township 46 North, Range 2, 3 and 4 East of Fifth P. M. P. W. Lowman, engr., St. Charles.

Redfield, Cal.—Reported desired until Sept. 11, by State, care J. J. Kutnewsky, Redfield, for excavating, foundation and tunnels for School for Feeble Minded. Building to be 3 story and cost $150,000. C. H. Johnson, archt., 715 Capital Bank Bldg., St. Paul, Minn.

PRICES AND LETTINGS.

★Indicates award of contract.

★**New Orleans, La.**—Contracts for levee improvements (bids opened Aug. 23) awarded by State Bd. of Engrs., New Orleans, as follows: To Robt. Micholson and M. C. Williamson, Milliken, levees in Chicot County, Ark., as follows: Drainage Ditch at Willow Lake, 20,000 cu. yd. at 24.5 ct.; Carmichael Levee, 60,000 cu. yd., 37.5 ct.; Willow Lake Levee, 100,000 cu. yd., 36 ct.; to R. T. Clark, Natchez, Miss., levee work, Mississippi River, right bank, O'Possum Fork to Lecca levee, Desha Co., Ark., 70,000 cu. yd., 39 ct.; C. Nordstrom, Bunkie, 100,000 cu. yd., 15.78 ct.; Theo. O. Hotard, 338 Mermuda St., New Orleans, Gretna to Gouldsboro Levee, Parish Jefferson, Mississippi River, 69,000 cu. yd., 24.5 ct. G. W. Lawes, secy. bd.

★**Memphis, Tenn.**—Contract awarded by County Comrs. to C. G. Gowan, Bartlett, for constructing Benjestown levee, at about $15,000.

★**Clarksdale, Miss.**—Contract awarded Clark, Cheshire & Co., Natchez, for levee work in Yazoo-Mississippi Delta Levee Dist.

★Contract awarded by Yazoo-Mississippi Delta Levee Bd. for constructing emergency loop involving about 260,000 cu. yd. to R. L. Leonard & Co., Memphis, Tenn., at 28 cts. for earthwork; $5 per acre for clearing and breaking; $100 per acre for heavy clearing and grubbing; $50 per acre for light clearing and grubbing; total cost, about $100,000.

Brazil, Ind.—Following are three bids, opened Aug. 25 by Wm. S. Rawley, Drainage Comr., for constructing new channel for Eel River from Neal's Mill to White River; estimated cost $175,000: (a) one floating dredge, (b) two floating dredges: A. V. Wells & Co., St. Louis, (a) 10.4 cts. per cu. yd.; East & De Frees, Worthington, (b) 10 cts. per cu. yd.; Fred C. Morgan, Indianapolis, (b) 19.65 cts. per cu. yd.

★**Lovington, Ill.** — Contract awarded (bids opened Aug. 26 by Commr. Lovington Drainage Dist.) to J. M. Driscoll of Decatur, at $20,600. Work consists of concrete wall, 30.031 ft. 6 to 24-in. tile, 2000 ft. concrete conduits.

★**Paris, Ill.** — Contract awarded for cleaning and grubbing drainage dist. No. 1, Young America Township, Edgar County, including removal and replacing of all bridges and culverts, repairs of main ditch and two branches, to A. C. McGinnis & Co., Bement, at $21,400.

Fort Madison, Iowa—R. H. & G. A. McWilliams Co., Chicago, Ill., submitted only bid on entire work in Green Bay Drainage Dist. at $284,000. T. H. Kinser Co., St. Louis, Mo., bid $199,000 on Sections 3 and 4. (Bids opened Aug. 15 by A. P. Myer, County Auditor.)

★**Glenwood, Ia.**—Contract for constructing drainage district requiring 116,476 cu. yd. excav. (bids opened Aug. 24) awarded Callahan Bros. & Creedon, Omaha, Neb. W. M. Moore, deputy co. aud.

★**Nevada, Ia.**—Contract for constructing Drainage Dist. No. 75, including main ditch and laterals (bids opened Aug. 24) awarded Cole Bros., Ames, at $20,000.

★**Webster City, Ia.**—Contracts for constructing joint county drain (bids opened Aug. 15) awarded as follows: blocks to Plymouth Clay Products Co., Ft. Dodge, at $23,895; tile, Western Sewer Pipe Co., Webster City, $22,191; labor, Paul Paulson, Carroll, $21,584. A. J. Petersen, co. aud.

★**Morris, Minn.**—Contract for open work in constructing Ditch No. 25 (bids opened Aug. 22) awarded Rodgers Curtis Co., Minneapolis, at $16,571. Bids on tile rejected. C. R. Wollthan, co. aud.

Malta, Mont.—Only bid received Aug. 14 by U. S. Reclamation Service, Malta, for earthwork on Nelson Reservoir, South Canal, Milk River Project, Mont., was from James O'Connor and John T. Whalin, Malta, at $108,352.

★**North Yakima, Wash.** — Contract awarded Washington Pipe & Foundry Co., Tacoma, for furnishing and erecting wood stave pipe for Grandview Irrigation Dist., Sunnyside Irrigation project, Washington, about 9140 lin. ft. 40 continuous wood stave pipe at a total cost of $18,406.

★**Seattle, Wash.**—Contract for constructing drainage system in Drainage Dist. No. 4 (bids opened Aug. 8) awarded by Bd. Comrs. Drainage Dist. No. 4 (Roy R. Pickering, Issaquah, secy.), to Chamberlain Constr. Co., Seattle, at $10,364.

★**Woodland, Cal.**—Contract awarded by Trus. Reclamation Dist. No. 1600 to Yuba Constr. Co., Insurance Exch. Bldg., San Francisco, for pumping plant at $23,147.

★**Twin Falls, Idaho.**—Contract awarded S. E. Burnham, Boise, for work on Miner Dam; cost, $25,000.

★**Three Rivers, Que.**—Contract for dredging 200,000 cu. yd. sand and clay at St. Maurice River channel entrance awarded La Compagnie Generale d'Entreprises Publiques, P. O. Box 148, Levis, Que.

★**Vancouver, B. C.**—Reported contract awarded by Canadian Pacific Ry. Co. for dredging on waterfront between sheds 3 and 7, to W. D. Grant, Vancouver; cost about $200,000.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

New Bedford, Mass.—New bids to be asked by city on constructing bulkhead on Popes Island. Address City Engr.

Albany, N. Y.—State Canal Bd., Albany, has approved plans for an expenditure of $1,012,948 on barge canal terminals at Buffalo and Rouse's Point. This work includes the dredging of Ohio Basin to 12 ft. depth, erecting a concrete wall around basin and putting up a bascule bridge at Ohio St.; cost about $500,948. Frank M. Williams, state engr., Albany.

Lockport, N. J.—City Comm. authorized plans prepared for a concrete sea wall about one mile long; cost, $275,000.

Spartansburg, S. C.—South Carolina Light, Power & Railways Co., Spartanburg, engaged the J. G. White Eng. Corp., Exchange Pl., New York, N. Y., in connection with design and erection of concrete dam 600 ft. long and 45 ft. high on Broad River, near Gaston Shoals, about 30 miles from Spartanburg, in connection with company's hydroelectric development on Gaston Shoals.

Gulfport, Miss.—J. F. Coleman, New Orleans, engr., for bd. superv., recommends constructing a sloping beach matted with grass for protection of coast line of county.

Pass Christian, Miss.—J. F. Galloway, Gulfport, engr., for proposed sea wall; cost, $138,056.

Bristol, Tenn.—Reported B. L. Dulaney taking steps to construct concrete dam across Holston River; cost $75,000.

Peoria, Ill.—War Dept. granted permission to city to proceed with construction of municipal pier extending into Illinois River, 300 ft. and 150 ft. wide; cost $100,000. Address City Engineer.

Colton, Cal.—Plans prepared by J. A. Sourwine, co. engr., San Bernardino, for pile and timber bulkhead to be constructed 1.6 miles along Santa Ana River, near Colton, by private interests. Contract will probably be let latter part of September.

BIDS DESIRED.

Atlantic City, N. J.—Until Sept. 14, by Bd. Commrs. for constructing sea wall along Absecon Inlet and Gardner's Basin at Inlet Park, advertised in this issue. J. W. Hackney, city engr.

Dayton, Ohio.—Until Sept. 15, by J. E. Barlow, Dir. Pub. Service, for constructing Island Park dam in **Great Miami River,** advertised in this issue.

Marion, Ohio.—Until Sept. 16, by County Comrs. (V. Perle Garfield, clerk), for constructing substructure of bridge over Tymochtree Creek on Kannel Pike Grand Township.

Medina, Ohio.—Until Sept. 5, by County Commissioners, for constructing substructure of Brintnall Bridge in Medina Township. Geo. McNeal, County Aud.

Chicago, Ill.—Until Sept. 26, by U. S. Engr., 508 Federal Bldg., for constructing timber crib bulkhead at Chicago Harbor, Ill., advertised in this issue.

Cresco, Iowa.—Until Sept. 6, by J. H. Howe, Cresco, for rebuilding dam on Upper Iowa River, 10 miles north of Cresco.

Montreal, Que.—Until Sept. 6 (readvertisement), by Paul E. Marcier, City Engr., for furnishing material and constructing La Salle Bridgehead gate, etc.

PRICES AND LETTINGS

★Indicates award of contract.

★**Governeur, N. Y.**—See "Reinforced Concrete."

★**Erie, Pa.**—Contract for constructing drift catcher of reinforced concrete piers (bids opened Aug. 18) awarded F. G. Diefendorf, Erie, at $8,942. F. Hanlon, city clk.

★**New Orleans, La.**—The following are two bids opened Aug. 8 by Lighthouse Inspector for interlocking creosoted sheet pile bulkhead, etc., at new canal light station: J. E. Hemenway, New Orleans, $13,200 (awarded contract); Midland Bridge Co., Kansas City, Mo., $13,500.

★**De Kalb, Ill.**—Contract for constructing concrete dam awarded W. J. McAlpin of Dixon, at $76,000, by Illinois Northern Utilities Co.

★**Oregon, Ill.**—Contract for constructing dam awarded by Northern Utilities Co. to W. J. McAlpine of Dixon, at $76,000.

★**Ashland, Wis.** — Reported Soo line awarded contract to Foley Bros., Peppard & Fulton, St. Paul, for constructing reinforced concrete ore dock; capacity 60,000 tons. Toltz. Eng. Co., St. Paul, engrs.

Powell, Wyo. — Following are bids opened Aug. 8 on all four schedules by U. S. Reclamation Service for Frannie Division, Second Unit (earthwork) Shoshone Project, Wyo.: Hoyt Hayden, Great Falls, Mont., $113,690; Geo. P. Wright, Tacoma, Wash., $115,596; J. E. Hilton, Billings, Mont., $118,340; Threet Bros. & Jolley, Lovell, $126,060.

★**Everett, Wash.**—Contract awarded by Comrs. of Snohomish County for center pier and approaches of Delta Bridge over Snohomish River at Eighteenth St., to American Pile Driving Co., Everett, Wash., at $15,030.

★Contract awarded by County Comrs. for rehabilitating elevated roadways between Robinson Mfg. Co.'s plant and Fourteenth St. wharf, also repairs to wharf, to Everett Const. Co. of Everett, at $11,535.

★**Lindsay, Cal.**—Contract awarded Jas. Kennedy Construction Co., 901 Washington Building, Los Angeles, at $1,203,245 for constructing an irrigating system requiring thirty-seven wells, each equipped with direct-connected motor-driven deep-well turbine pump, operating under total head of 100 ft., booster pumping station, consisting of three 16-in. horizontal single-stage centrifugal pumps direct connected to 500-hp. motors, and two 10-in. pumps of similar type driven by 200-hp. motors; booster station consisting of two 8-in. pumps arranged similarly, driven by 125-hp. motors, and operating against head of 160 ft.; 6¼ miles of reinforced concrete lined ditch; 5¼ miles of reinforced concrete lined ditch; 3½ miles of 60-in. reinforced concrete pipe, or 6½ miles of continuous redwood stave pipe, 95 miles of mains and laterals of 6 to 36 in. protected riveted steel and reinforced concrete. Stephen E. Kieffer, Engr., 57 Post Street, San Francisco. (Bids opened Aug. 7 by Directors Lindsay Strathmore Irrigation Dist.)

MISCELLANEOUS

PROPOSED WORK.

Underground Conduits—Hammonton, N. J.—Delaware & Atlantic Tel. & Teleg. Co. applied to Council for permission to lay underground system through Hammonton.

Garbage Disposal—Macon, Ga.—City reported considering a garbage disposal plant. Address City Clk.

Garbage Disposal—Hamilton, Ohio.—Mayor approved ordinance providing $25,000 bond issue for enlarging garbage disposal plant.

BIDS DESIRED.

Wreck, Newport, R. I.—Until Oct. 2 by U. S. Engineer, Newport, for removing wreck of transport "Yankee" in Buzzards Bay, Mass., advertised in this issue.

Clearing Site—Albany, N. Y.—Until Sept. 7, by Col. Franklin W. Ward, Secy. State Bd. Armory Commrs., Albany, for improving site for Troop B Armory, advertised in this issue.

Fireproofing Buildings—New York, N. Y.—Until Sept. 11 by John A. Kingsbury, Comr. Public Charities, Municipal Bldg., for fire protection work in groups of buildings under jurisdiction of Dept. Public Charities except those on Randall's Island and at New York City farm colony, Boro Richmond.

Metal Ceilings—Jersey City, N. J.—Until Sept. 12, by City Comrs., for constructing metal ceilings in city hall. M. I. Fagen, city clk.

Garbage Disposal—Orange, N. J.—Reported desired until Sept. 5 by Mayor for collection and disposal of garbage and ashes.

Removal of Wreck—Norfolk, Va.—Until Sept. 22, by U. S. Engineer, Norfolk, for removal of steel whaleback barge Ivie, sunk in Hampton Roads, Va.

★**Sherbrooke, Que.**—The following are the unit figures of the four bids opened Aug. 11 by E. C. Gatien, secy-treas., for concrete dam: (a) MacBean & Williams, Montreal, $62,858, awarded contract; (b) Carlton Constr. Co., Ottawa, Ont., $63,372; (c) Arsenault & Plamondon, Montreal, $72,123; (d) Galbraith & Cate, Montreal, $80,106.

	(a)	(b)	(c)	(d)
Clearing	$500.00	$200.00	$3,500.00	$3,000.00
Unwatering	8,000.00	6,940.00	9,950.00	12,000.00
150 cu. yd. earth excavation, per cu. yd.	1.00	1.00	1.00	1.50
75 cu. yd. boulders and gravel, per cu. yd.	1.00	1.00	2.00	2.00
600 cu. yd. rock excavation, per cu. yd.	5.00	2.50	4.00	3.50
18.5 net tons steel rods for concrete reinforcement, net ton	100.00	80.00	75.00	120.00
Head gates, cast iron	5,000.00	4,870.95	5,739.00	5,339.00
Head gates, wood	2,500.00	2,817.00	2,400.00	2,340.40
Sluice gates, cast iron	1,000.00	910.35	1,010.00	1,017.00
Steel penstocks with accessories	4,000.00	4,180.00	3,990.00	4,049.00
Steel racks	3,000.00	3,150.00	3,390.00	3,306.00
Stop logs	800.00	825.00	1,250.00	864.00
Iron for same	1,000.00	824.25	980.00	810.00
Painting	50.00	250.00	350.00	250.00
300 lin. ft. railing, per lin. ft.	1.00	0.75	1.00	1.00
108 lin. ft. track for winch., per lin. ft.	1.00	0.70	0.75	1.25
4,800 cu. yd. concrete in piers, dam wall, penstock, foot of rack supports for penstock, per cu. yd.	6.50	8.25	7.25	9.80
Gravel concrete	6.25	...	...	...
300 cu. yd. backfilling, per cu. yd.	1.00	1.00	1.00	1.00

Rock—New Orleans, La.—Until Sept. 20 by U. S. Engineer for furnishing and delivering 52,000 tons of rock.

Cement—Memphis, Tenn.—Until Sept. 7 by Mississippi River Commission, U. S. Engineer's Office, Custom House, for furnishing about 50,000 sacks of Portland cement.

Lumber—Memphis, Tenn.—Until Sept. 11 by Mississippi River Commission, U. S. Engineer, Memphis, Tenn., for furnishing about 493,000 ft. pine and about 10,000 ft. oak lumber.

Brush and Poles—Memphis, Tenn.—Until Sept. 5 by Mississippi River Commission, U. S. Engineer's Office, Memphis, for furnishing about 100,000 cords of brush and poles.

Gate Valves for Lock—Louisville, Ky.—Until Sept. 23 by U. S. Engineer, Louisville, for furnishing and delivering gate valves and accessories for Lock No. 41, Ohio River, advertised in Engineering Record.

Garbage Incinerator—Highland Park, Ill.—Until Sept. 8, by E. A. Warner, city clk., for constructing a garbage incinerator. Samuel R. Lewis, engr., 910 S. Michigan Ave., Chicago.

Transmission Line—Savanna, Ill.—By People's Gas & Electric Co., Savanna (F. D. Bowen, genl. mgr.) for high tension transmission line between Savanna and Mt. Carroll, about 12 miles.

Cement—Los Angeles, Cal.—Until Sept. 15 by U. S. Engineer, Los Angeles, for furnishing at San Pedro, Cal., American Portland cement, sand and stone.

Steel Pipe, Steel, Iron Castings, Etc.—Panama—Until Sept. 14 by Maj. Earl I. Brown, Corps Engrs., U. S. A., general purchasing officer, The Panama Canal, Washington, D. C., for circular 1075, including steel, steel pipe, yellow pine lumber, etc.

Until Sept. 6, by Maj. Earl I. Brown, Corps. Engrs., U. S. A., General Purchasing Officer, The Panama Canal, Washington, D. C., for circular 1073, sheet steel or iron, copper cable, asbestos, magnesia, cement, etc., Sept. 18, Circular 1076, galv. steel sheets, wire rope, pipe fittings, valves, asbestos wood, etc.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Garbage Disposal—Reading, Pa.—Following is only bid received Aug. 23 by Council for disposal of garbage: Prices given are on first 5 yr., 2d. 5 yr., 3d 5 yr. and 4th 5 yr. periods respectively: Pennsylvania Sewage & Garbage Co., Philadelphia, 1st yr., $40,000, $50,000, $59,000 and $64,000; 2d yr., $42,000, $52,000, $60,000 and $65,000; 3d year, $44,000 $54,000, $61,000 and $66,000; 4th yr., $46,000, $56,000, $61,000 and $66,000; 5th yr., $48,000, $58,000, $63,000 and $68,000. Totals, $220,000, $270,000, $305,000 and $330,000.

★**Sprinkler System—Los Angeles, Cal.**—Contract awarded for installing automatic sprinkler system in Municipal Harbor Warehouse to Pacific Fire Extinguisher Co., H. W. Hellman Bldg., at $14,000.

Proposals

For Proposals Advertised See Pages 45, 46 and 47.

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.		See Eng. Record.
Sep. 5.	Washington, D. C. Adv. Aug. 12.	Aug. 12
Sep. 5.	New York, N. Y. Adv. Aug. 12.	Aug. 12
Sep. 5.	Beardstown, Ill. Adv. Aug. 12.	Aug. 12
Sep. 5.	Shreveport, La. Adv. Aug. 19, 26.	Aug. 19
Sep. 5.	Fresno, Cal.	Aug. 19
Sep. 5.	Toledo, Ohio.	Aug. 26
Sep. 5.	Rocky Ridge, Ohio.	Aug. 26
Sep. 5.	Mount Morris, N. Y. Adv. Aug. 26.	Aug. 26
Sep. 5.	Riverside, Cal.	Aug. 26
Sep. 5.	Huntsville, Tex.	Sep. 2
Sep. 5.	Rocky River, Ohio.	Sep. 2
Sep. 5.	Chamberlain, S. D.	Sep. 2
Sep. 5.	Loveland, Col.	Sep. 2
Sep. 5.	Area, Ill. Adv. Sept. 2.	Sep. 2
Sep. 5.	St. Paul, Minn.	Sep. 2
Sept. 6.	Wilmington, Del. Adv. Aug. 5, 19, 26.	Aug. 5
Sep. 6.	Bridgeport, Conn. Adv. Aug. 19, 26.	Aug. 19
Sep. 6.	Chicago, Ill.	Sep. 2
Sep. 6.	Decorah, Iowa	Sep. 2
Sep. 6.	Ann Arbor, Mich.	Sep. 2
Sep. 7.	Downs, Kan.	Aug. 26
Sep. 7.	Rockford, Ill. Adv. Sep. 2.	Sep. 2
Sep. 7.	Toledo, Ohio	Sep. 2
Sep. 7.	New York, N. Y.	Sep. 2
Sep. 7.	Germania, Iowa	Sep. 2
Sep. 7.	Santa Barbara, Cal.	Sep. 2
Sep. 8.	Evanston, Ill. Adv. Aug. 12, 19.	Aug. 12
Sep. 8.	New York, N. Y.	Sep. 2
Sep. 8.	Youngstown, Ohio	Sep. 2
Sep. 11.	Brookings, S. D.	Aug. 26
Sep. 11.	Bay Head, N. J. Adv. Aug. 26.	Aug. 26
Sep. 11.	Sandwich, Ill.	Sep. 2
Sep. 11.	Winthrop, Minn.	Sep. 2
Sep. 11.	Marmarth, N. D.	Sep. 2
Sep. 12.	Billings, Mont.	Aug. 26
Sep. 12.	Thief River Falls, Minn.	Aug. 26
Sep. 12.	Sauk Center, Minn.	Aug. 26
Sep. 12.	Brookhaven, Miss.	Aug. 26
Sep. 12.	New York, N. Y. Adv. Aug. 26, Sept. 2.	Aug. 26
Sep. 12.	Anthon, Iowa	Sep. 2
Sep. 12.	Middletown, Ohio	Sep. 2
Sep. 12.	Mansfield, Ohio	Sep. 2
Sep. 12.	Lincoln, Neb.	Sep. 2
Sep. 12.	Staples, Minn.	Sep. 2
Sep. 12.	Columbus, Ohio. Adv. Sep. 2.	Sep. 2
Sep. 12.	Montclair, N. J. Adv. Sep. 2.	Sep. 2
Sep. 14.	St. Charles, Ill. Adv. Sep. 2.	Sep. 2
Sep. 15.	Dannebrog, Neb. Adv. Aug. 26.	Aug. 26
Sep. 16.	Cleveland, Ohio.	Aug. 26
Sep. 18.	South Bethlehem, Pa. Adv. Aug. 19 to Sept. 2.	Aug. 19
Sep. 18.	Cleveland Heights, Ohio.	Aug. 26
Sep. 18.	Three Forks, Mont.	Sep. 2
Sep. 18.	Panama	Sep. 2
Sep. 19.	Columbia, S. C. Adv. Sep. 2.	Sep. 2
Sep. 20.	Denver, Col.	Sep. 2
Sep. 21.	Viola, Ill. Adv. Sep. 2.	Sep. 2
Oct. 1.	Cuyahoga Falls, Ohio	Sep. 2
Oct. 3.	Port Clinton, Ohio	Sep. 2
Oct. 15.	Hermosa Beach, Cal.	Aug. 26
——	Franchise, Key West, Fla. Adv. Sep. 2.	Sep. 2

STEEL BRIDGE WORK.

Sep. 5.	Deer Lodge, Mont.	Aug. 26
Sep. 5.	Oacoma, S. D.	Aug. 26
Sep. 5.	Piggott, Ark.	Aug. 26
Sep. 5.	Sioux Falls, S. D.	Sep. 2
Sep. 5.	Pottsville, Pa.	Sep. 2
Sep. 5.	Rensselaer, Ind.	Sep. 2
Sep. 5.	Medina, Ohio	Sep. 2
Sep. 5.	Chillicothe, Ohio	Sep. 2
Sep. 6.	Cleveland, Ohio	Aug. 19
Sep. 6.	Albany, N. Y. Adv. Aug. 12 to Sept. 2.	Aug. 12
Sep. 6.	Viroquay, Wis.	Sep. 2
Sep. 7.	Logansport, Ind.	Aug. 26
Sep. 11.	Salem, N. J.	Aug. 26
Sep. 12.	Buffalo, N. Y. Adv. Aug. 19.	Aug. 19
Sep. 15.	Dayton, Ohio	Aug. 26
Sep. 18.	Lisbon, Ohio	Sep. 2
Sep. 25.	San Bernardino, Cal.	Sep. 2

REINFORCED CONCRETE.

Sep. 5.	Clearwater, Fla.	Aug. 19
Sep. 5.	York, Pa.	Aug. 19
Sep. 5.	Salem, S. D.	Aug. 26
Sep. 5.	Cincinnati, Ohio	Sep. 2
Sep. 5.	Lancaster, Pa.	Sep. 2
Sep. 5.	Conklin, N. Y.	Sep. 2
Sep. 6.	Ann Arbor, Mich.	Aug. 19
Sep. 6.	Washington	Aug. 19
Sep. 6.	Joliet, Ill.	Sep. 2
Sep. 6.	Shelbyville, Ind.	Sep. 2
Sep. 6.	Logansport, Ill.	Sep. 2
Sep. 7.	Florence, S. C.	Aug. 19
Sep. 8.	Ventura, Cal.	Aug. 26
Sep. 8.	Ebensburg, Pa.	Sep. 2
Sep. 8.	Visalia, Cal.	Sep. 2
Sep. 9.	Michigan.	Aug. 19
Sep. 11.	Hastings, Minn.	Aug. 26
Sep. 11.	Barre, Vt. Adv. Sep. 2.	Sep. 2
Sep. 11.	Illinois	Sep. 2
Sep. 11.	Waynesburg, Pa.	Sep. 2
Sep. 11.	Kankakee, Ill.	Sep. 2
Sep. 11.	Indiana.	Sep. 2
Sep. 12.	Manhattan, Kan. Adv. Aug. 26.	Aug. 19
Sep. 12.	Everson, W. Va.	Sep. 2
Sep. 14.	Ludlow, Ky.	Aug. 26
Sep. 18.	Mason City, Iowa.	Aug. 26
Sep. 19.	Los Angeles, Cal.	Aug. 19
Sep. 22.	Manhattan, Kan.	Sep. 2

ROADS AND PAVING.

Sep. 5.	Indiana	Aug. 12
Sep. 5.	Hackensack, N. J.	Aug. 19
Sep. 5.	Plainfield, N. J.	Aug. 19
Sep. 5.	Indiana	Aug. 19
Sep. 5.	Holly Springs, Miss.	Aug. 19
Sep. 5.	Cleveland Heights, Ohio.	Aug. 26
Sep. 5.	Bakersfield, Cal.	Aug. 26
Sep. 5.	Engineer, Perry, Fla. Adv. Aug. 26, Sept. 2.	Aug. 26
Sep. 5.	Maryland Adv. Aug. 26, Sept. 2.	Aug. 26
Sep. 5.	Paterson, N. J.	Aug. 26
Sep. 5.	Jersey City, N. J.	Aug. 26
Sep. 5.	Wenatchee, Wash.	Aug. 26
Sep. 5.	Indiana.	Aug. 26
Sep. 5.	Starkville, Miss. Adv. Aug. 26.	Aug. 26
Sep. 5.	Henderson, Ky.	Sep. 2
Sep. 5.	Houston, Tex.	Sep. 2
Sep. 5.	Covington, Ky.	Sep. 2
Sep. 5.	Buffalo, N. Y.	Sep. 2
Sep. 5.	New Brighton, S. I., N. Y.	Sep. 2
Sep. 5.	Fairmont, W. Va.	Sep. 2
Sep. 5.	Niles, Ohio	Sep. 2
Sep. 5.	Massachusetts	Sep. 2
Sep. 5.	Kansas City, Mo.	Sep. 2
Sep. 5.	Moundsville, W. Va.	Sep. 2
Sep. 6.	Cleveland, Ohio Adv. Aug. 12.	Aug. 12
Sept. 6.	Mt. Holly, N. J. Adv. Aug. 5.	Aug. 5
Sep. 6.	Santa Ana, Cal.	Aug. 26
Sep. 6.	Casper, Wyo.	Aug. 26
Sep. 6.	New Concord, Ohio.	Aug. 26
Sep. 6.	Indiana.	Aug. 26
Sep. 6.	Georgetown, Del. Adv. Aug. 26, Sept. 2.	Aug. 26
Sep. 6.	Illinois	Sep. 2
Sep. 6.	Alliance, Ohio	Sep. 2
Sep. 6.	West Milwaukee, Wis.	Sep. 2
Sep. 6.	Matamoras, Ohio	Sep. 2
Sep. 7.	Indiana.	Aug. 26
Sep. 7.	Indiana	Aug. 19
Sep. 7.	Santa Barbara, Cal.	Aug. 26
Sep. 7.	Ventura, Cal.	Aug. 26
Sep. 7.	Cartersville, Mo.	Aug. 26
Sep. 7.	Newark, N. J.	Aug. 26
Sep. 7.	Carthage, Miss.	Sep. 2
Sep. 7.	Santa Barbara, Cal.	Sep. 2
Sep. 7.	New York, N. Y.	Sep. 2
Sep. 7.	Hanford, Cal.	Sep. 2
Sep. 7.	Elizabeth, N. J.	Sep. 2
Sep. 8.	Indiana.	Aug. 26
Sep. 8.	Port Angeles, Wash.	Aug. 26
Sep. 8.	Ventura, Cal.	Aug. 19
Sep. 8.	Carrollton, Ky.	Sep. 2
Sep. 8.	Visalia, Cal.	Sep. 2
Sep. 8.	Jenkins, Ky.	Sep. 2
Sep. 8.	Columbus, Ohio	Sep. 2
Sep. 9.	Cable, Ohio	Sep. 2
Sep. 9.	Owensboro, Ky.	Sep. 2
Sept. 11.	Birmingham, Ala. Adv. Jul. 29.	Jul. 29
Sep. 11.	Bonds, Titusville, Fla. Adv. Aug. 26.	Aug. 26
Sep. 11.	Akron, Ohio	Aug. 26
Sep. 11.	Sandwich, Ill.	Sep. 2
Sep. 11.	Georgetown, Tex.	Sep. 2
Sep. 11.	New York, N. Y.	Sep. 2
Sep. 11.	Los Angeles, Cal.	Sep. 2
Sep. 12.	Ventura, Cal.	Aug. 26
Sep. 12.	New Orleans, La.	Aug. 26
Sep. 12.	Ogden, Utah	Sep. 2
Sep. 12.	Estherville, Iowa	Sep. 2
Sep. 12.	Frederick, Md.	Sep. 2
Sep. 12.	New Brunswick, N. J.	Sep. 2
Sep. 12.	Montclair, N. J. Adv. Sep. 2.	Sep. 2
Sep. 13.	Billings, Mont.	Aug. 26
Sep. 13.	Westfield, N. J.	Sep. 2
Sep. 14.	Indiana.	Aug. 26
Sep. 14.	Atlantic City, N. J. Adv. Sep. 2.	Sep. 2
Sep. 15.	Los Angeles, Cal.	Sep. 2
Sep. 15.	Washington, D. C. Adv. Sep. 2.	Sep. 2
Sep. 16.	Elkhorn, Wis.	Sep. 2
Sep. 16.	Indiana.	Sep. 2
Sep. 18.	Cleveland Heights, Ohio.	Aug. 26
Sep. 18.	Albany, N. Y. Adv. Sep. 2.	Sep. 2
Sep. 18.	Tallahassee, Fla.	Sep. 2
Sep. 18.	Colfax, Wash.	Sep. 2
Sep. 19.	Pasco, Wash.	Aug. 26
Sep. 19.	New Orleans, La.	Aug. 26
Sep. 19.	Goodwater, Ala.	Sep. 2
Sep. 20.	Phoenix, Ariz.	Aug. 12
Sep. 20.	Phoenix, Ariz.	Aug. 19
Sep. 20.	Florence, S. C.	Sep. 2
Sep. 20.	Lawrenceburg, Tenn. Adv. Sep. 2.	Sep. 2
Sep. 20.	Scottsboro, Ala.	Sep. 2
Sep. 21.	Santa Barbara, Cal.	Sep. 2
Sep. 21.	Fort Warren, Mass.	Sep. 2
Sep. 23.	Charlestown, W. Va. Adv. Sep. 2.	Sep. 2
Sep. 25.	Lebanon, Ind.	Sep. 2
Sep. 25.	Seattle, Wash.	Sep. 2
Sep. 26.	New Orleans, La.	Aug. 26
Sep. 29.	New Orleans, La.	Aug. 26
Oct. 3.	Bakersfield, Cal.	Aug. 26
——	Ocean City, N. J. Adv. Jul. 15.	Jul. 15

RAILWAYS.

Sep. 8.	New York, N. Y.	Sep. 2

BUILDINGS. Public and Private.

Sep. 5.	Port Arthur, Tex.	Aug. 19
Sep. 5.	Plainfield, N. J.	Aug. 19
Sep. 5.	Kansas City, Mo.	Aug. 26
Sep. 5.	Mitchell, S. D.	Aug. 26
Sep. 5.	Central Islip, L. I., N. Y. Adv. Aug. 26, Sep. 2.	Aug. 26
Sep. 5.	Muscantine, Iowa	Sep. 2
Sep. 5.	Dover, N. J.	Sep. 2
Sep. 5.	Mannington, W. Va.	Sep. 2
Sep. 5.	Midland, Pa.	Sep. 2
Sep. 5.	Ottawa, Kan.	Sep. 2
Sep. 5.	New York Mills, N. Y.	Sep. 2
Sep. 5.	Pittsburgh, Pa.	Sep. 2
Sep. 6.	Berlin, Wis.	Aug. 19
Sep. 6.	Buchanan, N. D.	Aug. 26
Sep. 6.	Alvo, Neb.	Aug. 26
Sep. 6.	Chester, Pa.	Sep. 2
Sept. 7.	Athens, Ala. Adv. Aug. 5.	Aug. 5
Sep. 7.	Knoxville, Iowa Adv. Aug. 19.	Aug. 19
Sep. 7.	Dayton, Ohio	Aug. 19
Sep. 7.	Baltimore, Md.	Sep. 2
Sep. 8.	Fredericktown, Ohio	Aug. 19
Sep. 8.	Rochester, N. Y.	Aug. 19
Sep. 8.	Jacksonville, Fla.	Aug. 19
Sep. 8.	Wabasha, Minn.	Aug. 26
Sep. 8.	Philadelphia, Pa.	Aug. 26
Sep. 8.	Slater, Iowa	Aug. 26
Sept. 9.	Irwin, Iowa	Aug. 19
Sep. 9.	Maddock, Minn.	Aug. 26
Sep. 11.	Covington, Ky.	Aug. 19
Sep. 11.	Bedford, Ind.	Aug. 26
Sep. 11.	Cleveland, Ohio	Aug. 26
Sep. 11.	Wichita, Kan.	Aug. 26
Sep. 11.	New York, N. Y.	Aug. 26
Sept. 12.	Orlando, Fla. Adv. Aug. 5, 12.	Aug. 5
Sept. 12.	Warrenton, Va.	Jul. 29
Sep. 12.	Jesup, Iowa	Aug. 19
Sep. 12.	Brooklyn, N. Y.	Aug. 26
Sep. 12.	Clifton, N. J.	Aug. 26
Sep. 12.	Detroit, Mich.	Aug. 26
Sep. 13.	New York, N. Y.	Aug. 26
Sep. 14.	Mounds, Minn.	Aug. 19
Sep. 14.	Sioux Falls, S. D.	Aug. 26
Sep. 14.	Mounds, Minn.	Aug. 26
Sep. 14.	Springfield, Ohio	Sep. 2
Sep. 15.	Grand Rapids, Mich.	Sep. 2
Sep. 15.	Dunkirk, N. Y. Adv. Sep. 2.	Sep. 2
Sep. 15.	St. Paul, Minn.	Sep. 2
Sep. 15.	Jonesboro, Ark.	Sep. 2
Sep. 20.	West Point, N. Y. Adv. Aug. 26, Sep. 2.	Aug. 26
Sep. 21.	Highland Park, Mich. Adv. Aug. 19 to Sept. 2.	Aug. 19
Sep. 21.	Wilberforce, Ohio	Sep. 2
Sep. 21.	Newton, N. J.	Sep. 2
Sep. 21.	Bayonne, N. J.	Sep. 2
Sep. 25.	Norfolk, Neb.	Sep. 2
Sep. 25.	Jefferson, Iowa	Sep. 2
Oct. 2.	Willows, Cal. Adv. Aug. 26, Sept. 2.	Aug. 26
Oct. 3.	Huntington, W. Va.	Sep. 2
Oct. 5.	Berlin, N. H.	Sep. 2
Oct. 6.	Skohegan, Me.	Sep. 2
Oct. 17.	New Orleans, La.	Sep. 2

FOUNDATIONS, PIERS AND DAMS.

Sep. 5.	Gulfport, Miss.	Aug. 12
Sep. 5.	Medina, Ohio	Sep. 2
Sep. 6.	Albany, N. Y. Adv. Aug. 12 to 26.	Aug. 12
Sep. 6.	Santa Ana, Cal.	Aug. 26
Sep. 6.	Cresco, Iowa	Sep. 2
Sep. 6.	Montreal, Que.	Sep. 2
Sep. 7.	Ventura, Cal.	Aug. 26
Sep. 8.	Port Burwell, Ont.	Aug. 26
Sep. 12.	Ventura, Cal.	Aug. 26
Sep. 12.	Cocoa, Fla. Adv. Aug. 26.	Aug. 26
Sep. 14.	Chicago, Ill. Adv. Aug. 19, 26.	Aug. 19
Sep. 14.	Atlantic City, N. J. Adv. Sep. 2.	Sep. 2
Sep. 15.	Dayton, Ohio. Adv. Sep. 2.	Sep. 2
Sep. 16.	Marion, Ohio	Sep. 2
Sep. 16.	Chicopee, Mass.	Aug. 12
Sep. 16.	Baltimore, Md.	Aug. 12
Sept. 25.	Houston, Tex.	Aug. 5
Sep. 28.	Nashville, Tenn. Adv. Aug. 19 to Sept. 2.	Aug. 19

EXCAVATION, DREDGING AND DRAINAGE.

Sep. 4.	York, S. C. Adv. Aug. 19.	Aug. 19
Sep. 5.	Miami, Fla. Adv. Aug. 12 to Sept. 2.	Aug. 12
Sep. 5.	Slayton, Minn.	Aug. 26
Sep. 5.	St. Francisville, La.	Aug. 26
Sep. 5.	Logan, Iowa	Aug. 26
Sep. 5.	Memphis, Tenn.	Sep. 2
Sep. 5.	Rayville, La.	Sep. 2
Sep. 6.	Belzoni, Miss.	Aug. 26
Sep. 7.	New York, N. Y.	Aug. 26
Sep. 7.	New York, N. Y.	Sep. 2
Sep. 8.	Ventura, Cal.	Aug. 26
Sep. 9.	Boston, Mass.	Aug. 26
Sep. 11.	Boone, Iowa	Aug. 26
Sep. 11.	Redfield, S. D.	Sep. 2
Sep. 12.	Cottleville, Mo.	Sep. 2
Sep. 14.	Chicago, Ill. Adv. Aug. 19, 26.	Aug. 19
Sep. 14.	Grand Junction, Col.	Aug. 26
Sep. 14.	Ft. Dodge, Iowa	Sep. 2
Sep. 14.	Cambridge, Minn.	Sep. 2
Sep. 15.	Montrose, Col.	Aug. 19
Sep. 15.	Windom, Minn.	Sep. 2
Sep. 18.	Sioux City, Ia. Adv. Aug. 19, 26.	Aug. 19
Sep. 20.	St. Ignatius, Mont. Adv. Aug. 19.	Aug. 19
Sep. 27.	Malta, Mont.	Sep. 2
Sep. 28.	Fort Laramie, Wyo. Adv. Aug. 26.	Aug. 26
——	Rock Island, Ill. Adv. Aug. 5, 12.	Aug. 5
——	Albany, N. Y. Adv. Aug. 26.	Aug. 26

MISCELLANEOUS.

Sep. 5.	Garbage Disposal Plant, Mattoon, Ill.	Aug. 26
Sep. 5.	Pump, Boston, Mass.	Aug. 26
Sep. 5.	Garbage Disposal, Orange, N. J.	Sep. 2
Sep. 5.	Brush and Poles, Memphis, Tenn.	Sep. 2
Sep. 6.	State Canal Work, Terminal Contract 31, Albany, N. Y. Adv. Aug. 12 to Sept. 2.	Aug. 12
Sep. 6.	Sheet steel, etc., Panama	Sep. 2
Sep. 7.	Improv. armory site, Albany, N. Y. Adv. Sep. 2.	Sep. 2
Sep. 7.	Cement, Memphis, Tenn.	Sep. 2
Sep. 8.	Garbage Incinerator, Highland Park, Ill.	Sep. 2
Sep. 11.	Lumber, Memphis, Tenn.	Sep. 2
Sep. 11.	Fireproofing, New York, N. Y.	Sep. 2
Sep. 12.	Grouting, New York, N. Y. Adv. Aug. 26 to Sept. 2.	Aug. 26
Sep. 12.	Signs, New Brighton, S. I., N. Y. Adv. Aug. 26.	Aug. 26
Sep. 12.	Metal Ceilings, City Hall, Jersey City, N. J.	Sep. 2
Sept. 13.	Traveling Cranes, New Orleans, La.	Jul. 29
Sep. 13.	El. Ry., New York, N. Y.	Aug. 26
Sept. 14.	Cement, Savannah, Ga.	Aug. 5
Sep. 14.	Steel pipe, etc., Panama.	Sep. 2
Sep. 15.	Sand and cement, Los Angeles, Cal.	Sep. 2
Sep. 15.	Cement, Los Angeles, Cal.	Aug. 26
Sep. 18.	Galv. steel sheets, etc., Panama	Sep. 2
Sep. 20.	Rock, New Orleans, La.	Sep. 2
Sep. 22.	Removal of wreck, Norfolk, Va.	Sep. 2
Sep. 23.	Gate valves for lock, Louisville, Ky. Adv. Sep. 2.	Sep. 2
Oct. 4.	Elevator, Washington, D. C.	Aug. 26
Oct. 2.	Wreck, Newport, R. I. Adv. Sep. 2.	Sep. 2

SEARCHLIGHT SECTION

Official Proposal Announcements

Price, $2.40 an inch.—Copy can be received until Thursday 10 a. m. for issue mailed the next morning

Bids open September 21, 1916.

BIDS SOLICITED FOR THE ERECTION OF A

PUBLIC SCHOOL BUILDING

HIGHLAND PARK, MICH.

The Board of Education of the District of the Public Schools of Highland Park, Mich., will receive bids up to 8 o'clock p. m., Thursday, September 21, 1916, at the High School Building, on Glendale Avenue, and then and there open the same, for furnishing all the labor and material required for the erection of a school building on the (so-called) Northwestern School site, west of Joslyn Avenue, and between Florence and Geneva avenues, in said school district.

Bids may be made upon the entire work or upon one or more parts or subdivisions thereof, according to the plans, specifications and general conditions now on file with Wells D. Butterfield, architect, 1113-15 David Whitney Building, Detroit, Mich.

A deposit of $20.00 is required for each set of plans, to be repaid when the same are returned. Further, a rental of $3 per day will be charged contractors who retain the plans longer than the time agreed upon.

Bids are to be made only on the printed forms furnished by the architect, and bids not so made may be rejected.

THE ATTENTION OF BIDDERS IS PARTICULARLY CALLED TO THE GENERAL CONDITIONS IN THE SPECIFICATIONS, INCLUDING THE PARAGRAPH FIXING THE TIME OF COMPLETION OF WORK.

No bid will be entertained unless accompanied by a certified check or bidding bond to the Public Schools of Highland Park for 3 per cent of the amount of bid, minimum amount $100, to be forfeited if the successful bidder shall neglect or refuse to enter into contract within ten days from date of acceptance of bid.

The right is reserved to reject any or all bids, to accept any bid at any time within four weeks from date of opening the same, and to waive any informalities or irregularities in bidding which are to the advantage of the district.

Address,

CALEB S. PITKIN,
Secretary Board of Education,
137 Grand Avenue West,
Highland Park, Mich.

Bids open September 19, 1916.

NOTICE TO CONTRACTORS.

SEWERAGE AND WATER PIPE LAYING

COLUMBIA, S. C.

Sealed bids will be received by the undersigned, or the City Council, for the City of Columbia, S. C., until 10 a. m., Tuesday, September 19, 1916, for laying about 23 miles of vitrified sewer pipe and about 6 miles of cast-iron water pipe, with specials.

Proposals will be considered for the whole amount of the work and for each section, or subdivision, of same.

Specifications and all available information will be furnished on application to the office of City Engineer.

A certified check drawn to the order of the treasurer of the City of Columbia, S. C., or New York draft to the amount of two hundred dollars ($200), must accompany each proposal, which will be subject to forfeiture in case of failure on the part of the contractor to enter into a written contract and furnish a bond with approved sureties in the sum of one-half the amount of the contract within ten (10) days after being called upon to do so.

The right to reject any or all bids is reserved.

T. KEITH LEGARE,
City Engineer.

R. C. KEENAN,
Council-Superintendent,
Department of Engineering.

Bids open September 18, 1916.

SEWERS AND SEWAGE DISPOSAL

BOROUGH OF SOUTH BETHLEHEM, PA.

Sealed bids addressed to the Borough of South Bethlehem, Pa., at the office of the Borough Secretary, to be accompanied by a certified check for 5 per cent of the amount of the bid will be received up until 8 p. m., September 18, 1916.

For furnishing all work and materials necessary for the construction of intercepting sewers, sewage treatment works and appurtenances and work incident thereto in the Borough of South Bethlehem, Pa., all in compliance with the details and provisions set forth in plans and specifications now on file in the office of the Borough Engineer.

Plans may be seen and detailed specifications, proposal blank, form of contract and bond required and other information for proposers may be had at the office of the Borough Secretary upon deposit of $25, which amount will be refunded if the plans and specifications are returned in good condition prior to the opening of the bids or if a bid is submitted.

The Borough reserves the right to reject any or all proposals, readvertise and award the contract in the regular manner, or accept any proposal, if in the judgment of the Council the interests of the Borough will be enhanced thereby.

Bidders may also submit proposals on other systems of sewers and methods of sewage treatment as an alternative to the Borough's plans and specifications. With such alternative bids, detail drawings and specifications shall be submitted. Any alternative method of sewage treatment must be shown by reference and evidence to be an accepted method in successful operation; no experiments or new and untried methods will be considered.

B. H. BIRKLE,
Chairman Sewer Commission.

Bids open September 7, 1916.

NOTICE TO CONTRACTORS.

ARMORY SITE IMPROVEMENTS

ALBANY, N. Y.

Sealed proposals for improvement to site for Troop B Armory, Albany, N. Y., will be received by Col. Franklin W. Ward, Secretary, State Board of Armory Commissioners, 158 State Street, Albany, N. Y., until 4 o'clock p. m., on Thursday, September 7, 1916, when they will be publicly opened and read. Proposals shall be enclosed in an envelope furnished by the State Architect, sealed and addressed and shall be accompanied by a certified check in the sum of five per cent (5%) of the amount of bid. The contractor to whom the award is made will be required to furnish surety company bond in the sum of fifty per cent (50%) of the amount of contract within thirty (30) days after official notice of award of contract and in accordance with the terms of specification No. 2329. The right is reserved to reject any or all bids. Drawings and specifications may be consulted at the New York office of the Department of Architecture, Room 1224, Woolworth Building, and at the Department of Architecture, Capitol, Albany, N. Y. Drawings and specifications and blank forms of proposal may be obtained at the Department of Architecture, Capitol, Albany, N. Y., upon reasonable notice to and in the discretion of the State Architect, Lewis F. Pilcher, Capitol, Albany, N. Y.

Dated: August 24, 1916.

Bids open September 5, 1916.

NOTICE TO CONTRACTORS

LAUNDRY EXTENSION

CENTRAL ISLIP, N. Y.

Sealed proposals for construction work and laundry equipment for extension to laundry at Central Islip State Hospital, Central Islip, N. Y., will be received by the State Hospital Commission, Capitol, Albany, N. Y., until 2.30 o'clock p. m., on Tuesday, September 5, 1916, when they will be publicly opened and read. Proposals shall be enclosed in an envelope furnished by the State Architect, sealed and addressed, and shall be accompanied by a certified check in the sum of five per cent (5%) of the amount of proposal. The contractors to whom the awards are made will be required to furnish surety company bond in the sum of fifty per cent (50%) of the amount of contract within thirty days (30) after official notice of award of contract and in accordance with the terms of Specifications Nos. 2231 and 2501. The right is reserved to reject any or all bids. Drawings and specifications may be consulted at the Central Islip State Hospital, Central Islip, N. Y.; at the New York office of the Department of Architecture, Room 1224 Woolworth Building, and at the Department of Architecture, Capitol, Albany, N. Y. Drawings and specifications and blank forms of proposal may be obtained at the Department of Architecture, Capitol, Albany, N. Y., upon reasonable notice to and in the discretion of the State Architect, Lewis F. Pilcher, Capitol, Albany, N. Y.

E. S. ELWOOD, Secretary,
State Hospital Commission.

Dated: August 18, 1916.

Bids open September 12, 1916.

NOTICE TO BIDDERS

FOR INDESTRUCTIBLE ROAD SIGNS

NEW BRIGHTON, N. Y. C.

The President of the Borough of Richmond will receive bids for approximately 930 indestructible road signs until September 12, 1916, at 12 o'clock M. Bidders are requested to furnish sample of sign, together with price for the same. Samples to be furnished at the office of the President of the Borough and the signs of the successful bidder to be delivered to the store yard at DuBois Avenue, West New Brighton, S. I.

The sign adopted by the President of the Borough shall be complete so far as lettering, shop work for field riveting and the necessary bolts and attachments complete.

Further information may be had upon application at the office of the President of the Borough of Richmond.

Bids open September 6, 1916.

NOTICE TO CONTRACTORS

CONCRETE HIGHWAY

READVERTISEMENT

GEORGETOWN, DEL.

Proposals for the construction of Sections 5 and 6 of the Coleman du Pont Road will be received at the Engineer's Office, Georgetown, Delaware, up to 1 o'clock P. M., Wednesday, September 6, 1916.

Plans may be seen and specifications and blank form of proposal may be obtained at the office of the Engineer, Georgetown, Delaware.

COLEMAN DU PONT ROAD, INC.
CHAS. UPHAM,
Chief Engineer.

Bids open September 5, 1916.

NOTICE TO CONTRACTORS.

STATE OF MARYLAND.

STATE ROADS COMMISSION

601 GARRETT BUILDING,
BALTIMORE, MD.

Sealed proposals for building four sections of State highway, aggregating about 9.74 miles in length, as follows:

Contract No. B-26—*Baltimore County:* One section along the Liberty Road, from Harrisonville to the Old Court Road, about 3.33 miles in length. (Macadam resurfacing, oil bound.)

Contract No. B-28—*Baltimore County:* One section along the Reisterstown Road, from Reisterstown to the Carroll County Line. (Macadam resurfacing, oil bound.) 2.56 miles in length.

Contract No. K-8—*Kent County:* One section from Chestertown toward Fairlee, about 2.13 miles in length. (Concrete or macadam, Class C.)

Contract No. M-15—*Montgomery County:* One section from Dawsonville to the Buck Lodge Road, about 1.72 miles in length. (Concrete or macadam, Class C.)

Will be received by the State Roads Commission at its offices, 601 Garrett Building, Baltimore, Md., until 12 m., on the 5th day of September, 1916, at which time and place they will be publicly opened and read.

Bids must be made upon the blank form contained in the book of specifications. Specifications and plans will be furnished by the Commission upon application, and cash payment of $1, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check for the sum of five hundred ($500) dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond, and comply with the Acts of the General Assembly of Maryland, respecting contracts.

The Commission reserves the right to reject any and all bids.

By order of the State Roads Commission this 17th day of August, 1916.

FRANK H. ZOUCK,
Chairman.

CLYDE H. WILSON,
Secretary.

Bids open September 20, 1916.

NOTICE TO CONTRACTORS

COUNTY ROAD IMPROVEMENT

LAWRENCEBURG, TENN.

Sealed bids for the improvement of roads in Lawrence County, Tennessee, will be received by the Lawrence County Highway Commission until 2 p. m., Wednesday, September 20, 1916, and at that time publicly opened in the Court House at Lawrenceburg, Tennessee.

Proposed improvement is on the Jackson Military Road through Lawrence County, a distance of thirty-six miles. The work will include the grading, installation and construction of culverts and bridges and the surfacing with chert.

Each proposal must be accompanied by a certified check of Two Thousand Dollars ($2,000.00), made payable to E. G. Parkes, Secretary, Lawrence County Highway Commission.

Copies of the proposal form, instructions to bidders, specifications and forms for contract and bond will be furnished upon application to the undersigned.

Plans are on file at the Engineer's office at Lawrenceburg, Tennessee. Copies may be had upon application after September 5, 1916. A deposit of Ten Dollars ($10.00) will be required for every set of plans taken or sent from the Engineer's office. This deposit will be refunded upon the receipt of plans.

The estimated cost of the improvement is about $130,000.00.

The Highway Commission reserves the right to reject any and all bids.

E. G. PARKES,
Secretary Highway Commission.

August 19, 1916.

Great Possibilities for Big Contracts in Europe

Car Shortage May Confront Country Due to Lack of Co-operation—Steel Mills Still Behind on Orders

AN UNUSUAL OPPORTUNITY is afforded in this issue to contractors interested in the reconstruction of Europe. No less an authority than W. S. Kies, vice-president of the National City Bank of New York City and of the $50,000,000 American International Corporation, discusses the opportunities open to American interests in the rehabilitation of Europe. Mr. Kies points out the necessity for co-operation among American engineers and contractors, and suggests an American engineering bureau abroad. In his article on pages 310 and 311 of this issue Mr. Kies gives facts and indications showing the need for immediate organization of American resources.

Car Shortage Probable

As predicted by this journal some time ago the car situation has come to be a thing to consider seriously. Figures on the car situation on Aug. 1 of this year indicate that conditions were worse than in 1907 and 1912—the years of probably the worst car shortages known.

In September, 1907, the shortage amounted to 11,627 box cars, while in October of that year the number increased to 43,136. The shortage in September, 1912, was only 727, but in October of that year it had increased to 18,943. Figures for Aug. 1 of this year show a shortage of 7,777 cars as compared to a surplus in that month of the other years mentioned. The reason for the present condition is that immense shipments of grain are being handled as well as more than the normal volume of manufactured articles. Advances in lake freight rates have also diverted unusual traffic to the railroads. Shippers are urged to load quickly and receivers to unload with the least possible delay. As a means of accelerating freight handling an increase in demurrage rates may be proposed.

Steel business in August exceeded shipments despite the fact that the output was increased about 10 per cent. Orders for shell bars and other forms of steel were tremendous, and mill schedules that previously gave promise of being restored to a semblance of order have again been upset. The next unfilled tonnage statement of the United States Steel Corporation will show an increase, while independent steel mills are in a similar position. The problem of the mills is to apportion ingots to where they will do the most good in satiating the demand for steel, and therefore a let-up in one direction is welcomed rather than a cause for concern.

Paving

The following table summarizes the larger paving items in this issue:

Bids Desired	Kind	Cost or Amount
Meriden, Conn.	Concrete	.....
Paducah, Ky.	Asphalt	27,500 sq.yd.
Welch, W. Va.	Highway	40.8 miles
Proposed Work		
Florence, N. J.	Sidewalks	$50,000
Cincinnati, Ohio	Macadam and core	$153,000
Williamsport, Pa.	Asphalt	$55,000
Albany, Ore.	Highway	200 miles
Seattle, Wash.	Paving	$53,000
Port Arthur, Tex.	Voted bonds	$64,000
Canton, Ohio	Voted bonds	$105,000
Hamilton, Ohio	Voted bonds	$100,000
Toledo, Ohio	Street extension	$500,000

Waterworks and Sewers

Bids are desired until Sept. 16 by the city clerk of Waterville, N. Y., for constructing a distributing reservoir for the Kennebec Water District. The work involves 20,000 cu. yd. of excavation and concrete core wall 780 ft. long and 24 ft. high. Bayonne, N. J., may install a pipe line costing $117,000. Minneapolis, Minn., is considering building a sewer system, the cost of which will be from $50,000 to $100,000. An election will be held, probably in January, at Los Angeles, at which a vote will be taken on more than $2,000,000 worth of bonds for constructing storm drains. At Cincinnati the city engineer's estimate of $66,020 for sewer contract 5 has been approved, while the Indianapolis Water Company is contemplating spending $180,000 for sewer improvements. Bonds amounting to $100,000 were voted by citizens of Alma, Mich., for waterworks equipment and extensions. A sewer system is proposed in the St. Anthony Hill district in St. Paul, costing nearly $1,000,000.

Bridges and Buildings

The lowest bid was submitted by Gilmore Brothers, of Toledo, for constructing a bridge over Rush Creek in Lancaster, Ohio, at $98,446. Contract for building a 700-ft. viaduct in Parkersburg, W. Va., was awarded to the Merydith Construction Company at $60,000. Plans are being completed by the city engineer of New Haven, Conn., for the Tomlinson bridge to cost $400,000. An election will be held at New Orleans, Nov. 7, to authorize the construction of a bridge or tunnel connecting the east and west shores. Mention of this project also appears in the news section.

Two 600-ft. reinforced-concrete bridges will be built over Whitewater River at Richmond, Ind., at an estimated cost of $400,000. A 380-ft. steel or concrete bridge is proposed at Little River, Alabama, bids for which will be opened Oct. 3. An $85,000 concrete bridge at Mishawaka, Ind., and a $150,000 concrete viaduct at Birmingham, Ala., are also included in this week's news section. The Ashland (Ky.) Leather Company will spend $70,000 on a concrete addition to its factory, while in Deseronto, Ont., a $150,000 concrete building is proposed. Contract for a $600,000 office building in Winnipeg, Man., Canada, was recently awarded.

The Washburn Crosby Company of Minneapolis will erect a $200,000 flour mill at Great Falls, Mont. Reports from Cincinnati state that the Hirsch Rolling Mills (St. Louis) may erect a $500,000 plant in that city. Contract will soon be let for a theater in Chester, Pa., costing $200,000, while the Milwaukee (Wis.) school commission has recommended an $800,000 bond issue.

Excavating and Dredging

Bids are desired until Sept. 15 at Vicksburg, Miss., for 1,005,000 cu. yd. of levee construction, until Sept. 22 at St. James, Minn., for ditch work estimated to cost $79,205. Bids will be opened Sept. 16 at Redwood Falls, Minn., for $103,339 worth of ditch work. Bonds amounting to $390,000 will be sold Oct. 2 at Vale, Ore., for irrigation district improvements, and $682,200 bonds for dam construction will be voted on in November at San Diego, Cal.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Leominster, Mass.—Arthur H. Hall, Frank S. Farnsworth and Jas. W. Gates, committee to investigate question of sewage disposal for town, submitted their report to Henry F. Sawtelle, Mayor, together with report of J. J. Valkenburg of Framingham, engr., with his plans and surveys, for filter beds at Divoll farm; estimated cost $267,312.

Pittsfield, Mass.—Extension of water system in Bakersfield and West Pittsfield section of city contemplated.

Worcester, Mass.—City will lay 12 to 15 miles water mains, all sizes, and install 500 to 700 new service sand meters. Geo. W. Batchelder, water comr.

Providence, R. I.—Allen Hazen, 30 East Forty-second Street, New York, N. Y.; Fred P. Stearns, 1 Ashburton Place, Boston, Mass.; Samuel M. Gray, 10 Weybosset Street, Providence, and Frank E. Windsor, Ch. Engr. in charge, submitted a report to Water Supply Board on stripping bed of new reservoir at Scituate; $1,000,000 bonds recently sold by city for construction of water works at Scituate.

Rochester, N. Y.—Common Council voted to construct storm water sewers on Clifford and Martinot Aves., at cost of $27,000.

Sloatsburg, N. Y.—Conservation Comn. approved plans of Ramapo Mountains Water Power Service Co. for supplying water to Hillburn, Suffern, Monsey and other sections of Rockland County; supply is from Stoney and Pine Meadow Creek by gravity and capable of delivering about 5,000,000 gal. per day. Cost for pipe line, filters, reservoir, etc. will be about $300,000. Jos. B. Rider, engr., 29 Bway, New York.

Bayonne, N. J.—L. L. Trebis, engr. bd. city comrs., estimates cost proposed pipe line at $117,000.

Hamburg, N. J.—Combined water and light plant contemplated, including about 5 miles mains and 6 miles electric lines, pumping plant and electric power station; cost about $60,000. Jos. B. Rider, engr., 29 Bway., New York.

Hasbrouck Heights, N. J.—The Hackensack Water Co. of Hackensack will extend mains in Burton Avenue.

Ogdensburg, N. J.—Jos. B. Rider, 29 Bway., New York, is engineer for proposed gravity water system with auxiliary drilled well supply, pumping to reservoir; cost $35,000. P. J. Dolan, mayor.

Pompton Lake, N. J.—Borough water and light plant to be enlarged; new gas product and engine equipment contemplated. Jos. B. Rider, engr., 29 Bway, New York. John O. Wells, chmn. com.

Rahway, N. J.—City contemplates constructing sewers in West Hazelwood and Maple Avenues.

Allentown, Pa.—City Council considering purchasing sewerage system and disposal plant and constructing storm water sewers.

Dunbar, Pa.—Citizens voted bonds for constructing waterworks and sewerage system.

Erie, Pa.—City Engineer about completed plans for west side storm sewer; cost $30,000.

Penn, Pa.—Construction of sewerage system and paving principal streets contemplated. Address Town Clk.

Phillipsburg, Pa.—Citizens Water Co. will construct storage reservoir costing $40,000.

Tarentum, Pa.—Construction of coagulating basin at pumping station contemplated; cost $2,500. Address City Clk.

Thornburg, Pa.—City Council passed ordinance authorizing South Pittsburgh Water Co. to construct and maintain system of water mains in Thornburg.

Warren, Pa.—Preliminary plans approved for construction of trunk line sanitary sewer and disposal plant. Alson Rogers, boro. engr.

Washington, D. C.—Following three sewage disposal projects provided for in District appropriation act: Continuation of work on Anacostia main interceptor between Poplar Point and Benning, cost $39,500; Rock Creek main interceptor from P. St. to Military Road at $50,000; and beginning on the upper Potomac interceptor between Twenty-seventh and K Sts. and Chain Bridge, at $30,000. Address Engineer of Sewers.

Altavista, Va.—Citizens voted $35,000 water and sewer bonds. Town is to buy plants from a private corporation at cost of $19,000 and make improvements with remainder of bond issue.

Shepherdstown, W. Va.—Franchise granted Shepherdstown Light & Power Co. to build waterworks costing $16,000.

Scotland Neck, N. C.—Waterworks and sewerage bonds for $80,000 will be sold Sept. 26 by Henry T. Clark, town clk.

Beaufort, S. C.—Town Commrs. voted $100,000 bond issue for installing water and sewerage system.

Cairo, Ga.—Constructing of sewerage system is under consideration. Address Mayor.

Dalton, Ga.—City Council voted to extend sewerage system 1500 ft.

Dublin, Ga.—Filter plant bonds for $30,000 will be sold Oct. 4 by W. W. Robinson, mayor, advertised in this issue.

Daytona, Fla.—See "Roads and Paving."

Birmingham, Ala.—Contract about to be let for lowering 9000 ft. of trunk sanitary sewer of county between Woodlawn and East Lake. City to lower sewers emptying into county sewer; cost of work to city $12,000 and to county $22,000. L. H. Slater, co. engr.

Copperhill, Tenn.—Contract will be let in September for constructing waterworks and sewerage, including about 4 miles of mains, with gravity supply and 3 miles of sewers, discharging into Ocoee River, plans for which are to be prepared by Walter G. Kirkpatrick of Birmingham, Ala.

Broken Arrow, Okla.—Construction of sewerage system is reported under consideration. Address City Clerk.

Cincinnati, Ohio.—Council approved estimate of Frank S. Krug, city engr., at $66,020 for Contract No. 5 of Avondale Relief sewer.

Cleveland, Ohio.—Plans to be completed at once for W. Fifty-eighth St. sewage disposal plant. Disposal works, including sedimentation treatment and tanks, recommended by the engineers. Address City Engr.

Kent, Ohio.—Sanitary sewer bonds for $60,000 sold. Address City Clk.

Lima, Ohio—Plans of R. W. Pratt of Cleveland and W. G. Clark of Toledo for pump station, pumps and filtration plant and 1,000,000 gal. reservoir at Lost Creek approved by W. H. Ditto, Ch. Engr., State Bd. of Health, at Columbus.

Plans of George W. Fuller, New York, N. Y., for sewage disposal plant, sanitary sewers, pump station, relief lines for storm water sanitary sewer extensions, cleaning and repair present sewers and relief sewers with river improvements, cost $1,992,125, approved by W. H. Ditto, Ch. Engr. State Board of Health at Columbus.

Marion, Ohio.—Sewer bonds for $21,124 sold. Address Director Pub. Service.

Piqua, Ohio.—Hazen, Whipple & Fuller, engrs. for new waterworks submitted report estimating cost of system at $380,000. Engineers recommend erecion of a stand pipe, also installation of meters.

Indianapolis, Ind.—Indianapolis Water Co. applied to Public Service Comn. for authority to issue $180,000 bonds for improvements to canal and other parts of system. Total cost of work will be about $225,000.

Construction of a sewage disposal plant is under consideration. B. J. T. Jeup, city engr.

Alma, Mich.—Citizens, Aug. 29, voted $100,000 bonds to install four wells, one standpipe, two pumps and extensions of mains. W. J. Sherman Co., engrs., Toledo; Carl E. Gallagher, city clk.

Oglesby, Ill.—City considering extending water system. Probable cost $25,000. John Corgiat, city clk.

Ladd, Ill.—Citizens Aug. 31 voted down proposition to issue bonds to sink new well. Nothing further will be done at present time. Henry Dwyer, village clk.

Reedsburg, Wis.—Construction of sewerage system in Central Sewer Dist. contemplated. Wm. Dierken, city clk.

Duluth, Minn.—Reported City Council considering spending $15,000 for extending water system.

Minneapolis, Minn.—City Council considering constructing sewer system in West Harriet Dist. in 1917; cost between $50,000 and $100,000.

Rochester, Minn.—It is proposed to install pumping station, motor driven pumps and additional artesian wells; cost $35,000. Chas. L. Pillsbury Co., engrs., Minneapolis.

St. Paul, Minn.—City Council considering constructing sewer system in St. Anthony Hill Dist., covering 5 square miles; cost about $797,057.

City Council voted to construct sewers on Fairmount Ave., St. Clair, Frederick, Berkeley and Stanford Sts.

Wadena, Minn.—City sold $30,000 sewer improvement bonds. Address city clk.

Concordia, Kan.—Plans and specifications for extensions to water works submitted by city to Kansas Public Utilities Commission for approval, cost $12,870. Address City Clerk.

Ellis, Kan.—Contract will be let about Sept. 20 by Ray Hull, supt. for improvements to waterworks, costing $16,000, including six double nozzle fire hydrants, six 4-in. valves and boxes, centrifugal pump, two miles 4-in. c. i. pipe, 60-hp. engine. Black & Veatch, engrs., Kansas City.

Moran, Kan.—Election Sept. 18 to vote $30,000 for waterworks system and $12,000 electric light bonds. W. B. Rollins & Co., engr., Midland Bldg., Kansas City.

Beatrice, Neb.—Construction of municipal light plant and addition to waterworks contemplated; estimated cost $25,000. W. H. Andrews, city engr.

Riverton, Wyo.—Waterworks bonds for $15,000 and $13,500 sewer bonds will be sold Sept. 25 by J. A. Delfelder, mayor, advertised in this issue. This sale is subject to result of election Sept. 19.

Paris, Mo.—Citizens Aug. 28 voted $12,500 bonds for waterworks improvements. J. T. Moss, city clk.

St. Louis, Mo.—Water Commr. Wall, in report to Mayor, recommends appropriating $300,000 for erecting concrete roofs over city reservoirs at Bissel Point and Baden.

Austin, Tex.—City Council will spend $16,735 for sewer extensions; $3,000 of this sum is for preparation of plans for sewage disposal plant in Austin.

Beaumont, Tex.—South Park voted to spend $25,000 for water and sewer improvements. Address City Clerk of Beaumont.

Celina, Tex.—City preparing to alter present sewage disposal plant. W. E. Seitz, mayor.

Crockett, Tex.—S. M. Wilder, Mt. Pleasant, engaged to prepare plans and specifications for sewerage system and sewage treatment plant. Address City Clk.

Edinburg, Tex.—E. M. Card, Edinburg, engaged to design water purification plant for city, population 5000. Address City Clk.

Gainesville, Tex. — N. Werenskold, Dallas, preparing plans for sewage treatment plant to treat about 200,000 gal. of sewage per day.

Garland, Tex.—M. Griffin O'Neill & Son, Dallas, engaged to estimate cost of waterworks and sewer system. G. W. Crossman, Mayor.

George West, Tex.—George West Water & Light Co. will construct waterworks and electric light plant; cost, $40,000. Chas. Schreiner, Jr., San Antonio, interested.

Memphis, Tex.—Plans for additional treatment of sewage at the sewage disposal plant being prepared by H. E. Elrod, Dallas.

Porth Arthur, Tex.—Construction 104,000 ft. of trunk and lateral sewers contemplated. Address City Engr.

San Angelo, Tex.—Plans being prepared by H. E. Elrod, Dallas, for alterations to present sewage disposal plant in order to meet requirements of the Anti-Stream Pollution Act.

Sweetwater, Tex.—City sold $50,000 bonds for extension to sewerage system and installing disposal plant.

Temple, Tex.—Contract soon to be let for reinforced concrete reservoir; cost $17,500. R. D. Morgan, city engr.

Waxahachie, Tex.—City Council instructed J. D. Kirvan, Waxahachie, to prepare plans for sewage treatment plant.

Wharton, Tex.—John A. Morris, Wharton, engaged to prepare plans for sewage treatment plant. Address City Clk.

Marlow, Okla.—Improvements contemplated to waterworks. Address City Clerk.

North Yakima, Wash.—Election to be held in fall to vote $290,000 bonds for constructing sewer system. N. A. Gilman, city engr.

Seattle, Wash.—Council instructed A. H. Dimock, city engr., to estimate cost of constructing sewers in district bounded by E. Fiftieth and E. Sixtieth Sts., and Nineteenth Ave., n. e., and Twenty-seventh Ave. n. e.

Astoria, Ore.—Contract soon to be let for constructing water system. Olaf Anderson, city aud.

Myrtle Creek, Ore.—Citizens voted $27,000 bonds for improvements to municipal water and light plant. Projects include building hydroelectric power dam in South Umpqua River that will develop 180 hp. Address City Clk.

Silverton, Ore.—Citizens voted $21,000 bonds for municipal auxiliary water system. Contract awarded Silver Falls Timber Co., Silverton, to construct plant.

Los Angeles, Cal.—Bd. of Public Service directed Wm. Milholland, ch. engr., to make surveys, plans and estimates for water mains in recently annexed Westgate Dist., in all about 40 sq. miles.

Election will be held probably in January to vote about $1,500,000 bonds for constructing West Jefferson St. storm drain, and $750,000 for Sacatella Dist. storm drain. Address Homer Hanlin, city engr.

Pasadena, Cal.—City Comn. voted to lay one mile of 8 and 10-in. c. i. water main in Glenarm St. Address Saml. Morris, ch. engr. water dept.

Pomona, Cal.—Claremont Co-operative Water Co. will construct reservoir on Mountain Ave.

Nez Perce, Idaho.—Reported construction of sewer system being considered by town council.

Pocatello, Idaho.—Election will be held Sept. 14 to vote on issue of $300,000 bonds for extending and improving waterworks. About $35,000 is available for meters. A. R. Dawson, city clk.; E. S. Anderson, engr.

Juneau, Alaska.—Reported City Council plans constructing a high-pressure reservoir to provide for better water service for the Hill Section; cost $9,000.

Aurora, Ont.—James Loudon & Hertzberg, 1005 Excelsior Life Bldg., preparing plans for sewerage system and purification works.

Richmond Hill, Ont.—James Loudon & Hertzberg, Toronto, preparing plans for water tower, pumps, filter and storage basin and 4 miles of pipe line; cost, $35,000.

BIDS DESIRED.

Waterville, Me.—Until Sept. 16, by City Clerk, Waterville, for constructing a distributing reservoir in Waterville and Fairfield for Kennebec Water Dist. Work involves 20,000 cu. yd. earth and loam excav. Dam is to be earth construction, with concrete core wall about 780 ft. long and 24 ft. high. Metcalf & Eddy, engrs., 14 Beacon St., Boston.

Gloversville, N. Y.—Reported desired until Sept. 12 by H. J. Hanner, city engr., for sanitary sewers in Montgomery and Griffin Sts.; cost $15,000.

New York, N. Y.—Until Sept. 15, by Comn. Water Supply, Gas & Electricity, for furnishing, delivering unloading stacking and storing c. i. pipe, valves and double-nozzle fire hydrants to Boroughs of Manhattan and Bronx. Security $3,200.

Piermont, N. Y.—Until Sept. 15 by A. D. Cornell, clk. bd. sewer comrs., for Contract "A," 16,540 ft. 8 to 15-in. pipe sewers, with manholes and flush tanks, and "B," sewage disposal plant. Alex. Potter, engr., 50 Church St., New York.

Salamanca, N. Y.—Until Sept. 11 by Geo. H. Elliott, city clk., for constructing sanitary sewers in various streets, including Allegheny and Great Valley Sts., Cottage and Cleveland Aves. and other streets, in all about 26,655 lin. ft. 8 and 10-in. vitr. pipe. Reported cost, $37,000.

Bogota, N. J.—Until Sept. 15 (readvertisement) by Borough Council for constructing about 4 miles of 8 and 10-in. vitr. sewers, Y branches, etc. Clyde Potts, engr., 30 Church St., New York; Harlan P. Ross, boro. clk.

Montclair, N. J.—Until Sept. 19, by Harry Trippett, town clk., for sanitary sewer in Stonebridge Road and for paving and curbing Stonebridge Road, advertised in this issue.

Pitman, N. J.—Until Sept. 18 (readvertisement), by Borough Council, for constructing sewerage system and disposal works, advertised in this issue. Remington & Vosbury, engrs., Camden.

Philadelphia, Pa.—Until Sept. 14 by by Dept. Public Works, Bureau Surveys, for appurtenant work in constructing intercepting sewer along Frankford Creek, advertised in this issue.

Cleveland, Ohio.—Reported desired until Sept. 15, for constructing sewers in W. 25th, W. 28th Sts., Church Ave. and other streets. E. G. Krause, clk. bd. comrs.

Lancaster, Ohio.—Reported desired until Sept. 15 by G. B. Larimer, dir. pub. service, for storm and sanitary sewer system.

Shaker Heights, Ohio.—Until Sept. 19, by Carl L. Palmer, village clk., First Nat'l Bank Bldg., Cleveland, for furnishing material and constructing storm and sanitary sewers in Eaton Road, Courtland Boulevard, South Park Boulevard and other streets.

Capac, Mich.—Until Sept. 12, by John Bowers, city clk., for a 75,000-gal. elevated tank on towers, elevation to be about 100 ft. from found. to balcony line of tank; also for two deep-well pumps, placed in 6-in. wells and necessary motors for operating these pumps; delivered f. o. b. Capac. L. C. White, engr., 28 Gerald Ave., Detroit.

Royal Oak, Mich.—Until Sept. 15, by Southern Michigan Engineering Co., Birmingham and Royal Oak, engrs., for about 3000 lin. ft., 18 to 15 in. sewers, 30,000 sq. ft. concrete sidewalk, etc.

Kewanee, Ill.—Until Sept. 16, by City Clerk, for constructing water reservoir and chimney for city. C. A. Chapman, Inc., engr., 28 E. Jackson Boule., Chicago.

Miles Center, Ill.—Until Sept. 19, for storm sanitary sewer system 10 to 24 in. and 2684 ft. 3 ft. x 4 ft. 6 in. and 1193 ft. 2 ft. x 3 ft. concrete sewer. H. L. Emerson, engr., 133 W. Wabash Ave., Chicago.

Elkhorn, Wis.—Reported desired until Sept. 16, for 6000 ft. sewer 8 to 24 in., 52 manholes, 31 catchbasins, etc. A. G. Groesbeck, chmn. sts., alleys and sidewalks.

Larned, Kan.—Until Sept. 18, by L. D. Burgess, city clk., for furnishing material and improving waterworks, to consist of about 3000 ft. 4-in. water main, together with hydrants, valves, etc.

Benson, Neb.—Reported desired until Sept. 16, for constructing sewer Dists. Nos. 4, 5 and 6. C. Hollestelle, city clk.

Maplewood, Mo.—Reported desired until Sept. 13 by M. F. O'Brien, city clk., for sewers in Sewer Dist. No. 1.

Willspoint, Tex.—See "Prices and Lettings."

Portland, Ore.—Until Sept. 14, by J. R. Wood, purchasing agent, for a mechanical device for cleaning sewer inlets. Alternate proposals on rental basis for at least six months; rent paid to apply on purchase price.

San Francisco, Cal.—Until Sept. 18 by Constructing Quartermaster, Ft. Mason, for constructing improvements to water supply system at Presidio of San Francisco.

Toronto, Ont.—Until Sept. 12, by T. L. Church (mayor), chm. bd. of control, for constructing sewers in Queens St. and Weston Road.

PRICES AND LETTINGS.

★Indicates award of contract.

Brooklyn, N. Y.—J. E. Bunting Co., Flushing, submitted lowest bid Aug. 30 for constructing sewer in Queens Ave. from Haydock to Norwood Sts., at $43,074, and DiCola & Martino lowest for sewer in Chichester, Oxford, Portland Aves., and other streets at $21,753.

Fulton, N. Y.—Following bids opened by C. Milton Allen, city clk., Aug. 28 for constructing storm sewers and appurtenances on east side, from 60 to 15-in. diameter, 4700 ft. long: C. T. Hookway Constr. Co., Syracuse, $43,074; F. Massaro, Fulton, $30,349, and Jas. T. Leary Constr. Co., Rochester, $36,436.

★Olean, N. Y.—Contract awarded Fure & Fote, Olean, for constructing outlet sewer in West State St. Probable cost, $12,000.

★Hagerstown, Md.—Waterworks costing $15,866 to be installed. G. C. Ensign, Inc., Camp Hill, Pa., has contract for laying mains, excavating and back filling, house connections, etc., at $7,000. The contractor will purchase for city, on a percentage basis, all pipe and other materials necessary for plant.

★Greenville, S. C.—Contracts for constructing sewer line 15,000 ft. long awarded Slattery & Henry of Greenville; sewage disposal plant, Sanitary Engineering Co., Charlotte, N. C.

★Lavonia, Ga.—Contract for constructing water and sewer mains, tank and reservoir, awarded Sullivan, Long & Hagerty of Bessemer, Ala., at $34,933. Next three lowest: J. B. McCrary Co., Atlanta, $35,114; Dysard Constr Co., Atlanta, $36,382 and Cane & Cothran, Atlanta, $36,419. F. C. Funderburke Well Co., Bainbridge, at $4.75 per ft. secured contract for artesian well to furnish 150 gal. per minute.

★Cincinnati, Ohio.—Contract awarded by City Bd. Control, for sewer in ravine from Hyde Park subdivision to Duck Creek interceptor, to Thos. Maloney, 1858 Humboldt Ave., at $9,990.

★Cleveland, Ohio.—Contract awarded by City Bd. of Control to Mike Nichols & Son, 11,422 Fairchild Ave., for constructing sewer in Mandalay Ave., at $10,525, and in Nathaniel Road at $17,468. (Bids opened Aug. 3.)

★Upper Sandusky, Ohio. — Contract awarded by Upper Sandusky Waterworks Co. for new filter control apparatus to Pittsburg Filter Mfg. Co., Pittsburgh. Chester & Fleming, engrs., Pittsburgh.

★Barry, Ill.—Contract for constructing waterworks (bids opened Aug. 24) awarded Monie & Dunbar, St. Louis, and for valves to Western Valve Co. of Chicago.

Chicago, Ill.—Lowest bid opened Aug. 31 by Sanitary Trus. for constructing Evanston intercepting sewer, Contract 1, submitted by Nash Dowdle Co., 29 S. La Salle St., at $841,630 for concrete and $904,347 for brick.

★Fond du Lac, Wis.—Contract awarded U. S. Cast Iron Pipe & Foundry Co., 71 Bway., New York, for 13,900 ft. 4 to 12-in. Class C. pipe and specials (bids opened Aug. 25 by City Clerk). Probable cost $8,000.

★Stuart, Iowa—Following are totals of four lowest bids opened Aug. 21 by city for constructing collection system, about 31,585 ft. 6 to 12-in. pipe: Henry Rees, Quincy, Ill., $23,593 (awarded contract); J. W. Turner Improv. Co., Des Moines, $27,717; O. P. Herrick, Des Moines, $28,006, and Jas. Horrabin, Des Moines, $29,350. Contract for constructing outfall sewer and disposal plant awarded P. E. Wiley, Guthrie Center, at $10,718. Theo. S. DeLay, engr., Creston.

★Washington, Iowa.—Following are four bids opened Aug. 25 by S. J. Kellogg, city clk., for 1,000,000-gal. concrete reservoir: J. H. Selden, Muscatine, $18,990 (awarded contract); Dubuque Boat & Boiler Wks., Dubuque, $20,950; Stiles Contr. Co., Chicago, $29,425; Koss Contr. Co., Des Moines, $45,200.

★Claremont, Minn.—Contract awarded Wm. C. Fraser, St. Paul, for constructing 6000 ft. of 8 and 10-in. sewer and 4,776 ft. 15-in. drainage tile; also disposal plant, at $13,379. (Bids opened Aug. 30 by A. C. Hickley, village recorder.)

★New Duluth, Minn.—Contract awarded J. R. Griffith, Zion City, Ill., for drilling well, capacity 500,000 gals. per day; cost $10,000. E. W. Kelly, engr., Duluth.

★Sheridan, Mont.—Contract for constructing waterworks awarded to M. S. Gould, Twin Bridges, at $28,857 (bids opened Aug. 28 by Frank Carey, town clk.). Three next lowest bidders: McLaughlin & O'Neil, $32,376; Oregon Constr. & Engng. Co., $32,939; W. L. Geist, $33,207.

★Wills Point, Tex.—Contract for sewer system and disposal plant awarded Dalton & Campbell, Dallas, at $18,000. Disposal plant to consist of Imhoff tank, dosing chambers, coke filters, disinfecting apparatus; sewer system about 40,000 ft. 6 to 10-in. pipe. Bids desired on syphons, valves and reinforcing tube.

★Spokane, Wash.—American C. I. Pipe Co., Chicago, secured contract for furnishing 30,000 ft. 6-in. c. i. pipe, Class B, 12 ft., at $42 and 16 ft. at $43. (Bids opened Aug. 24 by C. F. Bogart, city purchasing agent.)

Covina, Cal.—Following are lowest bids opened Aug. 23 by City Trus. for improvements to waterworks, furnishing and laying 9340 ft. riveted steel pipe, including specials: Consolidated Pipe Co., 109 Court St., Los Angeles, $6.900. furnishing (a) 10,000 ft. 4-in., (b) 9560 ft. 6-in. and (c) 4290 ft. 8-in. O. D. casing; Fairbanks-Morse Co., 429 E. Third St., Los Angeles, (a) $2.610, (b) $4,563, (c) $7,300; Crane Co., 319 E. Third St., Los Angeles, alternate bid, (a) $2,256, (b) 3,719 and (c) $5,951, and furnishing 11 two-way hydrants, H. R. Boynton Co., 216 N. Los Angeles St., Los Angeles, $3,700 for Keystone hydrants; Water Works Supply Co., $3,625 for Renslear hydrants. F. E. Trask, engr., Union Oil Bldg., Los Angeles.

★Burlington, Ont.—Contracts for constructing sewer system and disposal plant awarded as follows, cost about $150,000: Pipe. Dominion Sewer Pipe Co., Hamilton and Toronto Sewer Pipe Co.; pump house and disposal plant, Canadian Eng. Co., Hamilton; pipe laying, McLean & Johnson Bros.; c. i. pipe, Garthen Hansen Co., Hamilton; Chipman & Powers, engrs., Toronto; Jas. S. Allen, town clk.

★London, Ont.—Contract for constructing sewers awarded McLaughlin Bros., Ottawa, at $29,500, and Webster Constr. Co., London, at $15,750.

STRUCTURAL STEEL WORK

PROPOSED WORK.

New Haven, Conn.—City Engineer completing plans for Tomlinson bridge; cost $400,000.

Buffalo, N. Y.—Robert C. Graupp, 73 Forest Ave., Buffalo, is interested in construction of bridge across Niagara River at Buffalo, the bill for which recently passed the U. S. House.

Newark, N. J.—Date for receiving bids for constructing steel railroad bridge over tracks of Central RR. of New Jersey at Port St. has been postponed by Bd. Street and Water Comrs. from Aug. 31, owing to change in plans. New bids will probably be received Sept. 21.

Philadelphia, Pa.—Henry A. Hitners Sons Co., Huntington St. and Aramingo Ave., were the succesful bidders in connection with the sale of the two Philadelphia & Reading Ry. bridges, over Susquehanna River, one at Milton, Pa., about 2000 ft. long, and the other at Sunbury, about 3600 ft. long, and will commence to dismantle superstructure at once.

Newport News, Va.—Washington-Newport News Short Line (Frank S. Gannon, pres., 2 Rector St., New York) recently incorporated, has filed applications with War Dept. at Washington for approval of its plans for bridges over the Potomac, Rappahannock and York Rivers.

Ft. Lauderdale, Fla.—Plans being prepared for 2 steel swing draw bridges which County Comrs. will construct, one at Deerfield and the other at Hallandale, both 55 ft. clear channel opening. H. C. Davis, engr., Ft. Lauderdale.

Montgomery, Ala.—Plans prepared for $50,000 bridge to be constructed across Tallapoosa River between Montgomery and Elmore counties. Address County Clerk, Montgomery.

New Orleans, La.—Election to be held Nov. 7 to vote on constitutional amendment authorizing construction of bridge or tunnels to connect east and west banks of Mississippi River at or near New Orleans. The Public Belt RR. Comn., New Orleans (F. H. Joubert, secy.-treas. and genl. mgr.) will be in charge of constructing crossing and has appointed a Special Committee to study the situation. This committee desires correspondence from engineering firms in connection with this work.

Manistee, Mich.—Election to be held Nov. 7 to vote $5,600 bonds for bridge across Manistee River. E. W. Muenschee, co. engr.

Maple Hill, Minn.—See "Roads and Paving."

Wayzata, Minn.—Bonds for $15,000 for constructing bridges and repairing and resurfacing roads and constructing drains will be sold Sept. 15 by G. L. Lamb, village recorder.

Bismarck, N. D.—Construction of steel bridge across Missouri connecting Bismarck and Mandan is being agitated. Address Secy. of Commercial Club.

Miles City, Mont.—Reported County Comrs. plan constructing 60-ft. steel span bridge over Fallon Creek near ishmay. Address County Clerk.

San Diego, Cal.—See "Piers, Dams and Foundations."

BIDS DESIRED.

Buffalo, N. Y.—Until Sept. 12, by Alonzo G. Hinckley, clk, Erie co. bd. of supervisors, for steel work for cattle barns at Erie County Farm, Wende. Green & Wicks, archts., 110 Franklin St., Buffalo.

Hamlin, W. Va.—Until Sept. 15 by Albert F. Black, co. clk., for constructing five steel bridges, two across Mud River, one at Mrya and one at Palermo; one over Four Mile Creek, near John Dial's residence; one over Middle Fork of Mud River at Griffithsville, and one over Coal River at Alum Creek. Oliver & Maupin, engrs., Huntington.

Mooresville, S. C.—By Jas. W. Brown, care of Brown & Troutman, Mooresville, for a one-span steel bridge, 264 ft. long, 16 ft. wide, to replace bridge destroyed by high water over Carawba River near Mooresville.

Ft. Lauderdale, Fla.—Until Sept. 18, by County Comrs. for constructing a steel swing draw bridge and 900 ft. of timber highway trestle connecting town with ocean beach. H. C. Davis, engr., Ft. Lauderdale.

South Bend, Ind.—Until Sept. 18 by Arthur F. Wolf, co. aud., for constructing bridge on River Rd., in German Township.

Bloomfield, Iowa.—Iowa Highway Comn., Ames, preparing plans for two 65-ft. pony truss spans, 16-ft. roadway, wood floor and pile abutments; also one 26-ft. I-beam span, 18-ft. roadway, concrete floor and abutments. H. O. Wray, co. engr., Bloomfield.

Charles City, Iowa.—State Highway Comn., Ames, preparing plans for bridge over Little Cedar River, between Sections 26 and 35, Niles Township, to consist of two 60-ft. pony truss spans, 16-ft. roadway, concrete floor and abutments. G. H. Elliott, co. engr.

Mason City, Iowa.—State Highway Comn., Ames, preparing plans for proposed city bridge of two 35-ft. spans, concrete deck girders under main roadway and sidewalks and steel plate girder spans under single line street railway track, 40-ft. roadway, and two 6-ft. sidewalks, skewed, concrete floor and abutments. Address County Engr.

Jordan, Minn.—J. H. A. Brahtz, St. Paul, is engr. for $25,000 concrete arch bridge across Minnesota River near Jordan.

Neodesha, Kan.—Until Sept. 29, by Township Clerk, Neodesha, for constructing Bull Ford Bridge in Wilson County, steel superstructure consisting of 100 ft. through truss span and two 1-beam approach spans; substructure to have two abutments and two piers; total about 333 cu. yd. 1—3—5 concrete. Bridge to be constructed jointly by Neodesha and Cedar Townships.

Fremont, Neb.—See "Foundations, Piers and Dams."

Corning, Ark.—Until Sept. 26 by County Comrs. for constructing steel bridge over Black River; cost $12,000. T. W. Ratcliffe, deputy co. clk.

Montalvo, Cal.—Until Sept. 12 by Bd. Superv., Ventura, for constructing west extension of Montalvo Bridge, about one mile east of Montalvo, consisting of 10,665 lb. reinforcing steel, 61.71 M ft. Oregon pine lumber, etc. J. B. McCloskey, co. clk.

PRICES AND LETTINGS.

★Indicates award of contract.

★Greensburg, Pa.—Contract awarded by County Comrs. to Rimonti Galardi, Connellsville, at $9,057, for constructing bridges over Big Sewickley Creek at Gratztown, on new county road. John S. Sell, co. compt. (bids opened Sept. 1).

★Hopewell, Pa.—Contract awarded by Philadelphia & Reading Ry., Philadelphia, to Phoenix Bridge Co., 410 Walnut St., Philadelphia, for constructing through plate girder overhead bridge west of Hopewell on New York Division.

Media, Pa.—See "Reinforced Concrete."

★Philadelphia, Pa.—See "Proposed Work."

★Parkersburg, W. Va.—Contract awarded for constructing viaduct 700 ft. long and 22 ft. wide across ravine below Boaz to Merydith Constr. Co., Parkersburg, at $60,000. Sanderson & Porter, engrs., 32 William St., New York (bids opened Aug. 5).

★Ft. Lauderdale, Fla.—Contract awarded by County Comrs. to Champion Bridge Co., Wilmington, Ohio, for constructing a Scherzer rolling lift bridge across South New River Canal and for a steel swing draw bridge across North New River Canal, both bridges to have clear channel opening of 50 ft. and 12 ft. roadway. H. C. Davis, engr., Ft. Lauderdale.

Lancaster, Ohio.—Lowest bid submitted by Gilmore Bros., Toledo, at $98,446 for constructing bridge over Rush Creek, connecting Perry and Fairfield Counties rejected.

Astoria, Ore.—Low bids submitted to City Council by Andrew Birch, Astoria, for constructing viaducts, one at 11th and Exchange Sts., and one at Duane and 11th Sts., at $19,182 and $11,002 respectively.

★San Bernardino, Cal.—Following are four lowest bids opened Aug. 28, by Board of Supervs. for constructing two low-truss steel highway bridges across Santa Ana River: Mercereau Bridge & Constr. Co., Pacific Electric Bldg., Los Angeles, $20,200 (awarded contract); Mesmer & Rice, 231 Marsh-Strong Bldg., Los Angeles, $20,720; Midland Bridge Co., Kansas City, Mo., $21,403, and W. M. Ledbetter Co., Pacific Electric Bldg., Los Angeles, $21,644.

REINFORCED CONCRETE

PROPOSED WORK.

Long Island City, L. I., N. Y.—Plans being prepared by Edw. Hahn, Bridge Plaza, Long Island City, for 5-story, 74 x 128 ft., reinforced concrete factory to be erected on Newtown Creek for Van Iderstein Co.; cost about $75,000.

New York, N. Y.—Plans being prepared by Samuel Cohen, 503 Fifth Ave., for 5-story reinforced concrete building to be erected at Seventh Avenue and Thirty-ninth St., for Carl Schilo; cost $50,000.

Newark, N. J.—H. M. Albee & Son, 35 Halsey Street, contemplate erecting 5-story reinforced concrete building to manufacture special machine parts.

Franklin, Pa.—See "Prices and Lettings."

Richmond, Va.—Preliminary plans prepared for proposed 5500-ft. concrete bridge from Laurel St. to Cowardin Ave., connecting North and South Sides in the West End. Address City Clk.

Roswell, Ga.—County Comrs. at Marietta will replace wooden bridge over Chattahoochee River with a 418-ft. long and 50-ft. wide concrete bridge; estimated cost $35,000. Address County Clerk.

Birmingham, Ala.—City Comrs. considering constructing 1200-ft. concrete viaduct over railroad tracks on Twenty-first St. between First Ave. and Ave. A; cost about $150,000. Address city clk.

Memphis, Tenn.—Reported plans being prepared by Hanker & Cairns, Scimitar Bldg., for 4-story concrete and brick building to be erected at Madison Avenue and Maiden Lane.

Ashland, Ky.—Ashland Leather Co. will build $70,000 addition of reinforced concrete construction.

Mishawaka, Ind.—County comrs. considering appropriating $85,000 for constructing reinforced concrete bridge across St. Joseph River on Mishawaka Arthur L. Wolfe, 504 Lincoln Highway W., co. aud.

Richmond, Ind.—County Comrs. will construct two concrete bridges, about 600 ft. long, over Whitewater River; estimated cost $400,000. Address County Clk.

Flint, Mich.—Buick Motor Co. (Walter P. Chrysler, Gen. Mgr.) intends erecting 4-story, 50 x 242 ft., reinforced concrete office building; cost about $250,000.

St. Paul, Minn.—Friedman Bros., 423 Wabash St., plan erecting reinforced concrete and brick store and office building at Selby and Snelling Aves.; cost $50,000.

Ballard, Wash.—Contract about to be let by School Board (Reuben W. Jones, secy.), Seattle, for erection of 2-story addition to J. B. Allan school in Ballard, of concrete and brick construction; cost $75,000. Edgar Blair, school archt., Seattle.

Spokane, Wash.—Plans completed by Engineering Dept. for steel and concrete bridge, 300 ft. long and 35 ft. wide, over Post St. Morton MacCartney, city engr.

Clarkdale, Ariz.—United Verde Mining Co. will erect a 3-story reinforced concrete hospital building; cost about $75,000. Owner will do structural work and sublet contracts. Arthur R. Kelly, archt., Story Bldg., Los Angeles.

Globe, Ariz.—Plans being prepared by R. W. Lescher and J. R. Kibbey, archts., Bank of Arizona Bldg., Phoenix, for 2-story and basement, 165 x 50 ft., reinforced concrete and tile hospital to be erected here for Old Dominion Copper Mining & Smelting Co.; probable cost $50,000.

Mexico.—Joaquin Segura, 2A Sta., Teresa No. 44, Mexico, D. F., desired sample specifications on concrete for roundhouse, and to correspond with contractors who will do work of this kind. He has a prospect for securing erection of 30 roundhouses for Mexican Rys., each roundhouse to contain 24 stalls. Payment to be in American gold.

BIDS DESIRED.

Trenton, N. J.—Until Sept. 13, for constructing one combination steel and concrete bridge over Pond Run. Theodore Tobish, co. engr.

Parkersburg, W. Va.—Until Sept. 12 by C. R. Rector, pres. county court, Wood Co., for constructing either a concrete or stone bridge across Wolf Run on Pond Creek Rd., between Harris and Steele Dist.

Little River, Ala.—Until Oct. 3, by Bd. of Revenue, for constructing steel concrete or reinforced concrete bridge about 380 ft. long, main span 80 ft., over Little River. C. E. Parker, co. engr.

Chapin, Mich.—See "Excavation, dredging and Drainage."

Titonka, Iowa.—Reported desired until Oct. 3, for erecting one and two-story, 57 x 94 ft., concrete school; probable cost $36,000. Welles D. Butterfield, archt., 1113 David Whitney Bldg., Detroit.

Princeton, Minn.—Reported desired until Oct. 7, for constructing State Bridge No. 353, 57-ft. steel truss span, 18-ft. roadway, reinforced concrete floors and abutments. Albert Kutfield, town clk.

St. Peter, Minn.—Reported desired until Sept. 25, for constructing 65-ft. steel or concrete bridge. M. E. Stone, city clk.

Russell, N. D.—Reported desired until Sept. 12, for constructing steel and concrete piers and abutments over Mouse River. G. H. Herbert, co. aud., Bottineau.

Portland, Ore.—Reported desired until Sept. 20, by John B. Yeon, county roadmaster, for constructing reinforced concrete viaduct No. 7, on St. Helens Rd.

PRICES AND LETTINGS.

★Indicates award of contract.

★Media, Pa.—Contract awarded by County Comrs. to Whittaker & Diel, Harrisburg, at $8,300, for constructing concrete and steel bridge over east branch of Naaman's Creek, near Ogden.

Franklin, Pa.—Following bids opened recently by County Comrs. for constructing new concrete arch to replace Crawford bridge in Clinton Township, just north of Clintonville: Blystone & Welcomer, Cambridge, $5,900; Ferro Concrete Co., Harrisburg, $5,943; R. J. Breckenridge, Grove City, $6,950, and Ludwig & Johnson, Oil City, $8,789. All bids rejected.

Quality and Quantity of Best Contracting News Service

INCREASE

Comparative figures show that in spite of making the qualifications of a news item for this section of the Engineering Record more and more rigid the **quantity** of news has increased. Improving the quality has not decreased the quantity. On the other hand, efforts to maintain the Best Contracting News Service have resulted in **increasing** it.

Here is the proof—

The issues of the Engineering Record from Jan. 1 to June 30, 1915, contained 225 pages of contracting news items.

The numbers published during the last six months in 1915 carried 247 pages of news for contractors.

During the first six months of 1916 the number of contracting news pages published was 321.

These figures show that **the average number of contracting news pages per issue in the Engineering Record has increased** from 9 pages during 1915 to 12 during the first six months of this year.

And because this journal gives the first quality news of proposed work and because a large part of news of proposed work is in the form of bids desired—definite news of new jobs—contractors say the **Engineering Record** gives

The Best Contracting News Service

★Pennsylvania.—Following contracts awarded by Philadelphia & Reading Ry. Co. (Samuel T. Wagner, ch. engr., Philadelphia):

At New Philadelphia (Silver Creek P. O.), concrete bridge over Schuylkill River east of New Philadelphia, to D. J. Rodgers, Danville. H. W. Geshwind, Hied Block, Philadelphia, waterproofing.

At Tamaqua, reconstructing bridge west of Tamaqua over Wabash River, to P. J. Campion, Mahanoy City.

At Perkasie, constructing concrete bridge over Eighth Street, to F. H. Leonard, Philadelphia. Drehmann Paving Co., 2622 Parrish St., Philadelphia, received contracts for waterproofing work at Tamaqua and Perkasie.

★Middlebourn, W. Va.—Contract awarded by County Comrs. to Pipes & Watson, Middlebourn, for constructing 3 concrete bridges, 2 about 60-ft. spans and 1 concrete arch, two 45-ft. spans. J. E. Smith, co. clk. (bids opened Sept. 1).

★Moline, Ill.—Contract awarded Henry W. Horst Co., Rock Island, for erecting 2-story and basement, 32 x 104 ft., reinforced concrete transformer building on Fourth St. for People's Power Co.; cost, including equipment, about $80,000.

★Minneapolis, Minn.—Contract for constructing concrete uildings at Stinson Boule. and E. Hennepin Ave. for Linde Air Products Co. (H. D. Edwards, pres.), awarded to Splady, Albee & Smith, Plymouth Bldg.; cost $150,000.

★St. Cloud, Minn.—Contract awarded by Co. Comrs. to Plymouth Constr. & Repair Co., Minneapolis, for constructing bridge, 50-ft. truss span, concrete slab floor, reinforced concrete abutments, and a 150-ft. truss span, concrete slab floor, at $14,000.

★Seattle, Wash.—Contract awarded by Washington Mattress Company to Ferro Concrete Construction Co., Empire Bldg., for erecting 3-story, 75 x 180 ft., concrete factory at Fourth Avenue S. and Walker Street; cost approximately $50,000.

★Covina, Cal.—Contract awarded G. H. Whyte, Pasadena, for erecting 2-story, 127 x 76-ft. administration building and two 58 x 81-ft. dormitories, all of reinforced concrete and brick, for Masonic Orphans Home of California. John H. Blee, archt. and engr., 515 Union League Bldg.

★Los Angeles, Cal.—Contract awarded Leonart & Peck, 721 H. W. Hellman Bldg., for erecting two one-story 200 x 200 ft. reinforced concrete cotton seed oil factory buildings at Fifty-first St. and Santa Fe Ave. for Globe Grain & Milling Co.

★**Santa Barbara, Cal.**—Contracts awarded by Bd. County Supervs. for constructing bridges as follows: F. S. Moore, Los Angeles, at $7,295, concrete arch bridge with stone facing over Romero Canyon in Montecito; J. H. Hunter, 142 W. Sixty-second St., Los Angeles, at $4,770, concrete cantilever bridge over Arroyo Burro on Modoc Rd.

ROADS AND PAVING

PROPOSED WORK.

Blairstown, N. J.—Town Council will construct about 2½ miles of roads. O. B. Craig, town clk.

Caldwell, N. J.—All bids opened by Borough Council for paving Hatfield Street and Park Avenue with macadam rejected. Address Borough Clerk.

Florence, N. J.—Town Council plans improving sidewalks; cost about $50,000. Address Town Clk.

Newark, N. J.—Chief Engineer of the city has been directed to prepare specifications for paving with bitulithic on 6-in. concrete found. on Porter and Stengel Aves.

South Amboy, N. J.—Board of Freeholders, New Brunswick, will soon let contract for paving Washington Avenue and Main Street with either asphalt block or warrenite. Address Clerk of Board.

Dunbar, Pa.—Construction of county road from Dunbar to So[illegible] in connection with proposed bridge across Youghiogheny River at Layton is under consideration. Address County Clk. at Uniontown.

Connellsville, Pa.—Council authorized purchase of 500,000 paving blocks to pave Arch and Ninth Sts. Address Purchasing Agent.

Newton, Pa.—Borough Council will pave Chancellor and Lincoln Avenues, Liberty and Sterling Streets with asphalt. J. Pugh, Chmn. St. Com.

Pennsylvania.—Pennsylvania Lines west of Pittsburgh (Thomas Rodd, ch. engr., Pittsburgh) plan constructing boulevard five miles long, from Osborne through Sewickley, Edgeworth, Shields and Leetsdale.

Williamsport, Pa.—It is proposed to repair West Third, West Fourth, Elmira and other streets, with sheet asphalt, between 35,000 and 40,000 sq. yd. Cost $55,000. J. J. Galbraith, city clk.

Charleston, W. Va.—Road improvement bonds for Big Sandy Dist. will be sold Sept. 25 by M. P. Malcolm, pres. Kanawha County Court.

Logan, W. Va.—It is proposed to pave probably with brick from Logan to Halden and Omar from Logan to Stollings; cost $50,000. Beddow, McConkle & Wilson, engrs., Logan. Bruce McDonald, pres. co. court.

Savannah, Ga.—Bonds for $100,000 for public roads will be sold Sept. 16 by L. L. Hurburt, Clk. Co. Court.

Daytona, Fla.—Election to be held Oct. 10, to vote $145,000 paving bonds and $15,000 storm sewer bonds. Address City Clerk.

Lexington, Ky.—All bids recently opened by County Rd. Comn. for reconstructing 10 miles of turnpike road rejected as too high. Address County Clk.

Canton, O.—City Council authorized issuing $105,600 street improvement bonds. Address City Clk.

Cincinnati, O.—Co. Comrs. directed Wm. Boeh, co. surv., to prepare plans for paving with concrete on North Bend Road; cost about $65,000; also directed specifications prepared for paving Springfield and Hamilton Pikes with brick..

City Council approved estimates of following street improvements: Terry St. with bituminous macadam, $9,724, and Hamilton Ave. from Belmont Ave. to North Bend Rd. with brick, $79,018

Board of County Comrs. at a meeting Aug. 29 decided permanent roads will be improved with either concrete or brick.

Hamilton, Ohio.—City Council passed resolution authorizing issuing $100,000 street improvement bonds. Address Karl E. Krieger, clk. of council.

Norwood, O.—Election will be held in November to vote $35,000 bonds as city's share for improving Beech St. from Park to Harris Aves. with bituminous macadam and constructing a subway under tracks of B. & O. S. W. R. R.

Portsmouth, O.—County Comrs. approved estimate of paving a mile of improved highway extending from Carey's Run on West Side with brick on concrete foundation with grout filler; cost, $23,000.

Sidney, Ohio.—Public Service Comn. will pave about 6 miles. C. B. DeWeese, dir, pub. serv.

Sebring, Ohio.—Village Council passed ordinance for issuing $13,600 street improvement bonds. Address Harry Jenkins, village clk.

Toledo, Ohio.—Plans and estimates prepared for extension of Summit St. to Broadway; cost about $500,000. Address City Clk.

Marshall, Mich.—Citizens Aug. 29 voted $10,000 bridge and $21,800 paving bonds. Address City Clk.

Peoria, Ill.—Bd. Local Improvts. adopted resolution for paving about a mile on S. Second St.; estimated cost $23,000. Address Clk. of Bd.

Pekin, Ill.—Board of Local Improvements passed resolution for paving 1 mile South Second St.; engineer's estimate $23,000. B. F. Smith, engr.

Pontiac, Ill.—City Council will pave about 12 blocks on Locust and Elmwood Sts. with brick on concrete base and concrete combined curb and gutter; cost $23,000. J. C. Wade, engr.; J. M. Carter, city clk.

Rock Island, Ill.—Reported following paving contemplated: asphalt on portions of 17th and 24th Sts., from 17th to 18th Aves., cost $9,466, and 24th St. from 13th to 17th Aves., $10,289; brick on portions of Railroad and 10th Aves. and 45th St., $23,476. Address County Clk.

Aitkin, Minn.—No bids opened Aug. 30 by H. C. Beecher, co. aud., for constructing 2½ miles of State Road No. 2.

Maple Hill, Minn.—Road and bridge bonds for $25,000 will be sold Sept. 20 by V. A. Anderson, town clk., for constructing roads and bridges in Maple Hill Township.

Minneapolis, Minn.—City Council has been petitioned to pave Cedar Avenue, West Fortieth and other streets. Address City Clerk.

St. Paul, Minn.—City Council will pave Mississippi River Boule. with asphaltic concrete. Address City Clerk.

Anaconda, Mont.—City Council adopted resolution for grading, paving, draining, etc., Oak, Cherry, Cedar and Chestnut Sts. with bitulithic, on concrete base, $32,000; or asphaltic concrete, $28,000.

Joplin, Mo.—It is proposed to pave N. Main St. and Jackard Pl. with 2 course concrete and asphaltic concrete. Hiram Phillips, city clk. J. J. McAfee, engr., 201 Joplin St.

Richmond, Mo.—All bids opened Aug. 28 for paving West Main St. exceeded the estimate. G. E. Bay, city clk.

Hope, Ark.—Hugh R. Carter, state engr., Little Rock, preparing surveys for road from Hope to Washington and from Hope to Fulton.

Marion, Ark.—Reported plans and specifications prepared for 40 miles road, 14 of which will be hard surfaced. Estimated cost $177,000. Address County Judge.

Pocahontas, Ark.—Plans filed with County Clerk for road from Pocahontas through Maynard to Missouri line; cost, $34,000.

Houston, Tex.—Issuing of $150,000 bonds, proceeds to be used for playgrounds, new schools and street improvements in Houston Heights, is under consideration. E. E. Sands, city engr.

Port Arthur, Tex.—Citizens voted $64,000 street paving bonds. Address City Clk.

Camas, Wash.—Reported City Council rejected bids for paving Clark St. with concrete; cost $10,000. F. B. Barnes, city clk.

Chehalis, Wash.—Reported election for $500,000 road improvement bonds will be held later in the year instead of in November. Address County Clerk.

Davenport, Wash.—Reported City Council will pave certain streets with macadam; cost $11,154. H. L. Paige, city clk.

Everett, Wash.—Contract will soon be let by City Council for improving Wetmore Ave. by grading, concrete paving and cement sidewalks; cost $19,645.

Fresno, Cal.—Election to be be held Oct. 24 to vote $3,600,000 road bonds. D. M. Barnwell, co. clk.

Mansfield, Wash.—Contract soon to be let by City Council for grading and hard-surfacing Main St., 1st and 2d Aves.; cost $10,700. Address City Clk.

Seattle, Wash.—See "Prices and Lettings."

Seal Beach, Cal.—S. H. Finley, city engr., directed to prepare plans for paving every street.

Seattle, Wash.—Board of Public Works approved plans and specifications for following street improvements: W. 65th St. concrete walks and sewers, $33,000; 11th Ave. N. E. paving 8500 sq. yd. with wood block, $36,000.

Reports and estimates filed with Bd. of Pub. Wks. for following work: E. 18th Ave., from Corliss to 20th Aves., grading, curbs, etc., $38,966; Rainier Ave., from Kenny to Graham Sts., brick paving, $16,180. A. H. Dimock, city engr.

Board of Public Works approved plans and specifications for paving Second Ave. N.E. with asphalt; cost $12,000. Address City Clk.

City Council authorized opening of new street extending from intersection of Fifth Ave. N. and Aloha S. to intersecion of Taylor Ave. and Prospect St.; estimated cost $53,000.

Sumner, Wash.—Contract will soon be let for paving several streets; cost $11,000

Albany, Ore.—County Comrs. plan improving 200 miles of road by hardsurfacing. Address County Clk.

Portland, Ore.—Reported contract will soon be let by Interstate Bridge Comm, care of County Commrs., for paving Interstate Bridge approaches across Columbia River, between Vancouver Wash. and Portland; alternate bids on asphaltic concrete, concrete base or asphaltic concrete broken stone or concrete base; concrete or macadam estimated cost $100,000.

Plans filed with City Comn. for paving East Thirty-second St. from Holgate St. to Frances Ave.; cost $9,404. Philip H. Dater, city engr.

Tropico, Cal.—Contract will be let about middle September for macadam pavement, cement curb, etc., on Hill Street. M. R. Coleman, City Clk.

Yuma, Ariz.—Contract will be let about Sept. 15 for grading, asphaltic concrete or bitulithic pavement, etc., on Main Street. S. Frank Stanley, City Recorder.

Challis, Idaho.—Election to be held Nov. 7 to vote $100,000 road bonds. Address County Clerk.

BIDS DESIRED.

Massachusetts.—Until Sept. 12, by State Highway Comn. (Wm. D. Sohier, chmn.), Boston, for constructing roads as follows:

Walpole, road about 1350 ft long.

Ashburham, road about 5100 ft. long.

Meriden, Conn.—Until Sept. 19 by Bd. Pub. Wks. for reinforced concrete paving on Veteran St., advertised in this issuee.

New York, N. Y.—Until Sept. 12 by Marcus M. Marks, pres. Manhattan Boro, for wood block pavement on Centre and Twenty-eighth Sts., in all 5130 sq. yd.; 1100 sq. yd. granite block on Chambers St., and sheet asphalt on Pine, Twenty-fourth, Thirty-ninth, Fifty-fifth and 125th Sts., in all 6970 sq. yd., incluidng curbing, etc.

Montclair, N. J.—See "Waterworks and Sewerage Systems."

Newark, N. J.—Until Sept. 21, by City, for paving portions of Prince St., about 5200 sq. yd. wood or granite block on 6-in. concrete, Jefferson St., and Cedar Ave. about 2900 sq. yd. asphalt block on 6-in. concrete, and portions of Elm Rd. about 5500 sq. yd. asphalt pavement on 6-in. concrete together with sidewalks, curbs, etc. Address Bd. Street and Water Comrs.

Ridgewood, N. J.—Until Sept. 19, by Board of Commissioners for grading and macadamizing Lenox Ave. from Doremus Ave. to Erie RR. also for concrete curbs and gutters and concrete sidewalks on Clermont Rd.

Pittsburgh, Pa.—Until Sept. 21, by John P. Moore, co, compt. for improving portions of Wilmerding and Monroeville Extension Road, "O," a distance of about 1250 ft. in Wilmerdin Borough, Glass and West Run Connecting Road in West Homestead Borough, a distance of about 2700 lin. ft. Separate bids same time and same place for improving Blanksville Road Sect. O, a distance of about 2800 ft.

Baltimore, Md.—Until Sept. 13 by Bd. Awards for grading and paving with cement concrete on a number of alleys. R. M. Cooksey, highway engr.

Maryland.—Until Sept. 19, by State Roads Comn., 601 Garrett Bldg., Baltimore, for Contract No. ch-12, Charles County, one section of road between Mason Springs and Ripley, about 4.22 miles (gravel surfacing), also separate bids for Contract 0269; W. B. S. D-19 and 0215, advertised in this issue.

Until Sept. 26, by State Roads Comn., 601 Garrett Bldg., Baltimore, for Contract No. B-21 (Br.), in Baltimore Co., and Contract No. Wo-13, Worcester Co., advertised in this issue.

Washington, D. C.—Until Sept. 19, by Comrs. D. C. (Oliver P. Newman, chmn.), for paving various streets with sheet asphalt and asphalt block, advertised in this issue.

Stealy Heights (P. O. Clarksburg), W. Va.—Until Sept. 14, by Common Council of Stealy Heights, for grading, paving with brick and curbing Stealy Ave., Davis St. and Duncan Ave., an alley between Hartland and Alexander Aves. with concrete. Contract will be let contingent upward on bond sale of $20,500.

Welch, W. Va.—Until Sept. 16 by W. W. Wythe, clk. county court, for constructing 40.80 miles of public roads and bridges in Sandy River Dist. W. J. McClaren, co. engr.

Merrill, Miss.—Reported desired until Sept. 15 by A. Deleglise, city engr., for vitr. block on Mill and Second Sts.

Covington, Ky.—Until Sept. 12, by Co. Fiscal Court, for constructing the Rector Rd., improving the Independence and Falmouth Rds., and Nicholson and Walton Rds. E. O. Mills, road engr.

Paducah, Ky.—Until Sept. 21 by L. A. Washington, comr. pub. wks., for about 27,500 sq. yd. sheet asphalt, bitulithic, monolithic brick or concrete paving, advertised in this issue.

Columbus, Ohio.—Until Sept. 18, by Co. Comrs. (John Scott, clk.), for improving Section F of Intercounty Highway No. 49. Also until Sept. 25 separate bids same place for constructing a brick and bituminous roadway between the rails of the Ohio Electric RR. along center line of Mason Rd. improvement in village of Bexley Marion Township.

Greenville, Ohio.—Until Sept. 12 by K. H. Schmermund, clk. dir. pub. service, for furnishing material and constructing concrete curb and gutter and a crushed stone roadway and storm water sewer in Spring St.

Indiana.—By Co. Comrs., for constructing roads as follows:

Until Sept. 15:

New Albany, for constructing 6990 ft. roadway in New Albany Township. Emil Dupauquier, co. aud.

Until Sept. 16:

Columbus, constructing three concrete roads in Columbus Township. W. H. Scott, co. aud.

Until Sept. 23:

Danville, constructing 12,088 ft. road in Washington Township. C. M. Havens, co. aud.

Columbus, constructing road in Rock Creek Township. W. H. Scott, co. aud.

Until Sept. 29:

Rochester, gravel road on line between Fulton and Kosciusko Counties. Ernest A. Smith, co. aud.

Illinois.—Until Sept. 13, by State Highway Comn., Springfield, for following road work:

Alsey, Scott Co., Sect. C, length 3700 ft; engineer's estimate $2,636.

Bluffs, Scott Co., Sect. D, length 8700 ft.; engineer's estimate $4,173.

Winchester, Scott Co., Sect. E; length 7500 ft.; engineer's estimate $8,412.

San Antonio, Tex.—Until Sept. 25, by Fred Fries, city clk., for city asphalt plant which city has for sale, advertised in this issue.

Los Angeles, Cal.—Until Sept. 18, by Bd. Supervisors (A. M. McPheerin, clk.), for improving 4.2 miles of streets in Occidental Heights, Road Dist. No. 124, involving about 141,050 sq. ft. cement sidewalks, 79,983 sq. ft. concrete gutters, 35,188 lin. ft. cement curb, and 38,563 cu. yd. excav.; estimated cost $38,828. Also same time and place, for 2.7 miles on Durfee Ave., Lexington and Gallatin Roads in Road Dist. No. 103, in all about 32,000 sq. yd. concrete pavement, 11,420 ft. expansion joints, 14,241 lin. ft. shaping roadbed, etc.; estimated cost $15,215. Also separate bids for 3.58 miles of paving on Artesia Ave., in Road Dist. No. 102, near town of Bellflower, involving about 10,130 cu. yd. excav., 18,869 lin. ft. shaping road, 42,868 sq. yd. concrete pavement, 15,120 ft. expansion joints, etc.; estimated cost $21,561. Also until Sept. 25, for 7.53 miles, 8-in. cement pavement on Alameda St., through town of Compton, known as first section of Harbor Truck Boule., involving about 10,090 lin. ft., shaping roadbed 105,885 sq. yd. 8-in. concrete pavement, 38,136 ft. expansion joints, etc.; cost $53,448.

Salt Lake City, Utah.—Reported desired Sept. 12 by Gordon Snow, city recorder, for paving with concrete on Beck St.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Massachusetts.**—Contract awarded by Massachusetts Highway Comn., Boston, for constructing a state aid road in Hamilton, to C. E. Whipple, Hamilton, at $18,000.

★**Connecticut.**—Contracts awarded by Charles J. Bennett, state highway comr., Hartford (bids opened Aug. 31), for constructing roads as follows:

Town of Montville, about 6000 lin. ft. native stone macadam on New London Turnpike to Frank A. Wilcox, Norwich, at $8,319.

Town of Woodbury, about 1800 lin. ft. graded construction on Watertown-Woodbury Rd., including construction of 16-ft. reinforced concrete slab culvert to Mascetti & Holley, 72 Main St., Torrington, at $4,395.

Town of Beacon Falls, about 6000 lin. ft. gravel construction on Bethany Rd., to John Arborio, 36 Ward St., New Haven, $8,000.

Town of Portland, about 5100 lin. ft. gravel construction on Portland-Glastonary back rd. Archie B. Cadwell, 45 Main St., New Britain, $11,000 submitted lowest bid.

Glen Ridge, N. J.—Following bids opened by Borough Council for paving Ridgewood Ave. with concrete: Osborne & Marcellis, West Orange, $54,890, and John W. Heller, South Orange, $69,490.

★**Paterson, N. J.**—Contract awarded by Board of Freeholders to Sowerbutt & Harrop, Paterson, at $21,555 for constructnig Totowa Rd. from Lincoln bridge to Union Ave.

★**Donora, Pa.**—Contract awarded by Borough Council to Donora Constr. Co., Donora, at about $37,500, for paving and constructing sewers in McCrea and Modesette Aves. and Walnut, Chestnut, Bertha and Ida Sts.

★**Du Bois, Pa.**—Contract awarded by City Council to Johnson & Kerns, Du Bois, at $9,152, for paving Long St. Other bids were: John F. Minns, Du Bois, $10,069, and Thomas W. Monroe, Du Bois, $9,468. R. V. Bloom, city clk. (bids opened Aug. 21).

Loch Haven, Pa.—The bid of Busch & Stewart, Williamsport, at $11,765, only one received for vitr. brick paving on Henderson and Main Sts. (bids opened Aug. 21), rejected because it exceeded appropriation.

★**West View, Pa.**—Contract awarded Austin & Matthews, Connellsville, for grading, curbing and paving Park, Martsolf Aves. and other streets at $24,254. Other bidder: M. O'Herron & Co., Pittsburgh, $27,730. C. A. McClain, boro. clk. (Bids opened Aug. 22.)

★**Williamsport, Pa.**—Contract awarded by City Council to Busch & Stewart, Williamsport, at $2.36 per yd., for paving about 7311 yd. on Arch St.

★**Rockville, Md.**—Contract awarded by County Comrs. to G. F. Mullin Co., Fourteenth and Kennedy Sts., at about $50,000, for constructing about 4½ miles of State Aid Highway with bituminous macadam. M. D. Knight, co. rd. supt. (bids opened Aug. 8).

Hamlin, W. Va.—Following bids opened Aug. 9 by County Comrs. for constructing about 4 miles of Porter Fork Rd. (price given per mile): E. R. Haskinson, W. Hamlin, $2,600, and M. L. Adkins, Branchland, $1,600.

★**Birmingham, Ala.**—Contract awarded by City Comn. Aug 29 to Southern Bitulithic Co., Birmingham, for paving with sheet asphalt on Clairmont Ave. and Forty-second Street, including 4720 ft. combination curb and gutter, 12,700 sq. yd. asphalt paving, 7300 yd. excav., etc.; estimated cost, $22,988. To Dun Constr. Co., Birmingham, for paving Mountain Terrace, including 1400 cu. yd. excav., 7086 sq. yd. asphaltic concrete on 4-in. concrete base, 900 ft. concrete curb and gutter, etc.; estimated cost, $11,611. Julian Kendrick, city eng.

★**New Orleans, La.**—Contract awarded Welzel & Co., Alexandria for constructing with gravel Monroe-Winnsboro Highway in Ouachita Parish, a distance of 13 miles (bids opened Aug. 28 by Highway Dept. of Louisiana.)

★**Gulfport, Miss.**—Contract awarded by City Council to J. B. McCrary Eng. Co., Atlanta, at about $35,000, for paving 5½ miles of streets with shell.

Lexington, Ky.—See "Proposed Work."

★**Cleveland, Ohio.**—Contract awarded by Board of Control to Rieley Bros., 348 Arcade, at $69,323, for paving Clark Ave. viaduct with dressed Medina block stone. (Bids opened Aug. 16.)

★**Clarksburg, W. Va.**—Contract awarded by City Council to W. B. Virgie, Clarksburgh, at about $12,000 for paving W. Pike St.

★**Dennison, Ohio.**—Contract awarded by City Council to Springer & Logan, New Philadelphia, for paving Logan and Spring Sts. at 15,787, for grout filler, $16,549 tar filler, and $16,851 for asphalt filler (kind of filler not decided upon).

Wooster, Ohio. — Following are bids opened Aug. 29 by R. Barrett, co. surv., for paving Mount Eaton and Lebanon Rd. —(a) Mono brick, (b) waterbound macadam: Highway Constr. Co., Elyria, (b) $42,255; Lee Griggs & Anderson, Millersburg, (a) $63,809, (b) $46,927; J. C. Devine Co., Alliance, (a) $64,668, (b) $45,763; Midland Constr. Co., Lima, (a) $67,221, (b) $47,397.

★**Elgin, Ill.**—Contracts for paving (bids opened Aug. 25) awarded by city as follows: Commonwealth Ave., 3550 sq. yd. brick pavement, $2.03 per sq. yd.; total, $8,503; Bluff City Boulevard, 6232 sq. yd. asphaltic concrete to McCarthy Improv. Co., Davenport, at $1.50 per sq. yd., total $12,440.

★Logan & Giertz Constr. Co., Elgin, secured the contract for paving Raymond and Watch Sts. at following unit bid: (bids opened same time and place as above.) 17,238 sq. yd., $1.95; 10,018 lin. ft. curb and gutter, 55 cts.; 426 lin ft. concrete headers, 35 cts.; 70 gutter plates, $3; 70 sidewalk headers, $2; total, $39,573. Engineer's estimate, $38,811; other bidder, Illinois Hyd. Stone & Constr. Co., Elgin, $40,535. Morgan H. Brightman, city engr.

★**Galesburg, Ill.**—Contract awarded by Bd. Local Improvts. to J. B. McAuley, Galesburg, at $23,865, for paving Jefferson St.

★**Illinois.**—Contracts awarded by State Highway Comn., Springfield, as follows: Aug. 22, to John Brogen, Eldred, Sections B, C and D, in Greene County, oiled earth road at total of $13,534, and Aug. 23, to C. A. Weaver & Son, Clayton, Section D, in Brown County, earth road, at $2,700; and Ward & Son, Oak Glen, Cork County, Section N, concrete, at $4,692; to W. F. Lodge, Monticello, Section C, Piatt County, brick, at $11,387, John D. Vogt, Belleville, Sections B, C and D, St. Clair County, all earth roads, at total of $17,792.

★**Lincoln, Neb.**—Contract awarded by County Comrs. to Roberts Constr. Co., Lincoln, at $24,000, for grading and paving in Paving District No. 15.

★**Mitchell, S. D.**—Contract awarded C. H. Atkinson, Watertown, for paving East Third and East Second Aves. and Duff St. with two-course concrete at $1.79 per sq. yd. and $1.84 per yd. for asphaltic concrete. Thos. Eastcott, city aud. (bids opened Aug. 22).

★**Laurel, Mont.**—Contract awarded by City Council to H. C. Green, Spokane, at $54,797, for paving Main St. with bitulithic on gravel base (bids opened Aug. 15).

★**Higginsville, Mo.**—Contract for constructing 5000 sq. yds. brick block paving and 3500 ft. concrete curbing for Washington Ave. (bids opened Aug. 22) awarded F. D. Martin Constr. Co., Kansas City, at $1.88 per sq. yd.; Ralph A. Huscher, city clk.

★**Dallas, Tex.** — Following contracts awarded by City Commissioners for paving: To Western Paving Co., Oklahoma, for Beckley Ave., south from Tenth St. to city limits, $15,497; Standard Engineering & Construction Co., Dallas, Beckley Ave. north from Tenth St. to city limits, $48,929, Pearl St., $21,039, and Scurry St., $5,918; Texas Bitulithic Co., Dallas, $10,223.

★**Pullman, Wash.**—Reported contract awarded by City Council to Washington Paving Co., L. C. Smith Bldg., at $16,754, for paving Military Hill.

Seattle, Wash.—Following bids opened by Board of Public Works for paving W. McGraw St.: Independent Asphalt Paving Co., Northern Bank Bldg., $115,003; Sparger Concrete Co., Seattle, $115,759; P. J. McHugh, Seattle, $116,750, and R. G. Stevenson, Seattle, $118,490. All bids rejected.

★Reported contract awarded by Board of Public Works to J. L. Smith, 143 Twenty-first Ave., N., at $23,413, for constructing concrete sidewalks, etc., on Division Ave.

★Reported contract awarded by County Comrs. to Sparger Concrete Co., Colman Bldg., at $72,600, for paving Highway No. 11 with brick on 6-in. concrete base (bids opened Aug. 28).

Portland, Ore.—Oregon Hassam Paving Co., Portland, at $13,051 submitted lowest bid for paving E. Davis and E. Sixteenth Sts.

Anaheim, Cal.—Following bids opened Aug. 29 by City Council for constructing approximately 371,194 sq. ft. asphalt paving 4½-in. base and 1½-in. sheet asphalt surface on West Broadway: George R. Curtis, 552 S. St. Louis St., Los Angeles, $37,925; E. R. Werdin, Los Angeles, $41,722; E. Ralph, Los Angeles, $48,218, and Fairchild-Gilmore-Wilton Co., Los Angeles, $52,925.

★**Glendale, Cal.**—Contract awarded by City Trustees to Rogers Bros. Co., 506 Hibernian Bldg., Los Angeles, at $57,809 for improving Canada Boule. Other bids were: Peter L. Ferry, Glendale, $58,600, and A. L. McGray, Los Angeles, $76,200. (Bids opened Aug. 25.)

Los Angeles, Cal.—Following bids opened Aug. 23 by Harbor Commissioners for constructing 85,706 sq. ft. bitulithic pavement at San Pedro Harbor: Fairchild-Gilmore-Wilton Co., Pacific Electric Bldg., $16,235, and Bryant & Austin, 1650 Compton Ave., $16,412.

★**Santa Barbara, Cal.**—Following four lowest bids opened Aug. 21 by Board of Supervs. for 44,087 cu. yd. excavation, 74 cu. yd. concrete and 906 lb. steel in culverts, on 4.18 miles of Harris Station-Lompoc Rd.: Robert Sherer & Co., 648 Pacific Electric Bldg., Los Angeles, $18,570 (awarded contract); C. H. Hudson, Trust and Savings Bldg., Los Angeles, $22,542; Ira Hodson, Santa Barbara, $24,000, and L. L. Pendola, Santa Barbara, $25,000.

★**Brigham, Utah.**—Contract awarded by County Comrs. to H. G. Gilkerson, Salt Lake City, at $12,500 per mile for constructing two miles of concrete road.

★**Ogden, Utah.**—Contract for laying a 6-in. reinforced concrete pavement in Paving District No. 120 awarded to J. P. O'Neill Constr. Co., Ogden, at $15,406. Other bids: Wheelwright Constr. Co., Ogden, $15,468, and Parrot & Christofferson, Salt Lake City, $17,111. J. M. Tracey, city engr.

★**Hull, Quebec.**—Contract for asphalt pavements awarded to Ottawa Constr. Co., Central Chambers, Ottawa, at $55,000.

★**Ottawa, Ont.**—Contracts for asphalt pavements awarded to O'Leary & Co., Bank St. Chambers, at $30,913, and Ottawa Constr. Co., Central Chambers, $115,500.

RAILWAYS
Steam and Electric

PROPOSED WORK.

Trenton, N. J.—Chas. A. Mead, engr. bridges and grade crossings, Bd. Pub. Utility Comn., approved plans for a new crossing on Sullivan way of Pennsylvania RR., and also tunnel under canal and railroad at that place.

Erie, Pa.—F. G. Lynch, city engr., estimates city's share of eliminating grade crossing over Parade at Fourteenth St., at about $20,000, requiring 16,800 yd. earth excav. and 3000 yd. rock excav. Engineer is preparing estimates of cost of constructing retaining walls for subway and repairing street.

West Point, Va.—Reported construction work will soon begin on Richmond, Rappahannock & Northern Ry. from West Point to Urbanna, 17 miles. C. L. Ruffin, 514 American National Bank Bldg., Richmond, ch. engr.

Winchester, Va.—Winchester & Western RR. will be built from Winchester to Gainesboro through Gore and Black Creek Valley to Wardensville, W. Va. Ward & Larrick, Winchester, attorneys for proposed road.

Wheeling, W. Va.—Charter granted to Wheeling & Eastern RR. to construct railroad in Wheeling and Pennsylvania. Thos. H. Swartz, Wheeling, Secy.

Atlanta, Ga.—Atlanta & Anderson Ry. Co. contemplates constructing electric railway from Atlanta to Anderson, S. C., about 120 miles long. J. McCurry, Hartwell, said to be interested.

Jacksonville, Fla.—Reported preliminary surveys will probably be started this fall on interurban electric line to extend from Jacksonville to St. Augustine for Jacksonville-St. Augustine Public Service Cor. T. R. Osmond said to be interested.

St. Petersburg, Fla.—Pinellas West Coast Ry. incorporated to acquire franchises, build, lease own and operate railroads and street railways. Capital $10,000. H. C. Case, pres.; C. E. Worrell, secy. and treas.

Smithville, Tenn.—Citizens of De Kalb County voted a subsidy to Nashville & Eastern Electric Ry. for construction of line from Lebanon to Smithville, about 35 miles.

Akron, Ohio—Engineers have reported to city that eliminating grade crossings between Mill and South Main Street will cost $2,500,000.

Cleveland, Ohio.—Reported Nickel Plate R. R. (E. E. Hart, ch. engr., Cleveland) will be double tracked through Cleveland and from Lorain to Euclair; also spur built from main line near Bellevue to Tiffin.

Elkhart, Ind.—Reported St. Joseph Valley Ry. Co. will during 1917 extend line to Toledo, Ohio.

Evansville, Ind.—Wm. P. Kappers, receiver Evansville & Indianapolis RR. Co., authorized by Federal Court to negotiate certificates to extent of $600,000 for general rehabilitation of railroad.

Richmond, Ind.—Construction of Columbus, Greensburg & Richmond Ry. from Columbus to Richmond via. Greensburg and Connersville contemplated. John A. Shafer, Indianapolis, engr.

Kewanee, Ill.—Preliminary surveys are being made for proposed line from Kewanee to Henry for Kewanee & Eastern Electric Ry. C. G. Lampman, Cedar Rapids, is interested.

Des Moines, Iowa.—Contract about to be let by Des Moines City Ry. Co. for reconstructing power station. Equipment to include one 1000-kw. and one 5000-kw. generator unit.

Eagle Pass, Tex.—Reported Eagle Pass & Gulf RR. is to be constructed from Asherton to Corpus Christi or Aransas Pass, a distance of about 240 miles. Richard H. Phillips, ch, engr., San Antonio.

Galveston, Tex.—Galveston Electric Co contemplates constructing ½ mile of track with concrete foundation and various special work layouts.

Chehalis, Wash.—Cowlitz, Chehalis & Cascade Ry. Co. has applied to city comrs. for franchise to construct a steam railway over several streets in southern part of city.

Bend, Ore.—Reported citizens voted $35,000 bonds to buy the terminals desired by Robert Strahorn for the proposed Oregon, California & Eastern R. R. The road will cost $350,000 and work will start Oct. 1.

Beaumont, Cal.—Southern Pacific Ry. Co. directed by State RR. Comn. to construct an overhead crossing over county highway; estimated cost $12,510; railroad to pay $5,025 and county balance.

Guelph, Ont.—Guelph Radial Ry. Co. will during 1917 construct 3000 ft. of track.

Sudbury, Ont.—Sudbury-Copper Cliff Electric Ry. Co. contemplates constructing two extensions, one from Sudbury flour mill to Murray Nickel mine, about 4 miles, other from Sudbury flour mill to Mond Nickel Co.'s plant at Coniston, distance 19 miles. J. H. Mackey, Sudbury, pres.

Toronto, Ont.—Ontario Hydro Comn. (Adam Beck, London, chmn.) preparing plans for radial railways to cost $25,000,000. Plans approved for a line between Hamilton and Toronto; Toronto terminals will cost about $7,000,000.

Saskatoon, Sask.—City Council considering constructing 1200 ft. double track on provincial bridge at Twenty-fifth St. for Saskatoon Municipal Ry.

BIDS DESIRED.

New York, N. Y.—Until Sept. 18, by Public Service Comn., 120 Bway., for installation of tracks on portions of Culver Rapid Transit R. R., Boro Brooklyn.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Springfield, Mass.—Newton C. Bond, North Adams, preparing plans for fireproof factory to be erected by Bozart Rug Co. (Wm. M. Stevenson, pres.); cost $100,000.

Springfield, Mass.—Plans being prepared by Albert Karp, Stearns Bldg., for erection of 6-story fireproof hotel on Pynchcon St.

Buffalo, N. Y.—Kelly Island Lime & Transport Co. of Cleveland purchased 400 ft. frontage on Buffalo River on which will be erected crushing plant for manufacture of flux for blast furnace use and for other limestone products.

Rome, N. Y.—Rome Wire Co. (Frank M. Potter, mgr.) will erect 1½-story, 100 x 150 ft., red-mill addition on Railroad Ave.; estimated cost $50,000.

Passaic, N. J.—Brighton Mills, Brighton Ave., purchased site at Allwood, near Passaic, on which to erect mill and about 100 workmen's houses.

West Orange, N. J.—Edison Co. will erect 6-story fireproof building, 222 x 666 ft. for storage purposes.

Bethlehem, Pa.—Council granted Philadelphia & Reading Ry. Co. (S. T. Wagner, Ch. Engr., Philadelphia) right to rearrange tracks at West Third Street crossing to conform with plans for proposed freight station, to cost about $50,000.

Sharpsville, Pa. — Sharpsville Boiler Works will erect 120 x 170 ft. building. Hugh J. Garvey of Sharon, pres.

Claymont, Del.—Victor Motor Co. incorporated with capital of $2,000,000 to erect auto plant at Claymont with capacity for building 50,000 automobiles during year. Principal office, 1530 Chestnut St., Philadelphia, Pa.

Steel plant costing $10,000,000 to be erected on Naaman's Creek near Claymont. Wm. P. Worth and Norman R. Entrekin of Coatesville, Pa., are interested.

Bristol, Va.—Federal Extract Co. will erect $100,000 building and install chestnut wood extract machinery.

Marion, N. C.—Clinchfield Mfg. Co. will erect cotton mill known as Clinchfield Mill No. 2, in Marion; cost $600,000.

Savannah, Ga.—Georgia Shipbuilding Co. will erect shipbuilding plant; cost $50,000. Plans include construction of drydock.

Demopolis, Ala.—Plant of Alabama Portland Cement Co. is to be equipped with new machinery throughout. W. G. Mitchell, prop.

Jackson, Miss.—Royal Feed & Milling Co., Jackson, will erect $50,000 plant with daily capacity of 400 tons molasses feed, etc., and storage tanks for 30,000 bu. of grain.

Akron, Ohio.—Summit Auto Co. will erect a 3-story brick building, 76 x 216 ft., at 695 S. Main St.; cost $60,000. C. C. Lowe, asst. genl. mgr.

Cincinnati, Ohio.—Hirsch Rolling Mills, St. Louis, reported intends erecting a branch plant here costing $500,000.

Cleveland, Ohio.—Detroit & Cleveland Navigation Co. of Detroit, Mich., negotiating with city for site near E. Ninth St. for terminal. Lower floor for storage purposes and upper floor for city recreation hall; cost about $125,000.

National Acme Mfg. Co. (W. D. Alexander, pres., 7500 Stanton Ave.) is having plans prepared for a factory to be erected at Eddy and Colt Roads; cost $150,000.

Harry L. Davis, mayor, and Clarence S. Neal, director finance, are in favor of city waterworks dept. erecting municipal storeroom at Woodard Ave. and E. Seventy-ninth St.; cost about $100,000.

Great Falls, Mont.—Washburn-Crosby Co. of Minneapolis, Minn., will erect flour mill at Great Falls; cost $200,000.

Reported Jos. Magagnini of Great Falls will erect a macaroni factory; cost $128,000.

Boulder, Col.—The Degge-Clark Mining Co. is being reorganized and will be known as Degge-Clark Mining, Milling & Reduction Co. Among improvements contemplated by new organization is erection of refinery, costing $200,000, for manufacture of tungstic acid. W. W. Degge, Boulder, interested.

New Toronto, Ont.—Plans being prepared for factory for Du Pont Fabrikoid Co. (W. A. Cotton, mgr.); cost $150,000.

Orangeville, Ont.—Plans being prepared for a factory for Canadian Clock Co.; cost $50,000.

Toronto, Ont.—Queen Hat Mfg. Co., 82 Bay St., contemplates erecting factory; cost $75,000.

New Westminster, B. C.—Vulcan Iron Wks. (John R. Duncan, mgr.) planning to erect boiler shop, foundry and steel ship building plant to cost $150,000. A drydock, costing $200,000, also contemplated.

New Westminister, B. C.—Marsh Hutton Powers Co., Western Trust Blk., preparing plans for shingle mill; cost $50,000.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Hartford, Conn.**—Contract awarded J. H. Crozier Co., 721 Main St., for erecting 2-story, 290 x 90 ft., brick addition to plant of Billings & Spencer Co., at $63,000. Berlin Constr. Co., Berlin, will furnish steel.

★**Ft. William, Ont.**—Contract for erecting a grain elevator, crib construction, for John King, Victoria Ave., awarded to D. A. Gordon, Luci Court; cost $55,000.

★**Port Arthur, Ont.**—Contract for constructing roundhouse, extensions and machine shops for Canadian Northern Ry. Co. awarded to J. H. Simmons, 7 Florence Ave., Winnipeg; cost $53,000.

★**Vancouver, B. C.**—A. W. Quist, Hoge Bldg., Seattle, Wash., secured contract to erect second unit to plant of New England Fisheries Co., consisting of 150 x 250 ft. dock and 110 x 120 ft. warehouse; cost about $50,000.

BUILDINGS
Public and Private

PROPOSED WORK.

New Bedford, Mass.—Plans prepared by Louis E. Destempres, archt., Union St., for police station, 3-story, 59 x 112 ft., cell house, 2 story, 31 x 81 ft., and garage, 31 x 82 ft., all brick and steel construction. Clifford W. Bartlett, chrmn. of com.

New Boston, Mass.—Citizens voted $65,000 bonds for school improvements. Address clk. school bd.

Worcester, Mass.—Y. M. C. A. Building is to include seven-story fireproof brick, stone, main building, cost $300,000, and a gymnasium costing $140,000. Louis E. Jallade, Archt., 37 Liberty Street, New York, N. Y.

Danbury, Conn.—Reported contract soon to be let by New York, New Haven & Hartford, RR. (Edw. Gagel, ch. engr., New Haven) for erecting roundhouse, shop and office building at White St. yard; cost about $65,000.

Brooklyn, N. Y.—Trus. Third Church of Christ, Scientist, of Flatbush purchased site at Kenmore Pl. and Albemarle Rd. for erection of edifice to cost about $130,000.

New York, N. Y.—Plans completed by Department of Charities, Municipal Bldg. (John A. Kingsbury, comr.), for remodeling and enlarging buildings of Sea View Hospital on Staten Island and Children's Hospital and schools for mentally defective children on Randall's Island.

Plans filed for erection of 9-story apartment house, 75 x 100 ft., at 113 E. Eighty-second St., for 115 E. Eighty-second St. Cor.; cost $250,000. W. L. Rouse and L. A. Goldstone, archts., 40 W. Thirty-second St.

New Hampton, N. Y.—Contract soon to be let by Dept. Correction, Municipal Bldg., New York, for erecting superstructure of 3-story and basement, 240 x 40 ft. receiving and administration building, fireproof, brick and stone, at New Hampton; cost $170,000. Chas. B. Myers, archt., 1 Union Sq., New York, N. Y.; Louis E. Lawes, supt., New Hampton.

Jersey City, N. J.—Plans approved for 5-story brick apartment house at Pavonia and Garrison Avenues for Charles Bldg. & Constr. Co.; cost about $50,000.

Plans of Lerner Constr. Co. for 4-story brick apartment house at Glenwood Ave. and Boulevard approved; cost about $50,000.

Newark, N. J.—Common Council will sell $160,000 bonds for erection of police headquarters.

Chester, Pa.—Contract soon to be let for erecting brick, stone, concrete and terra cotta theater for J. F. Zimmerman; cost, $200,000. Hoffman Co., Globe Theater Bldg., Philadelphia, archts.

Elizabethtown, Pa.—Contract soon to be let for erecting three 3-story brick and stone buildings for Masonic Home; cost, $90,000. C. Emlen Urban, Woolworth Bldg., Lancaster, archt.

Erie, Pa.—Wm. B. Ittner of St. Louis submitted to Bd. of Educ. plans for 2-story high school; cost $450,000; and for Lincoln school; cost $200,000.

Greenville, Pa.—Citizens voted $125,000 bonds to erect new high school. Address Clk. School Bd.

Millersburg, Pa.—Johnson public library and gymnasium to be erected in Millersburg at cost of $50,000.

Pitcairn, Pa.—United Brethren Congregation decided to erect an edifice; cost $30,000. Wm. V. Barnhart, Pastor.

Pittsburgh, Pa.—Contract will be let about Sept. 5 for erecting $300,000 addition to School of Applied Science of Carnegie School of Technology. Edward Stotz, Monon. Bank Bldg., Archt.

Plans being prepared by W. G. Wilkins Co., Westinghouse Bldg., for artillery armory contemplated on Emerson Street; cost $60,000.

School Bd. of Aspinwall Borough and O'Hara Township plan to erect high school; cost $110,000.

Contract about to be let by Baltimore & Ohio RR. Co. for erecting 400 x 50 ft. freight station at Liberty Ave. and Thirty-second St.

Wallace Apartment Cor. purchased site at Fifth Avenue and Craig St., Bellefield, for erection of 10-story apartment; cost $350,000.

Sharpsburg, Pa.—High school to be erected in Sharpsburg; cost $100,000.

Wilkinsburg, Pa.—Plans being prepared by D. Simpson of Pittsburgh for a market house to be erected at Mulberry and Franklin Sts., for Wilkinsburg Public Market Co. (F. F. Graf, pres.); cost $60,000.

Danville, Va.—School bonds for $75,000 will be sold Sept. 15 by Robt. Brydon, city aud.

Memphis, Tenn.—Plans being prepared by John Gaisford for erection of 12-story office building and church at Court Avenue, for Court Ave. Presbyterian Congregation; cost about $350,000.

Cincinnati, Ohio.—Tietig & Lee, Lyric Theater Bldg., engaged to prepare plans for $50,000 stucco residence to be erected on Baker Pl., East Walnut Hills, for W. Y. Cartwright, vice-pres. of Union Gas & Electric Co.

Cleveland, Ohio.—Reported Mrs. Emma Harmon, 5808 Quinby Ave., will erect apartment house on Fairchild Ave. and E. 107th St.; cost $100,000.

Reported F. A. Cooke, care Jos. Laronge Co., 214 Williamson Bldg., will erect 3-story apartment building at East Boule. and Superior Ave.; cost $75,000.

C. D. Cooley, Century Bldg., Pittsburgh, Pa., engaged to prepare plans for two-story building to be erected for Sanitary Tinning Co. (A. J. Miller, pres.), 2365 Canal Rd.; cost, about $50,000.

A. B. Sprosty, dir. pub. safety, recommends voting, in September, $500,000 to $600,000 bonds for fire department improvements, about $125,000 to be used for new buildings.

East Cleveland, Ohio.—Reported Jos. H. Greenwald, 9815 Westchester Avenue, purchased site on Hayden Avenue and intends erecting buildings to cost $125,000.

Portsmouth, Ohio.—Ritter & Bates, Portsmouth, engaged to prepare plans for 12-room brick school to be erected on Kinney's Land. Address clk. bd. of educ.

Wellsville, Ohio.—Howard & Merriam, 8 E. Broad St., Columbus, engaged to prepare plans for proposed $100,000 school. Address Secy. Bd. Educ.

Youngstown, Ohio.—Reported contract soon to be let for erecting 13-story fireproof, steel, reinforced concrete, brick and terra cotta hotel at Phelps and Wood Sts. for Willis Hotel Co.; cost, $500,000. W. C. Owen Co., Leader-News Bldg., Cleveland, archt.

Chicago, Ill.—Plans prepared by C. W. and Geo. L. Rapp, 69 W. Washington St., for store, theatre and office building which Barney and Abe J. Balaban of General Feature Film Co. and Morris and Sam Katz of Amalgamated Theatre Co. propose erecting on W. 12th St. and Central Park Ave., to cost $275,000.

Chas. H. Kusel, 4521 Michigan Ave., reported contemplates erecting 80-apartment building at Pratt Boul. and Sheridan Rd.; cost about $325,000.

Reported Milton S. Plotke, 4456 Magnolia Ave., purchased site on S. Columbia Ave., in Rogers Park, and intends erecting store and garage building to cost about $75,000.

Granville, Ill.—Plans prepared by E. A. Payne of Carthage for Granville High School; cost between $50,000 and $75,000.

Milwaukee, Wis.—Bldg. Com. recommends to School Bd. issue of $800,000 bonds for building purposes.

Clinton, Iowa.—County Board of Supervisors reported considering erecting hospital in connection with county farm buildings, to cost about $50,000.

Des Moines, Iowa—Reported H. J. Bockenhoff, 1728 Sixth Avenue, will erect three-story apartment building at Twelfth and High Streets; cost $50,000.

Contract will be let about Sept. 1 by Kraetsch & Kraetsch, Archts., 313 Security Bldg., for erecting eight-story steel and concrete office building at Seventh and Walnut Streets for F. T. Parritt; estimated cost $150,000.

Dubuque, Iowa.—Erection of 3-story brick hospital at Dubuque College contemplated; cost $75,000.

Minneapolis, Minn.—Erection of $150,000 Methodist Episcopal Church and $150,000 dormitory for University of Minnesota contemplated here. Bishop C. B. Mitchell, 179 North Lexington Avenue, St. Paul, reported interested.

Rochester, Minn.—F. H. Ellerbe, 692 Endicott Arcade, St. Paul, submitted plans to J. H. Kahler, pres. Kahler Hotel Co., for 8-story annex to Zumbro Hotel; cost about $75,000.

Springfield, Minn.—Lutheran Synod of America will erect Lutheran Hospital and dispensary in Springfield; cost $100,000.

Wichita, Kan.—It is proposed to erect a brick and concrete school costing $60,000. J. L. Leland, clk. bd. educ.

Hastings, Neb.—Election to be held this fall to vote bonds for erecting high school; cost $125,000; and two schools at cost of $75,000 each. Address Bd. of Educ.

Austin, Tex.—Contract will be let about Sept. 25, by Bd. Mgrs. Texas State School for Deaf, Austin, for erecting a fireproof 3-story, 174 x 60 ft. oral school, with hospital wing; cost $65,000. Kuhne, Chasey & Giesecke, archts., Austin.

Dallas, Tex.—Erection of 3 buildings at Baylor University College of Medicine and Texas Baptist Memorial Sanitarium contemplated; cost $250,000.

Denison, Tex.—Attorney General at Austin approved $60,000 school bond issue for Denison.

Houston, Tex.—Plans completed by Glover & Son, Binz Building, for six-story terra cotta and stone building, to be erected for Hermann Estate on Travis Street.

Denver, Colo.—H. W. J. Edbrooke, Tabor Grand Bldg., is architect for proposed 4 or 6-story addition to store of A. T. Lewis & Son Dry Goods Co., Sixteenth and Stout Streets; cost about $300,000.

Los Angeles, Cal.—Preliminary plans prepared by Wm. Curlett & Son, 518 Merchants National Bank Bldg., and Francis H. Kimball, 71 Broadway, New York, assoc. archts., for steel and brick casino, theatre, office, studio and skating rink building to be erected at 12th St. and Broadway. H. E. Huntington, Pacific Electric Bldg., reported interested; cost about $500,000.

Plans being prepared by Geo. W. Eldridge, 441 Consolidated Realty Bldg., for 4-story, 104-room brick apartment house at Westlake Ave. and Sixth St., for D. W. Ferguson; cost $80,000.

San Francisco, Cal.—Apartment house and office building to be erected at Leavenworth and Sutter Sts. for A. Abrams; cost $75,000. G. A. Lansburgh, 709 Mission St., archt.

San Diego, Cal.—John M. Anderson of New Southern Hotel will erect 10-story building at Fifth St. and Broadway.

Idaho Falls, Idaho.—See "Prices and Lettings."

Wallace, Idaho.—Reported A. G. Moodhe, 115 E. Liberty St., Spokane, Wash., will erect 3-story, 100 x 99 ft., hotel here; estimated cost $70,000.

Montreal, Que.—Plans being prepared by A. Letcong, 319 Redfern Ave., for theater; cost $125,000.

Quebec City, Que.—Contract about to be let by Tanguay & Lebon, 20 d'Aigullon St., archts., for $100,000 hospital building for Anti-Tuberculosis League.

Deseronto, Ont.—Dominion Hardwoods Co. preparing plans for concrete and steel factory; cost $150,000.

BIDS DESIRED.

Shirley, Mass.—Until Sept. 18, by Trus. Massachusetts Training Schools, Room 179 State House, Boston, for erecting, including heating, plumbing, etc., central portion and south wing of brick Administration and Chapel building at Industrial School for Boys, Shirley. Densmore & Le Clear, archts. and engrs., 88 Broad St., Boston.

Springfield, Mass.—Until Sept. 28, by Com. on City Property (Giles Blague, chmn.), Administration Bldg., for erecting school on Franklin St., to be known as Hooker School. Sam'l M. Green Co., 293 Bridge St., Springfield, engrs. and archts.

Farmingdale, L. I., N. Y.—Until Sept. 12 by Wm. Wirt Mills, secy. bd. trus., N. Y. State School of Agriculture on Long Island, at N. Y. office of Dept. of Agriculture, Room 1224 Woolworth Bldg., New York, for constructing, heating and plumbing work of greenhouse at said school, advertised in this issue. Lewis F. Pilcher, state archt., Albany.

Jersey City, N. J.—Until Sept. 14 by City Comrs. for erecting hospital at Baldwin Ave. and Montgomery St. M. I. Fagen, city clk.

Ridgefield Park, N. J.—Until Sept. 20, by Bd. Educ., Overpeck Township, for fire escapes and alterations to high school building, advertised in this issue. Ernest Sibley, archt., Edgewood Lane and Bluff Road., Palisade; G. H. Noethling, dist. clk., 223 Teaneck Rd., Ridgefield Park.

Buckhannon, W. Va.—Until Oct. 12, by Jas. A. Wetmore, acting superv. archt., Washington, D. C., for construction complete of U. S. Post Office.

De Land, Fla.—Until Sept. 25, by C. R. M. Sheppard, county supt. pub. instructions, for erecting school.

Vinton, La.—Reported desired until Sept. 14 by F. M. Hamilton, parish supt. of schools, for erecting 2-story and basement high school. A. H. Humphrey, archt., Lake Charles.

Jacksontown, Ohio.—Until Sept. 26, by Bd. Educ., for furnishing material and erecting grade and high school. Separate bids for heating and ventilating, plumbing and sewerage. F. S. Rusk and Cree Sheets., archts., 145 N. High St., Columbus.

West Park, Ohio.—Until Sept. 18, by Fred Feuchter, village clk., for erecting engine house on Lorain Ave. Prices for labor and material must be stated separately. Separate bids desired on excavation, masonry, etc., carpentry, electrical work, composition floors, heating, plumbing, etc.

Boonville, Ind.—Reported desired until Sept. 16 by Bd. Educ. for erecting 2-story brick school.

Brooklyn, Mich.—Until Sept. 21, by W. M. Taylor, secy. bd. educ., for erecting school. Separate bids for heating, ventilating, plumbing, etc. Leonard H. Field, Jr., archt., Camp Bldg., Jackson.

Detroit, Mich.—Until Sept. 12, by Bd. Educ. (Chas. A. Gadd, secy.), as a whole or separately, for furnishing material and erecting, including heating, ventilating, plumbing, masonry, etc., annex to Bishop School, Winder St. near Rivard. Spier & Gehrke, archts., 1317 Chamber Commerce Bldg.; separate bids, as a whole or separately, for erecting, heating, ventilating, electric wiring, etc., annex to Lincoln School. Brady and St. Antone Sts. Malcomson & Higginbotham, archts., 404 Moffat Bldg.

Prairie du Chien, Wis.—Until Sept. 22, by Bd. Educ. (W. H. Turbitt, clk.), separate bids for heating, plumbing, etc., for erecting high school. Parkinson & Dockendorff, archts., La Crosse.

Des Moines, Iowa.—Reported desired until Sept. 19 by A. L. Clinide, secy. independent school dist., for erecting stone school. Smith & Keffer, archts. Youngerman Bldg.

Fairmont, Minn.—Until Sept. 14, by the Church of St. Paul, for erecting convent school. Separate bids for plumbing, wiring, etc. Geo. Pass & Son, archts., Mankato.

Dickinson, N. D.—Until Oct. 16 by Jas. A. Wetmore, acting superv. archt., Washington, D. C., for construction complete of U. S. post office.

Ava, Mo.—Until Sept. 15, by Bd. Educ. (H. M. Curnutt, secy.), for furnishing material and erecting a two-story and basement, 60 x 61 ft. school. Separate bids for heating, plumbing, etc. Geo. F. Reed, archt., 418-19 Holland Bldg., Springfield.

Carthage, Mo.—Until Sept. 22, by Bd. Educ. (Nora Johnson, secy.), for erecting two grade schools. Separate bids for heating, plumbing, etc. J. H. Felt & Co., 800 Grand Ave. Temple, Kansas City, Mo., and Percy K. Simpson, Carthage, assoc. archts.

Collinsville, Mo.—Until Sept. 20, by Pub. Library Bd. (H. C. Bollman, secy.), for erecting a Carnegie library. Geo. P. Washburn & Son, archts., Ottawa, Kan.

Okumlgee, Okla.—Reported desired until Sept. 29, by C. E. Hair & Co., archts., 417 Terminal Bldg., Oklahoma City, for erecting 4-story and basement, 100 x 105 ft. brick, stone, terra cotta and reinforced concrete courthouse.

Toronto, Ont.—Until Sept. 12, for erecting St. Michaels Hospital Nurses Home. Hynes, Feldman & Watson, archts., Goad Bldg., 105 Bond St., Toronto.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Boston, Mass.—Following are three lowest bids opened Aug. 29 by Schoolhouse Comrs. for erecting an elementary school for lower grades in Mary Hemenway

School Dist., Gibson and Bispham Sts., Dorchester: Whiton & Haynes Co., 200 Devonshire St., $137,400; P. H. Rose Constr. Co., 730 Washington St., $143,000; Archdeacon & Sullivan, 5 E. Concord St., $147,700.

★**Medford, Mass.**—Following bids opened Aug. 28 and 30 for constructing (a) foundation, (b) superstructure of city hall: M. M. Dyer, 117 Otis St., (a) $26,500 (awarded contract); John W. Duff, Inc., 146 Summer St., Boston, (a) $26,988; B. F. Smith Co., 136 Federal St., Boston, (a) $27,595; Wm. Crane, Hayward and Amherst Sts., Cambridge, (b) $125,945; C. S. Cunningham & Sons Constr. Co., 7 Water St., Boston, (b) $128,200; C. S. Cunningham & Sons Co., 101 Tremont St., Boston, (b) $130,686; (b) not yet awarded.

Newark, N. J.—Following are lowest bids opened Aug. 30 by Bd. Educ. for erecting proposed addition to Charlton St. school: Masonry, Becker Constr Co., 361 Grove St., $75,980; heating, Jas. F. Kelly, 126 S. Fourteenth St., $26,412; carpentry, Schaedel Bros. Co. 118 Bruce St., $25,900; sheet and iron work, Hadden Iron Constr. Co., Lyons Farms, $18,332; plumbing, Jaehnig & Peoples, 221 Thirteenth Ave., $10,180; electrical work, Beaver Eng. Co., 59 Mechanic St., $4,444; lighting fixtures, Jaehnig Gas Fixture Co., 221 Thirteenth Ave., $1,993.

★**Pittsburgh, Pa.**—Contract for erecting apartment house at Fifth Ave. and Craig St. awarded to J. E. Welland Co. at about $500,000. Rutan & Russell, archts., Magee Bldg.

★**Tarentum, Pa.**—Contract for erecting building for Peoples National Bank awarded by Press C. Dauler, archt., to R. H. Fisher, at about $50,000.

★**Augusta, Ga.**—Contract for erecting 2-story, 17-room school awarded Palmer Spirey Co., Augusta; probable cost $50,000.

Nashville, Tenn.—Following are four lowest bids opened Aug. 28 by Jas. A. Wettmore, superv. archt., Washington, D. C., for erecting U. S. post office: Norman Ker Co., 1123 Bway., New York, $347,400; R. P. Farnsworth, Owensboro, Ky., $349,300; Geo. E. Wyne, Washington, D. C., $366,800; Geo. Baker Long, Worcester, Mass., $370,450.

Ashland, Ohio.—Following are four lowest bids opened Aug. 25 by Jas. A. Wettmore, superv. archt., Washington, D. C., for erecting U. S. post office—(a) limestone, (b) sandstone: Westchester Eng. Co., White Plains, N. Y., (a) $91,250, (b) $98,000; Jas. Devault, Canton, (a) $94,500, (b) $98,500; John G. Unkefer & Co., Minerva, (a) $94,500, (b) $100,316; Chas. W. Gindele Co., Chicago, (a) $95,000, (b) $100,000.

★**Newark, Ohio.**—Contract for erecting post office awarded by Treasury Dept. at Washington, D. C., to Thos. W. Cissell of Wooster, at $103,400.

Moline, Ill.—See "Reinforced Concrete."

★**Peoria, Ill.**—Contract for erecting 12-story addition to Lehmann Bldg. awarded to Val. Jobst & Son of Peoria, at $250,000.

★**Waterloo, Iowa.**—Contract for constructing terminal station at Fourth and Mulberry Sts. for Waterloo, Cedar Falls & Northern Ry. awarded to H. A. Maine & Co. of Waterloo, at about $75,000.

★**David City, Neb.**—Contract for erecting high school (bids opened Aug. 25) awarded H. Ohlson & Son, David City. H. P. Schaaf, secy. bd. educ.

★**Fremont, Neb.**—Contract for erecting hotel in Fremont awarded to J. C. Mardis Co., Omaha, at $230,000.

★**Butte, Mont.**—Contract for constructing 4-story 94 x 100 ft. brick, concrete and terra cotta office and moving picture theater building for Silver Bow Amusement Co. awarded to Kieburtz & Smith, Railway Exchange Bldg., Seattle, at $65,000. H. Ryan, Liberty Theater Bldg., Seattle, archts.

★**Paris, Tex.**—County Comrs. rejected all bids opened Aug. 26 for constructing courthouse and engaged Buchanan & Gilder of Ft. Worth to do the work on basis of actual cost plus 7 per cent for superintending and furnishing tools and machinery.

★**Seattle, Wash.**—Following are 3 lowest bids opened by School Bd. (Reuben W. Jones, secy.) on Aug. 30 for erecting West Seattle High School: Scherer & Carlson, 111 Pine St., $179,850; Jenkins & Jones, Transportation Bldg., $196,600; Harrington-Peters Co., Oriental Bldg., $198,000. Edgar Blair, 1426 Jackson St., archt.

Sacramento, Cal.—Following are four lowest bids opened for erecting 4-story lodge building at Eleventh and J Sts. for Native Sons: Knowles & Mathewson, San Francisco, $139,778; Mathew Constr. Co., Sacramento, $140,000; McGillivray Constr. Co., Sacramento, $140,700; C. J. Guth, Sacramento, $142,000.

Gooding, Idaho.—Lowest bid submitted for constructing first unit Gooding College submitted by W. M. Clifton of Boise; total cost proposed improvements about $250,000. Tourtellotte & Hummel, Rothchild Bldg., Portland, Ore., archts.

Idaho Falls, Idaho.—All bids opened Aug. 21 for erecting high school rejected. The lowest bidder was D. F. Murphy & Co., Pocatello, at $125,955.

Winnipeg, Man.—Only bid received for completing new Parliament buildings as a whole submitted by J. McDiarmid Co., Ltd., Winnipeg, at $3,128,019. Lowest separate bids were: Plumbing, heating and ventilating, Green & Litster, Winnipeg, $203,981; steel work, Manitoba Bridge & Iron Wks., Ltd., Winnipeg, $169,960; wood work, Brownsgrove Guild (Canada), Ltd., $289,344; electrical work, Levvy Electrical Co., Ltd., Winnipeg, $206,819; marble, Western Canada Marble & Tile Co., Ltd., $285,846.

★**Winnipeg, Man.**—Contract for erecting office building for Bank of Hamilton, steel, concrete and brick construction, awarded to Hazelton & Wallin, 303 Donaldson Blk., at $600,000.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Erie, Pa.—Plans about completed for Mill Creek tube, to cost $900,000. W. D. Kinney, street dir.

Jacksonville, Fla.—The Lake Ashby Drainage Dist. will cover about 48,000 acres. Coenraetes & Keller, engrs., Jacksonville.

Misisssippi—Morgan Eng. Co., Memphis, Tenn., completed surveys and estimates for $240,000 worth of ditching and drainage projects in Indian Creek Drainage Dist., including Quitman, Tunica and Panola Counties, in all about 44,000 acres.

Tennessee.—Plans being prepared by Ferree & McCleskey, Memphis, Tenn., for three drainage districts: one in Mud Creek Dist., Haywood County, containing 2500 acres and between 8 and 10 ditches to be constructed; Black Creek Dist., Crockett County, 2200 acres, and 10 miles of ditches constructed; and Second South Forked Deer Dist. in Lauderdale, Haywood, Crockett and Dyer Counties, about 10,000 acres to be drained and 10 miles of ditches constructed; cost $110,000.

Morganfield, Ky.—Drainage bonds for $52,500 will be sold Sept. 16 by G. T. Higginson, Jr., care bd. drainage comrs.

Edwardsville, Ill.—It is proposed to construct on Kahokia Creek, Drainage and Levee Dist. an open ditch 5 miles long 30 to 40 ft. deep, including 3 highway bridges, and cost $60,000. Sheppard & Morgan, engrs., Edwardsville.

Geneseo, Ill.—C. C. Martin, Geneseo, is engr. for proposed drainage district being formed to enlarge Green River. Henry Waterman, attorney, Geneseo.

Grand Forks, N. D.—It is proposed to construct two ditches this fall, one 5½ miles long and one 5 miles long. Jos. A. Ingram, co. engr.

Dixon, Wyo.—Location surveys complete for 24 miles of 80 second ft. irrigation ditch, to be constructed near Dixon, and includes flumes and wood stave siphon, 42-in. Total siphon length 3400 ft. Cost about $90,000. Parties interested: E. A. Swenson, Hagerman Bldg., Colorado Springs., Colo., and Wm. Garstin, ch. engr., 409 Hagerman Bldg., Colorado Springs.

Reno, Nev.—Honey Lake Valley Mutual Water Users Assoc., incorporated by D. S. Dickerson, C. J. Young and others for the purpose of constructing an irrigation system, including construction of dams, intakes, ditches and laterals, etc.

Marion, Ark.—Contract soon to be let for constructing 60 miles of drainage canals in District No. 3 of Crittenden County, at a cost of $230,000. Ditches to be drained are to be 12 to 40 ft. in width. Ferree & McCleskey, engrs., Memphis, Tenn.; D. B. Woolard of Clarksdale, member Bd. Directors.

Vale, Ore.—Directors of Warmsprings Irrigation Dist. (John Rigby, secy.), will sell Oct. 2 $390,000 bonds for purpose of improving irrigation district including construction of reservoir at or near Riverside on Malheur River.

El Centro, Cal.—The plans of Chas. R. Rockwood, ch. engr. Imperial Irrigation Dist., for improvements, including settling basin at mains intake of water system to eliminate heavy silt; also construction of canal leading from Cudahy Check in Alamo from canal along Volcano Lake, are to be submitted for approval to an advisory board composed of Wilbur F. McClure, state engr., Sacramento; C. E. Grunsky, San Francisco, and George Anderson, Los Angeles.

Fullerton, Cal.—Reported United Storm Protection Dist. will probably widen channel of river and construct dyke, 9.75 miles long, with piling and barbed wire guard. A. E. Stewart, engr., estimates cost at $125,000, including $45,000 for moving 300,000 cu. yd. earth; $41,000 for furnishing and driving about 5200 piles, and $5,000 for cleaning channel of river, etc.

Santa Ana, Cal.—Newport Protection Dist. and Talbert Drainage Dist. agreed to jointly construct drainage ditch 4 miles long. S. H. Finley, engr.

BIDS DESIRED.

New London, Conn.—Until Sept. 23, by U. S. Engineers Office, New London, for dredging in Duck Island Harbor, Conn., advertised in this issue.

New York, N. Y.—Until Sept. 15, by Commissioner of Docks, for dredging at 209th St. and Harlem River, Boro. Manhattan, as follows: Contract No. 1524—Class 1—Dredging about 34,000 cu. yd. north of W. 209th St.; Class 2—About 15,000 cu. yd. south of W. 209th St.

New Orleans, La.—Until Sept. 12 by Bd. State Engrs., Room 213 New Orleans Court Bldg., for constructing following levees: Fannie Ritchie to Scott Levee, Parish of Pointe Coupee, Mississippi River, right bank, consisting of riverside enlargement, about 200,000 cu. yd.; La Place Levee, Parish St., John the Baptist, Mississippi River, left bank, riverside enlargement, about 160,000 cu. yd.

Vicksburg, Miss.—Until Sept. 15, by Third Mississippi River Dist., P. O. Box 404, Vicksburg, for constructing about 1,005,000 cu. yd. new levee, advertised in this issue.

Chapin, Mich.—Until Sept. 13, by Emil Roethke, co. drain comr., Saginaw, and Alonzo Griffin, co. drain comr. of Shiawassee, for constructing Lamb Creek Drain, in Brant, Brady and Chapin, Saginaw County, Fairfield Township, to include steel and iron superstructures for all bridges, concrete abutments and wings for steel superstructure, repairs to abutments and wings, etc.

Nevada, Iowa.—Until Sept. 14, by F. E. King, co. aud., for constructing ditch or drain in Sherman Township, Drainage Dist. No. 76, main ditch about 19,880 ft. 6 to 30 in. tile, and laterals A, A1, A-1A, B, C and D, in all about 7099 ft. 6 to 18 in. tile.

Ada, Minn.—Reported desired until Sept. 19, for constructing Judicial Ditch No. 53, about 1,102,618 cu. yd. excav., leveling 57 miles of highway, installing 4500 lin. ft. 18 and 24-in. cor. iron or concrete culvert pipe. D. E. Fulton, co. aud.

Redwood Falls, Minn.—Until Sept. 16, by L. P. Larson, co. aud., for constructing County Ditches Nos. 25, 26, 30 and 35, in all about 214,582 ft. of 6 to 30-in. tile, 103,977 cu. yd. excav., bulkheads, etc.; cost $103,339.

St. James, Minn.—Until Sept. 22, by C. J. Jensen, co. aud., for constructing Judicial Ditch No. 11, in Watonwan County, in all about 170,070 ft. 5 to 34-in. tile; estimated cost $79,205.

St. Ignatius, Mont.—Until Oct. 10, by U. S. Reclamation Service, St. Ignatius, for constructing canals and structures on Flathead Project, Mont., advertised in this issue.

Marion, Ark.—Reported desired until Sept. 21 by J. F. Fogelman, secy. drainage dist. No. 8, for constructing about 40 miles of ditches at a cost of $130,000. Three dipper dredge boats and one dragline excavator will be required. Morgan Eng. Co., engrs., Memphis, Tenn.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Boston, Mass.—Following are unit figures of the three lowest bids opened Aug. 29 by R. H. Goddard, U. S. lighthouse inspector, for dredging channel and basin in Little Woods Hole Harbor—(a) per cu. yd., (b) total: Morris & Cummings Dredging Co., 17 State St., New York, (a) 11.7 cts., (b) $31,952 (recommended for award); Coastwise Dredging Co., Norfolk, Va., (a) 18.95 cts., (b) $34,352; Eugene Breyman, 1120 Beacon St., (a) 23 cts., (b) $40,503.

Albany, N. Y.—Following are bids opened Aug. 30 by W. W. Wotherspoon, state supt. pub. wks., for contract 135, Erie Canal, Sect. 3: Great Lake Dredge & Dock Co., Albany, $57,038; A. A. Parker, Waterford, $64,543; Houston Barnard, Rochester, $67,545, and J. A. Laporte, Mechanicsville, $72,048.

Philadelphia, Pa.—Lowest bid opened Sept. 1 by Director Wharves, Docks and Ferries for removal of mud fence acting as temporary bulkhead at B. & O. RR. pier at Snyder Ave. submitted by American Dredging Co., Marine & Merchants Bldg., at $22,400.

★**Selmer, Tenn.**—Contract awarded P. H. Thrasher of Selmer for constructing canal in Middleton Creek bottom, near McNairy-Chester County Line. Ditch to be 8 miles long, 20 ft. wide at top and 8 ft. deep. About 228,000 cu. yd. earth to be removed at $21,000 and clearing at $12 per acre.

★**Malta, Mont.**—Contract awarded by U. S. Reclamation Service, Malta, to Jas. O'Connor and John T. Whalen, Malta, for earthwork on Nelson Reservoir, south canal laterals and waste, water ditches, Milk River irrigation project, Mont., involving about 617,000 cu. yd. excav., at $108,352 (bids opened Aug. 14).

★**Little Rock, Ark.**—Contract awarded by Faulkner's Lake Drainage Dist. to Edgar J. Hahn, Little Rock, for constructing 17½ miles of ditches, and laterals 75 to 150 ft. wide, at $60,700. Miller Engng. Co., engr., 823 Southern Trust Bldg., Little Rock.

★**Donna, Tex.**—Contract awarded E. W. Watts, Donna, at $52,000, for constructing in Donna Irrigation Dist. reservoirs, dams, laterals, etc. (bids opened Aug. 14). G. B. Meriweather, pres. bd. directors.

★**Carlsbad, N. M.**—Contract for earthwork for McMillan reservoir spillways, Carlsbad Irrigation Project, N. M., involving 151,000 cu. yd. material, awarded by U. S. Reclamation Service to John Mulligan, El Paso, Tex., at $45,452 (bids opened Aug. 1).

★**Fairview, Idaho.**—Contract reported awarded by Lewiston Bear Lake Irrigation Co. to Salt Lake Hardware Co., Salt Lake City, Utah, for installation of four pumping units of 45,000 gal. per minute total capacity on Bear River, near Fairview. Total cost, including pumping station, diversion canal pipe lines, etc., will be about $70,000.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Albany, N. Y.—Contract will be let this fall by W. W. Wotherspoon, Albany, for state canal work construction of bulkhead gate at head of Varick Canal, Oswego; estimated cost $37,500.

Avon, N. J.—Council adopted engineer's plans for building of bulkhead along Shark River.

Trenton, N. J.—American Bridge Co., foot Warren St., contemplates constructing a bulkhead along Delaware River front at their plant here.

Long Beach, Cal.—Plans being prepared by A. De Ruiz, city engr., for pile and timber bulkhead 4300 ft. along ocean; probable cost $75,000.

Los Angeles, Cal.—Committee appointed by Bd. Superv. including F. T. Woodman, president Los Angeles harbor comn. to confer with Major G. B. Pillsbury, Corps Engrs., U. S. A., on location of diversion dike for Los Angeles River to keep silt out of harbor.

San Diego, Cal.—Election will probably be held in November to vote $682,200 bonds for constructing concrete cyclopean type of dam at Lower Otay; also $40,000 for bridge across San Diego River at Old Town.

Vancouver, B. C.—Plans being prepared by Frank Lee, Winnipeg, Man., engr., Canadian Pacific Ry., for a concrete and steel jetty pier to cost $1,000,000.

BIDS DESIRED.

New York, N. Y.—Until Sept. 15, by Dept. Pub. Charities (John A. Kingsbury, Comr.), for furnishing material required for the excavation and construction of concrete foundation for a 9-story and basement fireproof elevator storehouse on Blackwells Island. Security $7,000.

Fremont, Neb.—Until Sept. 26, by Bd. Superv. Dodge Co. (P. J. Flanagan, chmn.), for constructing repairing of superstructures, substructures, and approaches of all bridges and furnishing material in connection with same for a period of one year, said bridges to be built or repaired at a time and place designated by committee on roads and bridges. John O'Connor, co. clk.

St. John, N. B.—Until Sept. 18, by J. W. Pugsley, secy. dept. of railways and canals, Ottawa, for constructing foundations for 500,000 bushel storage capacity grain elevator, working house and track shed, at St. John. E. P. Gutelius, genl. mgr. Canadian Government Ry., Moncton, N. B.

Sherbrooke, Que.—See "Prices and Lettings."

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**New York, N. Y.**—Contracts awarded Raymond Concrete Pile Co., 140 Cedar St., New York, as follows: for concrete piles for foundation of Bank of Buffalo, Buffalo, N. Y., McKim, Mead & White, archts., 156 5th Ave., New York; under coal trestle, ash pits crane runway, heating and pumping house, for Pennsylvania RR., Philadelphia; foundations for Duquesne Freight Station, for Pennsylvania RR., Pittsburgh; foundations of Benzol Plant of Brier Hill Steel Co., Youngstown, O.; foundations for power house and laboratory for Schoelkopf Co., Buffalo.

★**Ogdensburg, N. Y.**—Reported contract for constructing concrete dam at Cranberry Lake awarded by Comrs. Cranberry Lake & Oswegatchie River to Walter Bradley, Fulton, at $23,347.

★**Sherbrooke, Que.**—MacBean & Williams, Montreal, contractors for new concrete dam, desire prices on 4000 bbl. cement, 20 M ft. 2-in. T & G spruce lum-

ber, 10 M ft. 3 x 12 and 10 M ft. 4 x 6 ft. spruce lumber; about $600 worth of B. C. Fir Georgia pine or Norway pine, 16 ft. long, and 18 tons 1-in. and ¾-in. sq. twisted steel. Address H. N. Osler, Magog House, Sherbrooke.

★Contract for sluice gates in connection with above dam awarded Jenckes Machine Co., Sherbrooke.

★**New Westminster, B. C.**—Marsh Hutton Powers Co., Western Trust Blk., secured contract to construct the last unit of the Steveston jetty at $500,000—concrete, stone and crib work.

Vncouver, B. C.—Following are bids opened recently for (a) dredging, filling in, etc., and (b) constructing retaining walls, etc., for Coal Harbor Causeway: Dominion Constr. Co., Vancouver (a), $16,962 (lowest); Cotton Co., Ltd., Vancouver (b), $40,985, (a and b combined), $59,290; Dominion Constr. Co. (b), $44,270, (a and b combined), $61,232; H. P. Peyerson, Vancouver (b), $54,006, (a and b combined), $65,926; Union Contr. Co., Vancouver (b), $59,581; A. G. Creelman (a and b combined), $92,348.

MISCELLANEOUS

PROPOSED WORK.

Fire Alarm System—Paterson, N. J.—City intends installing new fire and police telegraph alarm system. H. J. Harder, city engr.

Improvement Bonds—Philadelphia, Pa.—City about to sell $20,000,000 bonds for transit, port and general improvements. Address Mayor.

Transmission Line—Savanna, Ill.—Peoples Gas & Electric Co., Savanna, contemplates erecting high tension transmission line between Savanna and Mount Carroll, distance about 12 miles.

Transmission Line—Pipestone, Minn.—Northwestern Light & Power Co., Pipestone, contemplating erecting transmission line to supply electricity in Edgerton, Woodstock, Jasper and Trosky.

Transmission Line—Shawnee, Okla.—Oklahoma Power & Light Co., Shawnee, will within 30 days purchase material for building 50 miles of transmission lines.

Coal Handling Devices—Astoria, Ore.—Port Comrs. having plans prepared by their engineer for a coal handling device of 175 tons loading capacity per hour. Improvements include bunkers and equipment and will cost $30,000.

Garb. Disposal — Whittier, Cal.—City Council reported investigating garbage disposal systems. Address City Clerk.

Transmission Line—Kingman, Ariz.—Geo. H. Thayer, Kingman, is reported head of a company preparing to construct a hydro-electric plant on Burro Creek, and has asked Bd. Superv. for a franchise to construct power transmission lines into a number of towns and mining camps of Mojave County.

BIDS DESIRED.

Signs—New York, N. Y.—Until Sept. 13 by Marcus M. Marks, pres. Manhattan Boro., for furnishing and erecting 1200 malleable c.-i. street signs, at various locations in boro, each frame to contain two enameled signs.

Fire Escapes—Willard, N. Y.—Until Sept. 21 by State Hospital Comn., Albany, for fire escapes at Willard State Hospital, advertised in this issue. Lewis F. Pilcher, state archt., Albany.

Fire Escapes—Ridgefield Park, N. J.—See "Buildings."

Power Pump—Harrisburg, Pa.—Until Sept. 19, by Chas H. Kinter, Receiver of Hummelstown Consolidated Water Co., Calder Bldg., Harrisburg, for a horizontal duplex plunger outside center packed power pump, advertised in this issue.

Iron Castings—Louisville, Ky.—Until Oct. 2, by U. S. Engineer's office, Louisville, for furnishing and delivering gray iron castings for Lock No. 41, Ohio River, advertised in this issue.

Conduit System—Chicago, Ill.—Reported desired Sept. 15 by J. S. Neil, secy. south park comrs., for underground conduit system for lighting Michigan Ave.

Transmission Line—Hoffman, Minn.—Until Sept. 20, by Village Clk. for furnishing materials and erecting an electric transmission line and distribution system. Earle D. Jackson, engr., Capital Bank Bldg., St. Paul.

Stokers—Fargo, N. D.—Until Oct. 4, by A. R. Watkins, city aud., for installating mechanical stokers or smoke eliminating and fuel saving devices in boiler furnaces of waterworks pumping station, advertised in this issue.

Garbage Incinerator Plant, Galv. Sheet Steel, Etc.—Panama.—Until Sept. 21 by Maj. Earl I. Brown, Corps Engrs., U. S. A., General Purchasing Officer, The Panama Canal, Washington, D. C., for Circular No. 1078, garbage incinerator plant, galv. sheet steel, etc.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Frogs and Switches—New York, N. Y.—Lowest bid opened Aug. 30 by Public Service Comn. for First Dist., 120 Bway., for Contract No. 9 (frogs and switches) for use in construction of Culver Line, submitted by Ramapo Iron Wks., 30 Church St., New York, at $28,859.

★**Wire Bridge—Searcy, Ark.**—Contract awarded by County Comrs. to W. D. Ellis, Pangburn, at $5,000, for constructing 410-ft. wire suspension bridge across Little Red River.

★**Rock — Portland, Ore.** — Contract awarded by U. S. Engr., Portland, for furnishing 650,000 tons rock for work on North Jetty of Columbia River to Columbia Contr. Co., Portland, at $1.00 per ton f.o.b. Canby. (Bids opened Aug. 28.)

Pipe Line—San Francisco, Cal.—Thos. Crowley, San Francisco, submitted only bid to Bureau Yards and Docks, Washington, D. C., for 4-in. flexible joint submerged pipe line at U. S. Naval Training Station, San Francisco, at $19,913 or $26,967, substituting a 6-in. main for the 4-in.

Proposals

For Proposals Advertised See Pages 40a, 40b, and 41.

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.		See Eng. Record.
Sep. 11.	Bay Head, N. J. Adv. Aug. 26.	Aug. 26
Sep. 12.	Billings, Mont.	Aug. 26
Sep. 12.	Thief River Falls, Minn.	Aug. 26
Sep. 12.	Sauk Center, Minn.	Aug. 26
Sep. 12.	Brookhaven, Miss.	Aug. 26
Sep. 12.	New York, N. Y. Adv. Aug. 26, Sept. 2.	Aug. 26
Sep. 12.	Anthon, Iowa	Sep. 2
Sep. 12.	Middletown, Ohio	Sep. 2
Sep. 12.	Mansfield, Ohio	Sep. 2
Sep. 12.	Lincoln, Neb.	Sep. 2
Sep. 12.	Staples, Minn.	Sep. 2
Sep. 12.	Columbus, Ohio. Adv. Sep. 2, 9.	Sep. 2
Sep. 12.	Montclair, N. J. Adv. Sep. 2, 9.	Sep. 2
Sep. 12.	Gloversville, N. Y.	Sep. 9
Sep. 12.	Capac, Mich. Adv. Sept. 2.	Sep 2
Sep. 12.	Toronto, Ont.	Sep. 9
Sep. 12.	Buffalo, N. Y.	Sep. 9
Sep. 13.	Maplewood, Mo.	Sep. 9
Sep. 14.	St. Charles, Ill. Adv. Sep. 2.	Sep. 2
Sep. 14.	Philadelphia, Pa, Adv. Sep. 9.	Sep. 9
Sep. 14.	Portland, Ore.	Sep. 9
Sep. 15.	Dannebrog, Neb. Adv. Aug. 26.	Aug. 26
Sep. 15.	Lancaster, Ohio	Sep. 9
Sep. 15.	Piermont, N. Y.	Sep. 9
Sep. 15.	Bogota, N. J.	Sep. 9
Sep. 15.	Royal Oak, Mich.	Sep. 9
Sep. 15.	New York, N. Y.	Sep. 9
Sep. 15.	Cleveland, Ohio	Sep. 9
Sep. 16.	Kewanee, Ill.	Sep. 9
Sep. 16.	Cleveland, Ohio.	Aug. 20
Sep. 16.	Benson, Neb.	Sep. 9
Sep. 16.	Elkhorn, Wis.	Sep. 9
Sep. 16.	Waterville, Me.	Sep. 9
Sep. 18.	South Bethlehem, Pa. Adv. Aug. 19 to Sep. 9.	Aug. 19
Sep. 18.	Cleveland Heights, Ohio.	Aug. 26
Sep. 18.	Three Forks, Mont.	Sep. 2
Sep. 18.	Panama	Sep. 2
Sep. 18.	Larned, Kan.	Sep. 9
Sep. 18.	San Francisco, Cal.	Sep. 9
Sep. 18.	Pitman, N J. Adv. Sept. 9.	Sep. 9
Sep. 19.	Columbia, S. C. Adv. Sep. 2.	Sep. 2
Sep. 19.	Shaker Heights (P. O. Cleveland), Ohio	Sep. 9
Sep. 19.	Miles Center, Ill.	Sep. 9
Sep. 19.	Montclair, N. J. Adv. Sept. 9.	Sep. 9
Sep. 20.	Denver, Col.	Sep. 2
Sep. 21.	Viola, Ill. Adv. Sep. 2, 9.	Sep. 2
Sep. 25.	Bonds, Riverton, Wyo. Adv. Sep. 9.	Sep. 9
Oct. 1.	Cuyahoga Falls, Ohio	Sep. 2
Oct. 3.	Port Clinton, Ohio	Sep. 2
Oct. 4.	Bonds, Dublin, Ga. Adv. Sep. 9.	Sep. 9
Oct. 15.	Hermosa Beach, Cal.	Aug. 26
——	Franchise, Key West, Fla. Adv. Sep. 2, 9.	Sep. 2

STRUCTURAL STEEL WORK

Sep. 12.	Buffalo, N. Y. Adv. Aug. 19.	Aug. 19
Sep. 12.	Ventura, Cal.	Sep. 9
Sep. 15.	Dayton, Ohio	Aug. 26
Sep. 15.	Hamlin, W. Va.	Sep. 9
Sep. 18.	Lisbon, Ohio	Sep. 2
Sep. 18.	South Bend, Ind.	Sep. 9
Sep. 18.	Ft. Lauderdale, Fla.	Sep. 9
Sep. 25.	San Bernardino, Cal.	Sep. 2
Sep. 26.	Corning, Ark.	Sep. 9
Sep. 29.	Neodesha, Kan.	Sep. 9

REINFORCED CONCRETE.

Sep. 11.	Barre, Vt. Adv. Sep. 2.	Sep. 2
Sep. 12.	Manhattan, Kan. Adv. Aug. 26.	Aug. 19
Sep. 12.	Everson, W. Va.	Sep. 2
Sep. 12.	Russell, N. D.	Sep. 9
Sep. 12.	Parkersburg, W. Va.	Sep. 9
Sep. 13.	Trenton, N. J.	Sep. 9
Sep. 14.	Ludlow, Ky.	Aug. 26
Sep. 18.	Mason City, Iowa	Aug. 26
Sep. 19.	Los Angeles, Cal.	Aug. 19
Sep. 20.	Portland, Ore.	Sep. 9
Sep. 22.	Manhattan, Kan.	Sep. 2
Sep. 25.	St. Peter, Minn.	Sep. 9
Oct. 3.	Titonka, Iowa	Sep. 9
Oct. 3.	Little River, Ala.	Sep. 9
Oct. 7.	Princeton, Minn.	Sep. 9

ROADS AND PAVING.

Sept. 11.	Birmingham, Ala. Adv. Jul. 29.	Jul. 29
Sep. 11.	Bonds, Titusville, Fla. Adv. Aug. 26.	Aug. 26
Sep. 12.	Ventura, Cal.	Aug. 26
Sep. 12.	New Orleans, La.	Aug. 26
Sep. 12.	Ogden, Utah	Sep. 2
Sep. 12.	Estherville, Iowa	Sep. 2
Sep. 12.	Frederick, Md.	Sep. 2
Sep. 12.	New Brunswick, N. J.	Sep. 2
Sep. 12.	Montclair, N. J. Adv. Sep. 2, 9.	Sep. 2
Sep. 12.	Salt Lake City, Utah	Sep. 9
Sep. 12.	Greenville, Ohio	Sep. 9
Sep. 12.	New York, N. Y.	Sep. 9
Sep. 12.	Massachusetts	Sep. 9
Sep. 12.	Covington, Ky.	Sep. 9
Sep. 13.	Billings, Mont.	Aug. 26
Sep. 13.	Westfield, N. J.	Sep. 2
Sep. 13.	Baltimore, Md.	Sep. 9
Sep. 13.	Illinois	Sep. 9
Sep. 14.	Indiana.	Aug. 26
Sep. 14.	Atlantic City, N. J. Adv. Sep. 2.	Sep. 2
Sep. 14.	Stealy Heights (P. O. Clarksburg), W. Va.	Sep. 9
Sep. 15.	Los Angeles, Cal.	Sep. 2
Sep. 15.	Washington, D. C. Adv. Sep. 2.	Sep. 2
Sep. 15.	Merrill, Wis.	Sep. 9
Sep. 15.	Indiana	Sep. 9
Sep. 16.	Elkhorn, Wis.	Sep. 2
Sep. 16.	Indiana.	Sep. 2
Sep. 16.	Welch, W. Va.	Sep. 9
Sep. 16.	Indiana	Sep. 9
Sep. 18.	Cleveland Heights, Ohio.	Aug. 26
Sep. 18.	Albany, N. Y. Adv. Sep. 2, 9.	Sep. 2
Sep. 18.	Tallahassee, Fla.	Sep. 2
Sep. 18.	Colfax, Wash.	Sep. 2
Sep. 18.	Columbus, Ohio	Sep. 9
Sep. 18.	Los Angeles, Cal.	Sep. 9
Sep. 19.	Pasco, Wash.	Aug 26
Sep. 19.	New Orleans, La.	Aug. 26
Sep. 19.	Goodwater, Ala.	Sep. 2
Sep. 19.	Maryland Adv. Sep. 9.	Sep. 9
Sep. 19.	Meriden, Conn. Adv. Sep. 9.	Sep. 9
Sep. 19.	Washington, D. C. Adv. Sep. 9.	Sep. 9
Sep. 19.	Ridgewood, N. J.	Sep. 9
Sep. 19.	Montclair, N. J. Adv. Sept. 9.	Sep. 9
Sep. 20.	Phoenix, Ariz.	Aug. 12
Sep. 20.	Phoenix, Ariz.	Aug. 19
Sep. 20.	Florence, S. C.	Sep. 2
Sep. 20.	Lawrenceburg, Tenn. Adv. Sep. 2, 9.	Sep. 2
Sep. 20.	Scottsboro, Ala.	Sep. 2
Sep. 21.	Santa Barbara, Cal.	Sep. 2
Sep. 21.	Fort Warren, Mass.	Sep. 2
Sep. 21.	Newark, N. J.	Sep. 9
Sep. 21.	Paducah, Ky. Adv. Sep. 9.	Sep. 9
Sep. 21.	Pittsburgh, Pa.	Sep. 9
Sep. 23.	Charlestown, W. Va. Adv. Sep. 2, 9.	Sep. 2
Sep. 23.	Indiana	Sep. 9
Sep. 25.	Lebanon, Ind.	Sep. 2
Sep. 25.	Seattle, Wash.	Sep. 2
Sep. 25.	San Antonio, Tex. Adv. Sep. 9.	Sep. 9
Sep. 25.	Los Angeles, Cal.	Sep. 9
Sep. 26.	New Orleans, La.	Aug. 26
Sep. 29.	New Orleans, La.	Aug. 26
Sep. 29.	Indiana	Sep. 9
Oct. 3.	Bakersfield, Cal.	Aug. 26

RAILWAYS.

Sep. 13.	New York, N. Y.	Sep. 2

BUILDINGS. Public and Private.

Sept. 12.	Orlando, Fla. Adv. Aug. 5, 12.	Aug. 5
Sept. 12.	Warrenton, Va.	Jul. 29
Sep. 12.	Jesup, Iowa	Aug. 19
Sep. 12.	Brooklyn, N. Y.	Aug. 26
Sep. 12.	Clifton, N. J.	Aug. 26
Sep. 12.	Detroit, Mich.	Aug. 26
Sep. 12.	Farmingdale, L. I., N. Y. Adv. Sep. 9.	Sep. 9
Sep. 12.	Toronto, Ont.	Sep. 9
Sep. 13.	New York, N. Y.	Aug. 26
Sep. 14.	Mounds, Minn.	Aug. 19
Sep. 14.	Sioux Falls, S. D.	Aug. 26
Sep. 14.	Mounds, Minn.	Aug. 26
Sep. 14.	Springfield, Ohio	Sep. 2
Sep. 14.	Fairmont, Minn.	Sep. 9
Sep. 14.	Vinton, La.	Sep. 9
Sep. 14.	Jersey City, N. J.	Sep. 9
Sep. 15.	Grand Rapids, Mich.	Sep. 2
Sep. 15.	Dunkirk, N. Y. Adv. Sep. 2.	Sep. 2
Sep. 15.	St. Paul, Minn.	Sep. 2
Sep. 15.	Jonesboro, Ark.	Sep. 2
Sep. 15.	Ava, Mo.	Sep. 9
Sep. 19.	Des Moines, Iowa	Sep. 9
Sep. 18.	Shirley, Mass.	Sep. 9
Sep. 18.	West Park, Ohio	Sep. 9
Sep. 19.	Booneville, Ind.	Sep. 9
Sep. 20.	West Point, N. Y. Adv. Aug. 26 to Sep. 9.	Aug. 26
Sep. 20.	Collinsville, Okla.	Sep. 9
Sep. 20.	Ridgefield Park, N. J. Adv. Sep. 9	Sep. 9
Sep. 21.	Highland Park, Mich. Adv. Aug. 19 to Sep. 9.	Aug. 19
Sep. 21.	Wilberforce, Ohio	Sep. 2
Sep. 21.	Newton, N. J.	Sep. 2
Sep. 21.	Bayonne, N. J.	Sep. 2
Sep. 21.	Brooklyn, Mich.	Sep. 9
Sep. 22.	Prairie du Chien, Wis.	Sep. 9
Sep. 22.	Carthage, Mo.	Sep. 9
Sep. 25.	Norfolk, Neb.	Sep. 2
Sep. 25.	Jefferson, Iowa	Sep. 2
Sep. 25.	De Land, Fla.	Sep. 9
Sep. 26.	Jacksontown, Ohio	Sep. 9
Sep. 28.	Springfield, Mass.	Sep. 9
Sep. 29.	Okmulgee, Okla.	Sep. 9
Oct. 2.	Willows, Cal. Adv. Aug. 26, Sept. 2.	Aug. 2
Oct. 3.	Huntington, W. Va.	Sep. 2
Oct. 5.	Berlin, N. H.	Sep. 2
Oct. 6.	Skohegan, Me.	Sep. 2
Oct. 12.	Buckhannon, W. Va.	Sep.
Oct. 16.	Dickinson, N. D.	Sep. 9
Oct. 17.	New Orleans, La.	Sep. 2

FOUNDATIONS, PIERS AND DAMS.

Sep. 12.	Ventura, Cal.	Aug. 26
Sep. 12.	Cocoa, Fla. Adv. Aug. 26.	Aug. 26
Sep. 14.	Chicago, Ill. Adv. Aug. 19 to Sep. 9.	Aug. 19
Sep. 14.	Atlantic City, N. J. Adv. Sep. 2.	Sep. 2
Sep. 15.	Dayton, Ohio. Adv. Sep. 2.	Sep. 2
Sep. 15.	New York, N. Y.	Sep. 9
Sep. 16.	Marion, Ohio	Sep. 2
Sep. 18.	St. John, N. B.	Sep. 9
Sep. 16.	Chicopee, Mass.	Aug. 12
Sep. 16.	Baltimore, Md.	Aug. 12
Sept. 25.	Houston, Tex.	Aug. 5
Sep. 26.	Chicago, Ill. Adv. Sep. 2.	Sep. 2
Sep. 26.	Fremont, Neb	Sep. 9
Sep. 28.	Nashville, Tenn. Adv. Aug. 19 to Sept. 2.	Aug. 19

EXCAVATION, DREDGING AND DRAINAGE.

Sep. 12.	Cottleville, Mo.	Sep. 2
Sep. 12.	New York, N. Y.	Sep. 9
Sep. 12.	New Orleans, La.	Sep. 9
Sep. 13.	Chapin, Mich.	Sep. 9
Sep. 14.	Chicago, Ill. Adv. Aug. 19, 26.	Aug. 19
Sep. 14.	Grand Junction, Col.	Aug. 26
Sep. 14.	Ft. Dodge, Iowa	Sep. 2
Sep. 14.	Cambridge, Minn.	Sep. 2
Sep. 14.	Nevada, Iowa	Sep. 9
Sep. 15.	Montrose, Col.	Aug. 19
Sep. 15.	Windom, Minn.	Sep. 2
Sep. 15.	Vicksburg, Miss. Adv. Sep. 9.	Sep. 9
Sep. 16.	Redwood Falls, Minn.	Sep. 9
Sep. 18.	Sioux City, Ia. Adv. Aug. 19, 26.	Aug. 19
Sep. 19.	Ada, Minn.	Sep. 9
Sep. 20.	St. Ignatius, Mont. Adv. Aug. 19.	Aug. 19
Sep. 21.	Marion, Ark.	Sep. 9
Sep. 22.	St. James, Minn.	Sep. 9
Sep. 23.	New London, Conn. Adv. Sept. 9.	Sep. 9
Sep. 27.	Malta, Mont.	Sep. 2
Sep. 28.	Fort Laramie, Wyo. Adv. Aug. 26.	Aug. 26
Oct. 10.	St. Ignatius, Mont.	Sep. 9
——	Rock Island, Ill. Adv. Aug. 5, 12.	Aug. 5
——	Albany, N. Y. Adv. Aug. 26.	Aug. 26

MISCELLANEOUS.

Sep. 12.	Grouting, New York, N. Y. Adv. Aug. 26 to Sept. 2.	Aug. 26
Sep. 12.	Signs, New Brighton, S. I., N. Y. Adv. Aug. 26, Sep. 2.	Aug. 26
Sep. 12.	Metal Ceilings, City Hall, Jersey City, N. J.	Sep. 2
Sep. 13.	Traveling Cranes, New Orleans, La.	Jul. 29
Sep. 13.	El. Ry., New York, N. Y.	Aug. 26
Sep. 13.	Signs, New York, N. Y.	Sep. 9
Sep. 13.	Street Lighting, Titusville, Pa. Adv. Sep. 9.	Sep. 9
Sep. 14.	Cement, Savannah, Ga.	Aug. 5
Sep. 14.	Steel pipe, etc., Panama.	Sep. 2
Sep. 15.	Sand and cement, Los Angeles, Cal.	Sep. 2
Sep. 15.	Cement, Los Angeles, Cal.	Aug. 26
Sep. 15.	Conduit System, Chicago, Ill.	Sep. 9
Sep. 18.	Galv. steel sheets, etc., Panama	Sep. 2
Sep. 18.	El. Rys., New York, N. Y.	Sep. 9
Sep. 19.	Power pump, Harrisburg, Pa. Adv. Sept. 9.	Sep. 9
Sep. 20.	Rock, New Orleans, La.	Sep. 2
Sep. 20.	Fire Escapes on School, Ridgefield Park, N. J. Adv. Sep. 9.	Sep. 9
Sep. 21.	Garbage Inc. Plant, Etc., Panama	Sep. 9
Sep. 21.	Fire Escapes, Willard, N. Y. Adv. Sept. 9.	Sep. 9
Sep. 22.	Removal of wreck, Norfolk, Va.	Sep. 2
Sep. 23.	Gate valves for lock, Louisville, Ky. Adv. Sep. 2, 9.	Sep. 2
Sep. 28.	Electric fixtures, Albany, N. Y. Adv. Sept. 9.	Sep. 9
Oct. 2.	Wreck, Newport, R. I. Adv. Sep. 2, 9.	Sep. 2
Oct. 2.	Iron Castings, Louisville, Ky. Adv. Sep. 9.	Sep. 9
Oct. 4.	Elevator, Washington, D. C.	Aug. 26
Oct. 4.	Stokers, Fargo, N. D. Adv. Sep. 9.	Sep. 9

Engineering Society Activities

The Detroit Engineering Society held its first meeting of the season Sept. 15. S. Wells Utley, vice-president and general manager of the Detroit Steel Castings Company, gave an illustrated talk on "A Trip to the Mediterranean with the Atlantic Fleet." On Oct. 6 C. W. Hubbel, consulting engineer, will present an illustrated talk on "Sewage Disposal and Contamination of the Detroit River."

The Pacific Northwest Society of Engineers held its fourteenth annual convention at Seattle Sept. 12. The convention consisted of a banquet at the Arctic Club, followed by a technical meeting. At the technical meeting A. H. Dimock, city engineer of Seattle, presented a paper on the Cedar River reservoir problem and the development of Seattle's water supply.

The Engineers' Club of St. Louis held a meeting Sept. 13. Capt. John H. Bernhard, president of the new Inland Navigation Company, gave an illustrated talk on river craft and river terminals.

The Western Society of Engineers started its fall meetings with a smoker Sept. 11. A. S. Baldwin, chief engineer of the Illinois Central Railroad, explained the difficulties of the flood control in the Mississippi Valley, and J. K. Melton, company photographer, showed four reels of moving pictures of floods and of the levee construction. President B. E. Grant announced that E. N. Layfield, secretary, was recovering rapidly from an operation for appendicitis. Clinton B. Stewart, consulting engineer, Madison, will address the next meeting, Sept. 25, on "Investigation of Flood Flow of the Wisconsin River at Merrill."

The Engineers Club of Seattle entertained as its guest Aug. 31 Charles Evans Fowler, consulting engineer, of Seattle, who addressed the meeting on the proposed San Francisco-Oakland bridge. The lecture was illustrated with stereopticon views.

What Engineers and Contractors Are Doing

JOHN W. THOMPSON, U. S. government engineer at Trenton, N. J., will in the future devote all of his time to developing the water-front and terminal facilities of that city. He will also aid in establishing the park plan along the river front.

M. R. CARPENTER, consulting engineer, of Cincinnati, Ohio, has been selected to supervise the construction of a new $150,000 artificial ice skating rink in that city. The structure is being built by the Springer-Wood Company, Cincinnati.

HENRY L. COLLIER, who for the last year has practised consulting engineering in Atlanta, Ga., will Jan. 1 become chief of construction of that city. After graduation from the University of Georgia in 1872 Mr. Collier entered the railway engineering field as assistant resident engineer for the Georgia Western Railway (later called Georgia Pacific) from which position he resigned two years later to become transitman for the U. S. government. For two years he worked on the U. S. survey of a double-track railroad from Gunter's Landing, on the Tennessee River, to Brunswick, Ga. His next employment was as engineer in charge of location for the Toccoa & Elberton Railroad, now a part of the Southern Railway system. Mr. Collier again entered the service of the government in 1878, but resigned the next year to become division engineer for the Georgia Pacific Railway. Following his connection with the Georgia Pacific he was made chief engineer in charge of location and construction of the Gainsville, Jefferson & Southern Railway. In 1887 he was appointed to a similar position with the Atlanta & Florida Railroad, locating that line from Atlanta to Madison, Fla., and building it from Atlanta to Fort Valley, Ga. During 1890 he devoted his efforts to contracting and the following two years was general manager of the granite quarries at Lithonia, Ga. Five years—from 1893 to 1898—he spent as examiner of surveys for the U. S. government in the Northwest, returning to Georgia to become chief engineer for the Tifton & Moultrie Railroad. The year 1900 found him chief engineer in charge of location and construction for the Georgia & Florida Southern Railway, following which he was, in 1901, made commissioner of public works of Atlanta, Ga. His appointment as consulting engineer for the Yellow Pine Manufacturers' Association came about five years ago. He resigned last year to take up private practice in Atlanta.

CHARLES A. FORSS has resigned as transitman for Berg County, New Jersey, to become engineer for Sargent & Lundy, of Chicago, on the new electric power house being built for the Union Gas & Electric Company at Cincinnati. Previous to his employment by Berg County Mr. Forss was with the Passaic Valley (New Jersey) Sewerage Commission on the construction of the tunnels from Newark to New York Bay.

ALLEN F. SHERGER has left Caniston, Ont., to join the staff of the Pierson Engineering Corporation at Wanapitei, Canada. He will be employed on the construction of a hydroelectric plant at that point.

J. RHOADES SMITH has resigned as chief draftsman for the Jobson-Gifford Company, New York City, to become assistant engineer of estimates and designs for the McClintic-Marshall Company, with headquarters at Pittsburgh. Mr. Smith's first work was with the Phoenix Bridge Company as draftsman and checker on railroad bridges. After five years with that organization he went to the Eastern Steel Company, where he was employed for a year. His appointment with the Jobson-Gifford Company came in 1911 and his promotion to chief draftsman in 1912.

RICHARD T. MCFADDEN has been appointed district surveyor and regulator in the Bureau of Surveys of Philadelphia to succeed Charles F. Puff, Jr., whose promotion was noted in a recent issue. Mr. McFadden was formerly employed in the Philadelphia department of wharves, docks and ferries.

PROF. GEORGE F. SWAIN, of Harvard University and Massachusetts Institute of Technology, has been chosen to take charge of valuation for the special commission that is making a study of the railways in Canada.

R. J. LOCKWOOD, vice-president and general manager of the New Iberia & Northern Railroad and chief engineer of the Marshall & East Texas Railway, has been appointed vice-president and general manager of the Appalachicola Northern Railroad, with office at Port St. Joe, Fla. He succeeds L. H. Dimmitt, who has resigned to enter other business.

JOHN E. MEYER, for the last year assistant to James Reynolds, civil engineer, of Redwood Falls, Minn., has opened an office for engineering practice at Montevideo, Minn. Mr. Meyer was graduated from Ames College in 1910. Since then he has spent four years in the Philippine Islands on various engineering work. He also taught mathematics for one year at Memorial University, Mason City, Iowa. He has given most of his attention to drainage work.

LIEUT. H. S. BAKER, Company A, Illinois Engineers, first assistant city engineer of Chicago, is directing the survey of the road between San Antonio and Austin. A strip 2 miles on each side of the main highway is being mapped topographically. Water supply, horse feed, food supplies, blacksmith shops and repair shops for motors are all being investigated.

CARL HENZLER has resigned from the engineering department of the Taylor-Wharton Iron & Steel Company to become chief construction engineer of the Mass & Waldstein Manufacturing Company, of Newark, N. J.

JAMES W. MARTIN, U. S. assistant engineer, who has been on furlough since February, has been recalled to take charge of government flood relief in North Carolina. During his furlough he was superintendent of construction of the bridge over the Seaboard Air Line Railway at Columbia, S. C., and of the new granite plant at Cayce, S. C., of the Weston & Brooker Company, Columbia, S. C.

E. G. RIDER, of Sutton, W. Va., has been appointed a member of the Public Service Commission of that state, succeeding W. M. O. Dawson, deceased.

H. C. BALDWIN, of the engineering department of the Producers' Oil Company at Houston, Tex., has been transferred to Billings, Mont., to take charge of that company's engineering work in Montana and Wyoming.

O. S. HART, formerly assistant engineer to James P. Wells, consulting engineer of Rochester, N. Y., is now with Morrison & Quinn, Inc., of Rochester, as superintendent in charge of the construction of a sewer system, including disposal work at Oriskany, N. Y.

H. A. STRAUSS, consulting engineer, of Chicago, has been retained by the Montgomery Hydroelectric Company in connection with the proposed hydroelectric development of the Fox River at Montgomery, Ill.

HAROLD E. SHUGART, until recently with the Atchison, Topeka & Santa Fé Railway on location work in Arizona, is now with the U. S. Reclamation Service on the Flathead project. His address is Payson, Utah.

H. O. COLE, of the engineering and contracting firm of Cole Brothers, Inc., of Baltimore, has become associated with the Guggenheim Brothers. He will become assistant engineer in charge of the construction department in the development of the Chilo Exploration Company and the Braden Copper Company's mines at Chilo, which will involve the expenditure of about $35,000,000. He will have headquarters in New York City. The headquarters of Cole Brothers, Inc., will be removed to Morgantown, W. Va., and will be under the charge of E. L. Cole.

R. C. BARDWELL has been appointed engineer of tests of the second district of the Chicago, Rock Island & Pacific Railway, with headquarters at El Reno, Okla.

L. P. SCOTT, formerly draftsman of the Bureau of Roads, Illinois State Highway Department, Springfield, Ill., has been assigned to Division 1 as maintenance engineer, with headquarters at Aurora, Ill.

Civil Service Examinations

New York.—Examinations will be held Sept. 30 for assistant sanitary engineer, salary $2,000, and for structural engineer, salary $1,500 to $1,800. Particulars may be obtained from the civil service commissioners at Albany.

United States. — Examinations will be held Oct. 4 and 5 for assistant engineer in forest products at salary of $900 to $1,200 a year. Applicants should fill in form 1312.

Examinations Previously Announced

Date		See Eng. Record
Sept. 18.	Sidewalk engineer, Minnesota	Sept. 2
Sept. 19.	U. S. mechanical draftsman	Aug. 26
Sept. 22.	Engineering assistant, Minnesota	Sept. 2
Oct. 3.	U. S. senior highway bridge engineer	Sept. 2
Oct. 4.	U. S. highway bridge engineer	Sept. 2
Oct. 4.	U. S. civil engineer	Sept. 2
Oct. 4.	U. S. structural engineer	Sept. 2
Oct. 11.	U. S. junior civil engineer	Aug. 19

Our Foreign Financing Is Extending to Cities and Railroads

In Addition to Large Government Loans, Private Foreign Securities Seek Market Here—Canadian Business Improving

IT IS ESTIMATED that the recent $25,000,000 credit obtained by French bankers in New York brings the total of loans to European governments secured in this country to more than $1,500,000,000. These debts are thought in some quarters to be more of a danger than an asset, as they cannot be collected until after the close of the war, and might be held over our heads in case of a clash of interests between the merchants of this country and those of the nations that owe us money. It is important to note that other foreign loans than government securities are being negotiated in this country, as the enormous increase in our gold supply is naturally making us more of an international financial power. A recent purchase of a large block of notes issued by a Chilian railroad company and negotiations for the sale in New York of a large amount of one-year notes issued by the Metropolitan Water Board of London, besides financial assistance extended to several Canadian cities and industrial concerns, are pointed out as further proof that New York will be called on more and more to supply funds formerly obtained in European centers.

Canadian business as a whole is reported to have taken a considerable spurt during the latter part of the summer. Though money rates continue high on account of the government's need for funds, and public construction work especially has been greatly reduced in volume, crops are good and munitions factories and railroads are very busy. The earnings of the latter companies are said to be the largest ever known.

Buildings

The following building operations are noted under buildings and new industrial plants in this issue:

Contracts awarded:	Kind	Cost
Eaton, Ohio	Jail	$197,000
Toronto, Ont.	Packing plant	500,000
Bids opened:		
New York, N. Y.	School	$228,000
Plainfield, N. J.	City Hall	114,000
Cincinnati, Ohio	Y. M. C. A. building	319,000
Bids desired:		
Chicago, Ill.	Hotel	460,000
Pueblo, Col.	City Hall	220,000
Proposed work:		
New York, N. Y.	Apartment	260,000
Asbury Park, N. J.	Auditorium	500,000
Cleveland, Ohio	Factory	200,000
Montgomery, Ala.	City hall	300,000
Green Bay, Wis.	Factory	350,000
Minneapolis, Minn.	Hotel	750,000
Galveston, Tex.	Commercial plant	1,000,000
Montreal, Que.	Club house	1,000,000
Galt, Ont.	Brick plant	1,000,000

Roads and Paving

The following road work is noted in this issue:

Contracts awarded:	Kind	Cost or Quantity
New York, N. Y.	Asphalt	$78,000
Lexington, Miss.	Gravel roads	145,000
Los Angeles, Cal.	Concrete paving	127,000
Bids opened:		
Ohio	Paved highway	157,000
Bids desired:		
Rockford, Ala.	Highway, miles	23
St. Louis, Mo.	Paving	$71,000
Proposed work:		
Charleston, W. Va.	Bonds for sale	170,000
Sand Springs, Okla.	Paving	110,000
Forest City, Ark.	Macadam highway	200,000
Minneapolis, Minn.	Paving	500,000
El Paso, Tex.	Paving	122,000

Waterworks and Sewers

A low bid of $841,000 was received for constructing the Evanston intercepting sewer at Chicago. Bids have been opened for sewer construction at Philadelphia to cost $62,000. The rebuilding of an outlet sewer, for which bids were opened at New York recently, will cost $73,000. Bridgeport, Conn., has contracted for the building of a $233,000 sewer. A larger sewer contract has been awarded at Hoboken, N. J. St. Louis, Mo., has received bids on constructing concrete roofs over city reservoirs at a cost of $232,000.

Bids will be opened Sept. 26 in New York City for constructing a tunnel section of sewers, for which $100,000 security is required. Bonds for waterworks and sewer construction amounting to $93,000 have been voted at St. Cloud, Fla. Dallas, Tex., has voted $100,000 for extensions to the water system. Plans are being prepared at Austin, Tex., for a $75,000 sewage disposal plant. Sanitary sewers costing $100,000 are to be planned by an engineer engaged at London, Ont.

Miscellaneous Headings

Dredging and rock removal contracted for in Miami (Fla.) Harbor will cost $137,000. Bids are to be opened soon for another excavation section on the New York State barge canal. A drainage project costing $296,000 has been decided upon at Marion, Ohio. The sum of $465,000 has been voted for constructing an irrigation district at Modesto, Cal.

Plans have been filed with the federal authorities for the New York Central bridge over the Hudson River at Seura Bush, N. Y. A low bid of $117,000 was received for constructing a bridge over the Oswego River at Minetto, N. Y., in connection with the New York State barge canal work.

A contract for constructing subway approaches to the new high-level bridge in Cleveland has been awarded at $624,000. Bids will be opened Sept. 28 by the Public Service Commission in New York City for constructing a railroad yard for rapid transit lines at White Plains. It is reported that the Pennsylvania Railroad will spend $500,000 for constructing a new classification yard at Sharpsburg, Pa.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Agawam, Mass.—Allen J. MacLaughlin, dir. pub. health dept., Boston, approved plans for proposed sewerage system.

Boston, Mass.—All bids opened Sept. 5 for furnishing a simplex compound elevator pump rejected. Richd. A. Lynch, supt.

Bridgeport, Conn.—Reported bids will soon be received for constructing sewage disposal plant. Address Bernard Keating, secy. paving and sewer comn.

Carthage, N. Y.—Reported extensions are to be made to the sewer system; also construction of disposal plant under consideration. Address Village Clerk.

Elmira, N. Y.—Reported Water Board considering purchasing electrically driven centrifugal pump for water system.

Mount Holly, N. J.—Jas. Logan, co. engr., directed to examine artesian water system at Seaside Heights and recommend means for increasing supply.

Newark, N. J.—North Jersey District Water Supply Comn. applied to State Dept. of Conservation and Development for permission to divert waters of Wanaque River to provide additional supply for Newark and Paterson and other cities that may join in development of Wanaque watershed. Plans provide for taking 50,000,000 gal. water per day. Paterson and Newark each desire about 10,000,000 gal. per day.

Plainfield, N. J.—It is proposed to lay 7490 ft. 15 to 27-in. pipe storm sewer and 33 to 45-in. concrete sewer. John J. Carroll, city clk.

Coatesville, Pa.—City Council engaged Alex. Potter, 50 Church St., New York, to prepare plans for sewage system.

Lebanon, Pa.—Election probably be held in November to vote $230,000 bonds for improving sewer system. Address City Clk.

Pennsylvania.—Permits have been issued by Dept. of Health at Harrisburg for following water and sewer improvements:

Coatesville, approving plans for chemical germicide apparatus and approving temporary intake.

Coudersport Consolidated Water Co., Coudersport, approving additional well supplies.

New Oxford, extensions to distributing system.

Stroudsburg, Stroudsburg water supply plans for chemical germicide apparatus.

South Bethlehem, Bethlehem City Water Co., plans for additional filters.

Johnsonburg, Johnsonburg Water Co., filtration plans.

Youngsville, approving drilled well supply.

Loyalsock Township, Lycoming Co., Vallamont Land Co., lateral sanitary sewer extensions.

Harmony, plans for sanitary sewer system and required sewage treatment submitted.

Haverford Township, Delaware Co., preliminary district sewerage plans.

Clinton Township, Lycoming Co., State Industrial Home for Women, revised plans for sanitary sewerage and sewage treatment.

Falls Township, Wyoming Co., Boys Industrial Schools (Whites Ferry), sewerage and sewage treatment.

Grove City, changes in sewerage plans, extending time for constructing treatment works.

Middlesex Township, Cumberland Co. (Directors of the Poor and House of Employment of Cumberland Co.), sewerage and sewage treatment plans.

Warren, preliminary plans for intercepting sewers.

Brunswick, Md.—Whitman, Bird & Norton, Munsey Bldg., Baltimore, submitted report to bd. water comrs. on new water supply, estimating cost at $71,806.

Wellsburg, W. Va.—Citizens voted $85,000 bonds for constructing sewerage system. Address City Clk.

Beaufort, N. C.—Waterworks, sewerage and street bonds for $100,000 will be sold Sept. 29 by Town. Chas. H. Bushall, town clk.

St. Cloud, Fla.—Citizens Sept. 5 voted $72,000 waterworks bonds and $21,000 sanitary sewer and sewage disposal plant bonds. Fred B. Kenney, clk and aud.

Montgomery, Ala.—Election to be held Oct. 17 to vote $25,000 bonds for extending sanitary sewer system.

Akron, Ohio.—Service Director recommends enlarging of the purification works at waterworks at a cost of $167,000, including increasing the filtration capacity, at $88,000; low lift pump, $6,600; high lift pump, $49,500; two new boilers, $16,500, and miscellaneous equipment, $6,600.

Bellefontaine, Ohio.—City planning extensive improvements to municipal waterworks. The W. J. Sherman Co., engrs., The Nasby, Toledo.

Cleveland, Ohio.—L. O. Newell, Park comr. estimates cost of sprinkler system for the various parks at $300,000.

Detailed plans for completion of West Fifty-eighth St. sewage disposal plant to be completed at once, and work started this fall. Address City Engr.

Conneaut, Ohio.—Ray N. Case, county engr. at Jefferson, directed to prepare plans for constructing sewage system for East Conneaut.

Cygnet, Ohio.—Election to be held in November to vote on municipal waterworks. The W. J. Sherman Co., engrs., The Nasby, Toledo.

East Palestine, Ohio.—Sewer bonds for $46,500 will be sold Oct. 2 by O. L. Butts, village clk.

Lebanon, Ohio.—Sewage disposal bonds for $20,000 will be sold Oct. 10 by M. E. Gustin, village clk.

Shelbyville, Ind.—Ordinance passed Council authorizing City Engr. to prepare plans for larger sewer for Tompkins St.; probable cost $10,000.

Grand Rapids, Mich.—Construction of a sewage disposal plant contemplated. Address Mayor.

Wyandotte, Mich.—City Comn. passed resolution to install filtration plant, and desires circulars and printed matter relating to same sent to Chas. H. Block, city clk.

Galesburg, Ill.—City Council voted to extend water mains on W. Berrien, Fourth, N. and S. Pearl, Phillips, Williams, Third, Peck, Chambers Sts. and Monmouth Boule.

Alton, Iowa.—Surveys completed for sewer system; estimated cost $18,000. Address City Clerk.

Dawson, Minn.—Citizens voted $25,000 sewer bonds. F. D. Minium, New Ulm, and F. W. Schreiber, Watertown, S. D., engrs. J. C Hanson, city clk

St. Paul, Minn.—City Council voted to construct sewers on Hythe, Raymond and Brimhall Aves. and Belvidere St.

Jetmore, Kan.—City considering issuing [illegible],000 bonds to enlarge waterworks and electric light plant. Address City Clerk.

Falls City, Neb.—Water Dept. will soon let contract for drilling two 24-in. wells for additional water supply and will buy booster pump and 2000 ft. of 12-in. c.-i. pipe; total expenditure $10,000.

Grand Forks, N. D.—Improvements to filter plant contemplated; cost $25,000. Address City Clk.

Billings, Mont.—Filtration plant costing $17,500 to be constructed at water plant. Address City Clerk.

Joliet, Mont.—Citizens voted $22,000 bonds for water system. It is proposed to purchase local water plant. Bonds to be sold Oct. 16. H. B. Pierce, city clk.

Milan, Mo.—City engaged E. T. Archer of E. T. Archer & Co., Kansas City, to prepare a preliminary survey for sewers and a disposal plant. Address City Clerk.

Trenton, Mo.—Citizens, Sept. 5, voted $30,000 bonds for constructing filtration plant. Bonds to be sold at once. E. E. Harper, engr., Kansas City, Mo. J. H. Flesher, city clk.

Sedalia, Mo.—Contract about to be let for constructing sewage disposal plant. F. T. Leaming, city engr.

Arkansas City, Ark.—Waterworks improvements contemplated. Address City Clerk.

Ashdown, Ark.—City preparing to construct waterworks. Address City Clerk.

Beebe, Ark.—City contemplates constructing waterworks. Address City Clerk.

Benton, Ark.—City preparing to construct waterworks. Address City Clerk.

Bentonville, Ark.—Improvements to waterworks contemplated. Address City Clerk.

Conway, Ark.—Improvements to waterworks contemplated. Address City Clerk.

Corning, Ark.—City preparing to construct waterworks. Address City Clerk.

Enders, Ark.—City contemplates constructing waterworks. Address City Clerk.

Hartford, Ark.—City contemplates constructing waterworks. Address City Clerk.

Hatfield, Ark.—City contemplates constructing waterworks. Address City Clerk.

Heber Springs, Ark.—City contemplates constructing waterworks. Address City Clerk.

Junction City, Ark.—City preparing to construct waterworks. Address City Clerk.

Little Rock, Ark.—Drainage Dist. formed, including parts of Sunset, Bowman and Braddock Boule., additions and other territory, preparatory to construction of certain sewers, septic tank and outlet into Fouche Creek. Chas. F. Martin, Jr., city clk.

Marianna, Ark.—Waterworks improvements contemplated. Address City Clerk.

McCory, Ark.—City contemplates constructing waterworks. Address City Clerk.

Morrilton, Ark.—Waterworks improvements contemplated. Address City Clerk.

Piggott, Ark.—City contemplates constructing waterworks. Address City Clerk.

Pocahontas, Ark.—City contemplates constructing waterworks. Address City Clerk.

Portland, Ark.—City contemplates constructing waterworks. Address City Clerk.

Recton, Ark.—City contemplates constructing waterworks. Address City Clerk.

Springdale, Ark.—City preparing to construct waterworks. Address City Clerk.

Star City, Ark.—City preparing to construct waterworks. Address City Clerk.

Wilmot, Ark.—City contemplates constructing waterworks. Address City Clerk.

Austin, Tex.—Plans being prepared for sewage disposal plant, site for which recently purchased; cost $75,000. Address Mayor.

Beaumont, Tex.—Citizens voted $100,000 bonds for extension to water system. Address City Clk.

Hamlin, Tex.—See "Piers, Dams and Foundations."

Tyler, Tex.—Attorney General at Austin approved $250,000 waterworks bond issue of Tyler. Address City Clk.

Commerce, Okla.—Benham Eng. Co., Oklahoma, estimate cost of constructing sanitary sewers at about $30,000. Election will probably be held to vote bonds.

Cordell, Okla.—Sewer bonds for $25,000 sold; Benham Eng. Co., Oklahoma, engrs. for proposed sewer districts; cost $40,000.

Defiance, Ohio.—Citizens voted $125,000 bonds to purchase plant of the Defiance Water Co. Address City Clerk.

Enid, Okla.—City reported considering an election to vote $50,000 bonds for improvements to waterworks. Address City Clerk.

Granite, Okla.—Benham Eng. Co., Oklahoma, engaged to investigate and prepare plans for water supply. Probable cost $25,000.

Marlow, Okla.—Election to be held to vote $25,000 bonds for constructing sewer system. Address City Clerk.

Oklahoma, Okla.—Contract about to be let for constructing waterworks; cost $1,500,000. Henry A. Pressy, 50 Church St., New York, engr. Address City Comn.

Okmulgee, Okla.—Election soon to be held to vote $25,000 bonds for waterworks improvements. Address City Clerk.

Sand Springs, Okla.—Bonds for $30,000 have been voted for constructing system of sewers. Benham Eng. Co., engrs., Oklahoma.

Waynoka, Okla.—Citizens voted to issue $50,000 bonds, part to be used for improving waterworks. Address City Clk.

Wewoka, Okla.—Election to be held Sept. 22 to vote $30,000 bonds for improvements to waterworks. Address City Clerk.

Oroville, Wash.—E. R. Hoose, city clk., authorized by City Council to purchase necessary pipe and fittings and extend city water mains to new hospital site.

Seattle, Wash.—City Council voted to lay water mains on Tenth Ave. N. E. from E. Seventy-fifth St. to E. Eighty-fifth St. L. B. Younge, supt. water wks.

Astoria, Ore.—Astoria Water Comn. will soon let contract for constructing main conduit for increasing water supply in east end of city. Improvement includes construction of tunnel 1250 ft. long; cost $40,000.

Canby, Ore.—Citizens voted to issue $18,000 bonds for constructing municipal water system. Address City Clk.

East San Diego, Cal.—Contract soon to be let for constructing 40,000 ft. 6 to 16-in. main sewers and 60,000 ft. additional of lateral sewers. E. Paul Ford, city engr.

Modesto, Cal.—Construction of storm sewer in Eleventh St. contemplated; cost about $30,000. Address City Engr.

Santa Paula, Cal.—Santa Paula Water Works Co. plans to spend $10,000 for improvements and extensions to mains.

Logan, Utah.—Citizens voted $70,000 bonds for waterworks. Address City Clerk.

Mackay, Idaho.—Idaho Improvement Co. will spend $13,500 for extension and improvements to waterworks.

London, Ont.—H. A. Brazier, city engr., will prepare plans for constructing sanitary sewers; cost $100,000.

BIDS DESIRED.

Kenmore, N. Y.—Reported desired until Sept. 18, by Village Board, for constructing tile sewer in Mryon Ave. Appropriation $20,000.

New York, N. Y.—Until Sept. 26, by Marcus M. Marks, pres. Manhattan Borough, for furnishing material and constructing an abandoned contract—tunnel relief sewer and appurtenances in West Forty-sixth Street from Hudson River to Seventh Ave., together with all incidental work, consisting of about 23,090 sq. ft. hollow tile invert blocks in tunnel, 2,210 bbl. grout of Portland cement in tunnels and shafts, 442,000 lb. structural steel roof support in tunnels, 100,000 ft. sheeting and bracing, 46,000 ft. permanent lumber in tunnels and shafts, manholes, etc. Security $100,000.

New York, N. Y.—Until Sept. 19, by Marcus M. Marks, Borough pres., Manhattan Borough, for furnishing material and installing new drainage and water supply in Fulton Market Bldg., at Fulton, Front and South Sts.

Watervliet, N. Y.—Until Sept. 25, by Water Bd. (John Ball, pres.), for municipal water supply, advertised in this issue. Solomon Norcross & Keis, engrs., Watervliet.

East Orange, N. J.—Until Oct. 9, by City Council, for constructing storm water drain in Halstead Valley of Third Ward, advertised in this issue. W. D. Willigerod, city engr.

Bellwood, Pa.—Until Oct. 11, by Boro. Council (T. J. Steffan, Secy., P. O. Box 143), for sewerage system, also disposal plant, advertised in this issue. Harvey Linton, engr., 1717 13th St., Altoona.

Pittsburgh, Pa.—Reported desired until Sept. 19, by Chas. H. Kinder, receiver, Hummelstown Co., Calver Bldg., for horizontal duplex plunger pump, capacity 1050 gals. per minute. Chas. E. Schaup, engr., 304 Commonwealth Trust Bldg., Harrisburg.

Tarentum, Pa.—Until Sept. 21, by W. H. Robinson, boro. secy., for constructing a concrete coagulating basin at waterworks; size 40 x 30 x 6 ft.

Washington, D. C.—By Bureau Supplies & Accounts, Navy Dept., Washington, D. C., for Sch. 158, Washington, D. C., fourteen steel tanks, Brooklyn, N. Y. Sch. 149, miscellaneous composition pipe fittings, composition unions, 294 low-pressure gate valves, miscellaneous low-pressure gate valves.

Havana, Fla.—Until Oct. 23, by Bd. Pub. Wks., for constructing waterworks and electric light plant; $20,000 bonds available.

Jacksonville, Fla.—Until Oct. 4 by Bd. Bond Trus. (W. M. Bostwick, Jr., chmn.) for furnishing and erecting at Jacksonville Waterworks Pumping Station on foundation to be provided by city one horizontal cross compound crank and flywheel pumping engine with capacity of 12,000,000 gal. in 24 hrs.

Louisville, Ky.—Until Sept. 22, by Bd. Pub. Wks. (Roger G. McGrath, secy.), for constructing fire hydrants in Beargrass, Jane, Jefferson, Maple and a number of other streets.

Cleveland, Ohio.—Reported desired until Sept. 20, by Comns. of Purchases and Supplies, City Hall, for installing water mains in Ardoon Ave. and other streets.

Cleveland Heights (P. O. Warrensville), Ohio.—Until Oct. 16, by H. H. Canfield, vil. clk., for storm and sanitary sewer in Cedar Road and Lancanshire Rd., and for draining, grading and laying 6-in. water main.

Columbus, Ohio.—Reported desired until Sept. 25, by Geo. A. Borden, pre. bd. trus., for furnishing 200 fire hydrants, 40 tons, and 8 in. pipe and 10 tons standard special fittings.

Ottawa, Ohio.—Reported desired until Sept. 26, by Chas. F. Heckman, vil. clk., for 7949 lin. ft. 4-in. tile sewers.

Port Clinton, Ohio.—Reported desired until Oct. 10 for constructing Washington St. sewer. Probable cost $15,986. K. E. Wedikind, city engr.

Struthers, Ohio.—Reported desired until Sept. 20, by John Richards, village clk., for constructing storm and sanitary sewers in Center and Union Sts.

Berwyn, Ill.—For constructing lead water service pipes in East Ave. between Twelfth W. and W. Sixteenth Sts.; cost $1,724.

Glasford, Ill.—Reported desired until Sept. 20, by Village Clk., for water distribution system to include 15,592 ft. 4 to 8 in. Class B c. i. pipe, 26 fire hydrants, gate valves, etc.

Griswold, Iowa.—Until Sept. 21 by C. E. Woodward, city clk., for constructing sewers, about 28,344 ft. 8 to 15-in. pipe. J. H. Mayne, engr., Council Bluff.

Granite Falls, Minn.—Until Sept. 19, by Sund & Dunham, archts, 514 Essex Bldg., Minneapolis, for constructing a water purification plant in connection with tuberculosis sanitorium for the counties of Chippewa Lac Qui Praire, Renville and Yellow Medicine. Rose & Harris, engrs., Minneapolis.

Red Cloud, Neb.—Until Sept. 21, by O. C. Teel, city clk., for 1½ miles 10- to 15-in. pipe sewer; cost $10,000. Grant & Fulton, engrs., Lincoln.

Burbank, Cal.—Until Sept. 19, by E. Peyton, city clk., for furnishing 6800 ft. 4-in. w. i. standard screw pipe.

Glendale, Cal.—Until Sept. 21, by J. C. Sherer, city clk, for furnishing horizontal pump to deliver 3000 gals. per min. against 320 ft. head, two 16-in. deep-well pumps to deliver 1500 gals. per min., one 350-hp. horizontal induction motor and two 35-hp. vertical induction motors.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Bridgeport, Conn.**—Contract for constructing about 9400 ft. 60, 66 and 72-in. sewer in Railroad and Bostwick Aves. awarded to T. J. Pardy Constr. Co., 15 Fairfield Ave., at $223,088. Bids opened Sept. 6 by Bernard Keating, secy. paving and sewer comn. Next lowest bid submitted by E. Devoe Tompkins Co., Inc., New York, at $398,293.

New York, N. Y.—Following are unit figures of four lowest bids opened Sept. 8 by Marcus M. Marks, Pres. Manhattan Boro., for constructing alterations and improvements to outlet sewer at Dyckman St. and Hudson River, including construction of submerged outlet and screening chamber: (a) Lump sum for all work except as specified under Item 2; (b) 550 cu. yd. rubbel masonry in mortar; (c) total: Harby Abrons & Melius, 30 E. Forty-second St., (a) $73,452, (b) $6.50, (c) $77,000; Jos. Kelly, 215 Montague St., Brooklyn, (a) $98,000, (b) $4, (c) $100,200; Thos. Dwyer, 216th St. and Bway., (a) $104,000, (b) $5, (c) $106,750; Henry E. Fox Constr. Co., 81 E. 125th St., (a) $106,000, (b) $15.00, (c) $114,250.

New York, N. Y.—See "Miscellaneous."

★**Mt. Morris, N. Y.**—Contract awarded by Geo. L. Bailey, vil. clk., to U. S. C. I. Pipe & Fdry. Co., 71 Bway., New York, for furnishing 13,116 ft. 10-in. c. i. pipe, at $12,115, and to McCarthy & Wall, Mt. Morris, for laying pipe (bids opened Sept. 5).

★**Salamanca, N. Y.**—Following are three bids opened Sept. 11 by Geo. H. Elliott, city clk., for constructing sanitary sewers in various streets: Bunce & Carl, 125 Fulton St., Olean, $30,733 (awarded contract); Ralph F. Relly, 172 W. Fourth St., Oswego, $31,679, and Willis Brancroft, Jr., Erie, Pa., $37,296.

★**Hoboken, N. J.**—Contract awarded J. C. Cavanaugh, 211 Highwood Ave., Weehawken, for constructing sewers in Newark and other downtown streets, at following unit bid: 450 ft. 27-in. vitr. pipe, $5; 821 ft. 30-in., $5; 292 ft. 33-in., $5; 291 ft. 36-in., $5; 38,000 lin ft. piling, 80 cts.; 75 M. ft. timber and foundations, $65; 1000 M. ft. sheeting and shoreing in place, $100; 1000 cu. yds concrete, $8; 13,000 brick, in sewer, $20; 4000 lin. ft. 6-in. house connections, 85 cts.; 600 lin. ft. 12-in. vitr. pipe connections for corner basins, $1; 3500 cu yd. excav., $1; 2000 lin. ft. box sewer removed, 25 cts.; 3500 cu. yd. filling, 25 cts.; 40 manholes complete, $50.

★**Newark, N. J.**—Following are bids opened Sept. 12 by Passaic Valley Sewerage Comrs., for Warren St. branch sewer and connections, Sect. 23, Paterson: Canedella & Co., Passaic, $11,475 (awarded contract); Culp Co., Inc., Paterson, $13,994; Carrington Constr. Co., Passaic, $14,470.

★**Erie, Pa.**—Contract awarded U. S. C. I. Pipe & Fdry. Co., 71 Broadway, New York, for furnishing 6000 ft. 12-in. pipe at $29.70 per ton.

★**Kennywood Park, Pa.**—Contract for constructing sewage disposal plant awarded by Kennywood Park Assoc., to Pihl & Miller, Pittsburgh. Work consists of Imhoff tank, sprinkling filter and distinfection plant. Chester & Fleming, engrs., Pittsburgh.

Philadelphia, Pa.—Following are 3 lowest bids opened by Dir. Public Wks. Sept. 6 for constructing section of Frankford intercepting sewer in O St., extending from Lycoming St. to Kensington Ave., to be 1400 ft. long, 8 to 6 in diameter, of concrete: Ryan & Reilly of Baltimore, $62,411; Emileo Paschuzzi, Third and Wingohocking Sts., $68,796, and Cantrell Constr. Co., Real Estate Trust Bldg., $73,531.

Wilmington, Del.—Following are four bids opened Sept. 6 by Bd. Water Comrs. (Edgar M. Hooper, Jr., ch. engr.), for turbine driven centrifugal pumps and accessories, contract No. 12: (a) two 9,000,000-gal. units; (b) 12,000,000-gal. unit; (c) F. W. heater; (d) two B. F. pumps; (e) total; Duty Guarantee—(f) 9,000,000-gal. unit; (g) 12,000,000-gal unit; (h) total adjusted bid according to (f) and (g): Alberger Pump & Condenser Co., 140 Cedar St., New York, (a) $31,500; (b) $28,000; (c) $1,350; (d) $900; (e) $61,750; (f) 101 M ft. lb.; (g) 115.8 M ft. lb.; (h) $68,750; Dravo Doyle Co., Diamond Bank Bldg., Pittsburgh: (a) $37,375; (b) $25,800; (c) $525; (d) $1,200; (e) $64,900; (f) 110.6 M ft. lb.; (g) 123.7 M ft. lb.; (h) $64,900; R. D. Wood & Co., Philadelphia, (a) $33,600; (b) $38,800; (c) $560; (d) $2,350; (e) $65,310; (f) 102 M ft. lb.; (g) 110 M ft. lb.; (h) $74,230; M. L. Bayard & Co., Pennsylvania Bldg., Philadelphia, (a) $40,000; (b) $30,000; (c) $500; (d) $4,000; (e) $74,500; (f) 104 M ft. lb.; (g) 115 M ft. lb.; (h) $80,620.

★**Washington, D. C.**—Contract awarded W. F. Brenizer Co., Washington, for outlet extension Easby Point High level intercepting sewer and D St. outlet trunk sewer, at a total of $14,249 (bids opened Sept. 8 by Comrs. D. C.).

★**Alma, Mich.**—Contract awarded Jas. B. Clow & Sons, Chicago, for 10,000 ft. c. i. pipe. Carl G. Gallagher, city clk.

★**Elmhurst, Ill.**—Following bids opened by Bd. Local Improvements Aug. 8 for constructing vitr. segmental block sewers and vitr. tile pipe sewers: Henry Rees, Quincy, $95,571 (awarded contract); Porter & Co., Maywood, $96,016; E. C. Blake & Co., $105,687; John Burke, Maywood, $104,103, and Jas. Healy, Chicago, $107,236. Francis N. Neumann, city clk.

★**Wyanet, Ill.**—Contract for 40,000-gal. tank and 100-ft. tower for water system awarded to Memphis Steel Constr. Co., Thomas & Plum Aves., Memphis, at $3,549, and for well and installing Keystone pump to Olds & Hawkins of Wyanet, at $3,125.

★**Riceville, Ia.**—Contract awarded R. C. De La Hunt, Cedar Rapids, for constructing about 5000 ft. 8 to 12-in. laterals at $6,176 and for disposal plant to C. T. Webster, St. Paul, at $3,938. H. A. Yager, city clk.

Chicago, Ill.—Following are unit figures of three bids opened Aug. 31 by Trustees Sanitary Dist. for constructing Evanston intercepting sewer, contract No. 1: (1) Concrete alternative; (2) brick alternative; (3) segmental block alternative; (4) reinforced concrete pipe alternative; (a) Nash-Dowdle Co., 29 S. La Salle St., (1) $841,631, (2) $904,347; (b) Nash Bros., 10 S. La Salle St., (1) $868,518, (2) $932,445; (c) Byrne Bros. Dredging & Eng. Co., 208 S. La Salle St., (1) $1,194,770, (2) $1,354,413, (3) $1,365,143.

No. of Item	a	b	c
1a—5,106 lin. ft. concrete sewer, 10 ft., Lake St.	$35.00	$35.25	$49.50
1b—5,106 lin. ft. brick and concrete sewer, 10 ft., Lake St.	39.00	39.75	60.00
2a—1,895 lin. ft. concrete sewer, 10 ft., tunnel, Lake St.	61.00	62.00	72.00
2b—1,895 lin. ft. brick and concrete sewer, 10 ft., tunnel, Lake St.	61.00	62.00	75.00
3a—964 lin. ft. concrete sewer, 7½ ft., Sherman Ave.	24.75	25.00	34.50
3b—964 lin. ft. brick sewer, 7½ ft., Sherman Ave.	26.00	26.00	39.50
4a—1,990 lin. ft. concrete sewer, 7 ft., Orrington Ave.	21.50	21.00	33.50
4b—1,990 lin. ft. brick sewer, 7 ft., Orrington Ave.	23.00	23.00	36.50
5a—1,106 lin. ft. concrete sewer, 6 ft., tunnel, Lake St.	29.00	30.00	44.90
5b—1,106 lin. ft. brick sewer, 6 ft., tunnel, Lake St.	29.00	30.00	52.00
6a—1,300 lin. ft. concrete sewer, 6 ft., open cut, Lake St.	18.00	18.50	25.00
6b—1,300 lin. ft. brick sewer, 6 ft., open cut, Lake St.	20.00	20.00	30.00
6c—1,300 lin. ft. segmental block sewer, 6 ft., open cut, Lake St.	.....	.....	29.00
6d—1,300 lin. ft. reinforced concrete pipe sewer, 6 ft., open cut, Lake St.	.....	.....	29.50
7a—3,677 lin. ft. concrete sewer, 6 ft., Elmwood Ave.	17.00	17.50	26.00
7b—3,677 lin. ft. brick sewer, 6 ft., Elmwood Ave.	19.00	19.25	29.50
7c—3,677 lin. ft. segmental block sewer, 6 ft., Elmwood Ave.	.....	.....	30.00
7d—3,677 lin. ft. reinforced concrete pipe sewer, 6 ft., Elmwood Ave.	.....	.....	31.00
8a—3,758 lin. ft. concrete sewer, 5 ft., Lake Front	11.50	11.60	19.00
8b—3,758 lin. ft. brick sewer, 5 ft., Lake Front	12.75	12.90	23.00
8c—3,758 lin. ft. segmental block sewer, 5 ft., Lake Front.	.....	.....	22.00
8d—3,758 lin. ft. reinforced concrete pipe sewer, 5 ft., Lake Front	.....	.....	24.00
9a—1,645 lin. ft. concrete sewer, 4½ ft., Lake Front	12.00	12.25	20.00
9b—1,645 lin. ft. brick sewer, 4½ ft., Lake Front	13.50	13.75	23.00
9c—1,645 lin. ft. segmental block sewer, 4½ ft., Lake Front	.....	.....	23.00

Chicago, Ill.—Evanston intercepting sewer, Contract No. 1 (Continued).

9d—1,645 lin. ft. reinforced concrete pipe sewer, 4½ ft., Lake Front	.....	.....	24.00
10a—2,385 lin. ft. concrete sewer, 4½ ft., Main St., Sherman Ave., Washington St. and Custer Ave.	12.00	12.00	21.00
10b—2,385 lin. ft. brick sewer, 4½ ft., Main St., Sherman Ave., Washington St. and Custer Ave.	13.50	13.25	24.00
10c—2,385 lin. ft. segmental block sewer, 4½ ft., Main St., Sherman Ave., Washington St. and Custer Ave.	.....	.....	25.00
10d—2,385 lin. ft. reinforced concrete pipe sewer, 4½ ft., Main St., Sherman Ave., Washington St. and Custer Ave.	.....	.....	25.00
11a—3,989 lin. ft. concrete sewer, 4½ ft., Emerson St.	12.00	12.25	19.00
11b—3,989 lin. ft. brick sewer, 4½ ft., Emerson St.	13.50	13.75	22.00
11c—3,989 lin. ft. segmental block sewer, 4½ ft., Emerson St.	.....	.....	23.00
11d—3,989 lin. ft. reinforced concrete pipe sewer, 4½ ft., Emerson St.	.....	.....	23.00
12a—1,181 lin. ft. concrete sewer, 4 ft., Custer Ave.	9.00	9.10	17.00
12b—1,181 lin. ft. brick sewer, 4 ft., Custer Ave.	10.50	10.75	19.00
12c—1,181 lin. ft. segmental block sewer, 4 ft., Custer Ave.	.....	.....	20.00
12d—1,181 lin. ft. reinforced concrete pipe sewer, 4 ft., Custer Ave.	.....	.....	20.00
13a—200 lin. ft. concrete sewer, 4 ft., Lake Front	10.00	10.25	17.00
13b—200 lin. ft. brick sewer, 4 ft., Lake Front	11.50	11.90	19.00
13c—200 lin. ft. segmental block sewer, 4 ft., Lake Front.	.....	.....	20.00
13d—200 lin. ft. reinforced concrete pipe sewer, 4 ft., Lake Front	.....	.....	20.00
14a—1,304 lin. ft. concrete sewer, 3½ ft., Custer Ave.	8.25	8.50	13.00
14b—1,304 lin. ft. brick sewer, 3½ ft., Custer Ave.	9.75	9.75	15.00
14c—1,304 lin. ft. segmental block sewer, 3½ ft., Custer Ave.	.....	.....	16.00
14d—1,304 lin. ft. reinforced concrete pipe sewer, 3½ ft., Custer Ave.	.....	.....	16.00
15a—3,890 lin. ft. concrete sewer, 3½ ft., Lake Front	9.00	9.25	17.00
15b—3,890 lin. ft. brick sewer, 3½ ft., Lake Front	10.25	10.50	20.00
15c—3,890 lin. ft. segmental block sewer, 3½ ft., Lake Front	.....	.....	21.00
15d—3,890 lin. ft. reinforced concrete pipe sewer, 3½ ft., Lake Front	.....	.....	21.00
16a—1,302 lin. ft. concrete sewer, 3 ft., Custer Ave.	6.00	6.00	11.00
16b—1,302 lin. ft. brick sewer, 3 ft., Custer Ave.	7.50	7.50	13.00
16c—1,302 lin. ft. segmental block sewer, 3 ft., Custer Ave.	.....	.....	14.00
16d—1,302 lin. ft. reinforced concrete pipe sewer, 3 ft., Custer Ave.	.....	.....	14.00
17a—2,140 lin. ft. tile pipe sewer, 24 in., Lake Front	5.00	5.00	6.50
17b—2,140 lin. ft. reinforced concrete pipe sewer, 24 in., Lake Front	.....	.....	8.00
18—294 lin. ft. double deck sewer, Lake St.	64.00	65.00	63.00
19a—290 lin. ft. concrete sewer, 5 x 5.75 ft., Lake Front	15.00	15.25	22.00
19b—290 lin. ft. brick sewer, 5 x 5.75 ft., Lake Front	17.00	17.25	25.00
20a—750 lin. ft. concrete manholes, open cut	6.00	6.00	8.00
20b—750 lin. ft. brick manholes, open cut	6.00	6.00	10.00
21a—165 lin. ft. concrete manholes, tunnel	10.00	8.00	10.00
21b—165 lin. ft. brick manholes, tunnel	10.00	8.00	12.00
22—Outfall at Lake St. (lump sum)	6,500.00	6,700.00	16,000.00
23—Outfall at Emerson St. (lump sum)	3,000.00	3,300.00	7,500.00
24—Controlling chamber on Lake Front (lump sum)	700.00	700.00	1,500.00
25—Junction at Lake St. and Elmwood Ave. (lump sum)	4,000.00	4,200.00	300.00
26—Connection at Lake St. and Sheridan Rd. (lump sum)	250.00	250.00	300.00
27—Crossing under C. & N. W. Ry. and C., M. & St. P. Ry., Lake St. (lump sum)	14,500.00	17,000.00	4,000.00
28a—Crossing under C. & N. W. Ry. and C., M. & St. P. Ry. near Main St., in tunnel (lump sum)	6,000.00	6,500.00	7,000.00
28b—Crossing under C. & N. W. Ry. and C., M. & St. P. Ry. near Main St., compressed air work (lump sum)	6,000.00	9,000.00	11,000.00
29—Crossing under C. & N. W. Ry., Mayfair Div., Lake St. (lump sum)	1,000.00	900.00	4,500.00
30—Crossing under C. & N. W. Ry., Mayfair Div., Emerson Et. (lump sum)	7,000.00	8,000.00	1,300.00
31—Crossing under Evanston Ry., Lake St. (lump sum)	900.00	850.00	1,500.00
32—Crossing under Evanston Ry., Main St. (lump sum)	200.00	250.00	1,500.00
33—Sewer crossing at Lake St. and Dodge Ave. (lump sum)	500.00	600.00	350.00
34—Sewer crossing at Lake St. and Wesley Ave. (lump sum)	250.00	300.00	350.00
35—Sewer crossing at Lake St. and Maple Ave. (lump sum)	250.00	300.00	350.00
36—Sewer crossing at Lake St. and Elmwood Ave. (lump sum)	300.00	300.00	300.00
37—700 cu. yd. excavation for special manholes	1.50	2.00	1.00
38a—300 cu. yd. concrete masonry for special manholes	15.00	16.00	15.00
38b—300 cu. yd. brick masonry for special manholes	15.00	16.00	18.00
39—60 cu. yd. rubble stone paving	4.00	4.25	3.00
40—100 lin. ft. laying 18-in. tile pipe	3.00	3.50	2.50
41—800 lin. ft. laying 12-in. tile pipe	1.50	1.60	2.20
42—7,000 lin. ft. laying 9-in. tile pipe	1.00	1.00	2.00
43—50 lin. ft. laying 6-in. tile pipe	1.00	1.00	1.50
44—275 lin. ft. laying 24-in. tile pipe	3.00	4.00	4.00
45—282 lin. ft. tile pipe sewer, 24 in., Davis St.	14.00	15.00	10.00
46—500 lin. ft. tile pipe sewer, 18 in., Davis St.	14.00	15.00	8.00
47—1,415 lin. ft. tile pipe sewer, 18 in., Chicago Ave. and Lake St.	3.00	4.00	2.50
48—410 lin. ft. tile pipe sewer, 15 in., Dempster St.	3.00	4.00	2.50
49—437 lin. ft. tile pipe sewer, 18 in., Cook St.	3.00	4.00	2.50
50—550 lin. ft. tile pipe sewer, 18 in., near Main St.	5.00	5.50	2.50
51—140 lin. ft. removal of water pipe, 12 in.	1.00	1.25	1.00
52—500 lin. ft. removal of water pipe, 10 in.	1.00	1.05	1.00
53—50 lin. ft. removal of water pipe, 6 in.	.80	1.00	1.00
54—850 lin. ft. removal of water pipe, 4 in.	.50	.80	1.00
55—180 lin. ft. laying water pipe, 12 in.	1.50	1.75	4.00
56—630 lin. ft. laying water pipe, 10 in.	1.50	1.75	4.00
57—50 lin. ft. laying water pipe, 6 in.	1.25	1.50	3.50
58—900 lin. ft. laying water pipe, 4 in.	.90	1.25	3.00
59—2 gate valves, 12 in.	40.00	39.00	60.00
60—2 gate valves, 10 in.	38.00	39.00	50.00
61—1 gate valve, 6 in.	20.00	22.00	20.00
62—2 gate valves, 4 in.	10.00	12.00	12.00
63—5 gate valve boxes	4.00	4.50	7.00
64—30 manholes on tile sewers	45.00	50.00	50.00
65—25 catch basins	50.00	50.00	60.00
66—50 lin. ft. tile pipe for future connections, 24 in.	2.00	2.00	2.50
67—50 lin. ft. tile pipe for future connections, 18 in.	1.00	1.50	2.00
68—100 lin. ft. tile pipe for future connections, 12 in.	1.00	1.50	2.00
69—50 lin. ft. tile pipe for future connections, 9 in.	.75	.65	1.00
70—500 house slants, 6 in.	.75	.65	.90
71—175 connections, making water service connections	10.00	11.00	12.00
72—100 lin. ft. relaying water service pipes	1.25	1.40	1.50
73—300,000 lb. steel sheet piling	.05	.06	.05
74—50,000 lb. reinforcing steel	.05	.06	.05
75—5,000 lb. structural steel	.05	.06	.07
76—50,000 lb. cast iron	.05	.06	.06
77—1,000 lin. ft. additional piling furnished	.30	.35	.30
78—1,000 lin. ft. additional piling driven	.30	.35	.30
79—5 M ft. cribwork on piling	50.00	65.00	60.00
80—1 M ft. sheeting	20.00	20.00	20.00
81—1 M ft. plank foundation	25.00	25.00	25.00
82—5 cu. yd. additional excavation, earth, in open cut	.75	.75	.75
83—5 cu. yd. additional excavation, earth, in tunnel	3.00	3.00	3.00
84—5 cu. yd. additional excavation, rock	3.00	3.00	3.00
85—5 cu. yd. additional concrete, Class A	8.00	8.00	8.00
86—5 cu. yd. additional concrete, Class B, in open cut	7.50	7.50	7.50
87—5 cu. yd. additional concrete, Class B, in tunnel	9.50	9.50	9.50
88—5 cu. yd. additional concrete, Class C, in open cut	7.00	7.00	7.00
89—5 cu. yd. additional concrete, Class C, in tunnel	9.00	9.00	9.00
90—5 cu. yd. additional brickwork, in open cut	9.00	9.00	9.00
91—5 cu. yd additional brickwork, in tunnel	11.00	11.00	11.00

★**New Hampton, Iowa.** — Contract awarded by City Council to Wm. C. Fraser, St. Paul, for constructing sewage disposal plant, at $23,900.

★**Mankato, Minn.**—Contracts awarded by city as follows: Extend water main 2260 ft. 6 in. on May and Fifth Sts., to John McCall, Mankato, and 2200 ft. storm sewer on W. Front St., to L. Overn of St. Paul.

St. Louis, Mo.—Following are four lowest bids opened recently by Water Division of city for constructing concrete roofs over city reservoirs at Bissel Point and Baden: Hogan Contr. Co., St. Louis, $232,172; Herman Contr. Co., Title Guarantee Trust Bldg., $235,147; McCormach Combs Constr. Co., Columbia Bldg., $235,542, and Unit Constr. Co., Title Guaranty Bldg., $246,959.

★**Galveston, Tex.**—Contracts awarded as follows by City Commissioners: Two small pump houses on new wells at Alta Loma to J. W. Zempter, Galveston, at $1,380, and for sand traps at said wells to J. J. King, at $950.

★**Huntsville, Tex.** — Following bids opened Sept. 5 by F. E. Humphrey, Mayor, for constructing sanitary sewer system. Randolph & Lee, Huntsville, $26,064. R. W. Griffin, Ft. Worth, $21,129 (awarded contract); F. C. Youmans Constr. Co., Houston, $21,919; Truehart & Jackson, San Antonio, $22,782.

★**Marlin, Tex.**—Contracts awarded by City Council as follows: Constructing sewer lines, to H. W. Cardwell Constr. Co., Texarkana, at $22,776, and for disposal plant, to McCall-Moore Engineering Co. of Waco, at $14,246.

★**San Antonio, Tex.**—Contract awarded Young & Ramsey, San Antonio, for constructing sanitary sewer in Ruiz St. to connect with city system.

★**Seattle, Wash.**—Contract for constructing 1 mile of water pipe line on Twelfth Ave. awarded by Bd. of Pub. Wks. (C. B. Bagley, secy.) to Pacific Lock Joint Pipe Co., Seattle, at $54,585, for concrete pipe, sizes to be decided upon. L. B. Young, supt. waterworks.

★Contract for furnishing 68-in. riveted steel pipe for water dept. awarded by City Purchasing Agent to Oregon Boiler Wks., Portland, Ore., at $1,584.

★**Sunnyside, Wash.**—Contract for furnishing and installing wood stave pipe for Grand View Irrigation Dist., Sunnyside Irrigation Project in Sunnyside awarded to Washington Pipe & Foundry Co. of Tacoma, at $18,405.

Fresno, Cal.—Coast Constr. Co., 1419 E. Twenty-ninth St., Los Angeles, submitted lowest bid to City Council Sept. 5 for constructing intercepting and outfall sewer system, in all about 53,400 ft. 16 to 60-in. cement pipe and monolithic concrete required; $450,000 bonds voted for same. Olmsted & Gillelen, engrs., 1112 Hollingsworth Bldg., Los Angeles. B. E. Cronkite, city engr.

★**Chambly Basin, Que.**—Contract for constructing sewers awarded by City Council to L. Giguere of Montreal, at $15,400.

★**Montreal, Que.** — Contract awarded Canada Iron Fdry., Ltd., 28 Victoria Sq., for furnishing c.-i. pipe at $45 per ton for 4-in., $41 for 8-in. and 12-in. L. N. Senecal, secy. bd. comrs.

STRUCTURAL STEEL WORK

PROPOSED WORK.

Springfield, Mass.—County Commissioners have asked city to construct bridge over Athol branch of Boston & Albany RR. and pass under tracks of Hampden Rd. in constructing an extension of Page Boule in East Springfield.

Mystic, Conn.—New York, New Haven & Hartford RR. (Edward Gagel, ch. engr., New Haven), plans constructing bridge over Mystic River at Mystic.

Buffalo, N. Y.—President signed bill authorizing construction of bridge across Niagara River at Buffalo in which Robert C. Graupp, 73 Forest Ave., Buffalo, is interested.

Feura Bush, N. Y.—United States Engineer's office, Albany, has secured plans for freight bridge for New York Central RR. (G. W. Kittredge, ch. engr., New York). The bridge will consist of two spans, each 474 ft. long, and will have long level approaches on each side of river. Western approach will be about ¼ mile long and constructed on series of bents, or steel towers resting on concrete piers, while eastern approach will be nearly ¾ mile long.

New Brunswick, N. J.—Board of Freeholders plans spending about $9,000 for new bridges on Cranbury-Plainsboro and Old Bridge-Englishtown turnpikes.

Johnstown, Pa.—Bridge bonds for $100,000 will be sold Oct. 16. Harry W. Slick, City Treas.

Meadville, Pa.—Thomas A. Gilkey, New Castle, engr., will prepare plans for state bridge over Muddy Creek, Crawford Co.

Pittsburgh, Pa.—Plans prepared for foot bridge in Tuxedo St.; cost $5,000. Robert Swan, dir. pub. serv.

Wellsboro, Pa.—County Comrs. will construct two bridges over Cowanesque River to replace structures destroyed by flood, one in Nelson Township to be single span truss bridge, 180 ft. long, with concrete floor; cost, $21,000, and the other in Deerfield Township, 150 ft. long; cost, $14,000.

Montgomery, Ala.—Election to be held Nov. 7 to vote on $50,000 bonds for constructing steel draw, concrete approach bridge over Tallapoosa River.

Covington, Ky.—City Engr. preparing estimates of cost of proposed new traffic bridge across Licking River. Address City Clk.

Youngstown, Ohio.—President signed bill granting this city the right to span Mahoning River—navigable stream—with Cedar St. approach to New Himrod Ave. viaduct. Frank Lillie, city engr.

Council Bluffs, Iowa.—Board of Supervisors have been petitioned to call an election to vote on constructing free bridge across Missouri River between Council Bluffs and Omaha. An election will probably be held in Douglas County, Nebraska, to vote on same proposition.

Kansas City, Mo.—Plans being prepared for viaduct on Twenty-seventh St. over Vine St., $90,000, and steel viaduct on Fourth St. over railroad tracks, $110,000. Curtis Hill, city engr.

Oklahoma, Okla.—M. L. Cunningham, state highway engr., approved plans and specifications for bridges at Ellis, $10,000; McIntosh, $14,000; Cotton, $6,000.

Santa Rose, N. M.—County Comrs. have asked State Highway Dept., Santa Fé, to prepare plans for two bridges, one at Fort Sumner across Truches Creek and the other at Delia across Pecos River.

Seattle, Wash.—The sum of $42,000 has been added to the budget for construction of bridge across West Waterway at Spokane Ave. on condition that traction company pays one-third of cost of bridge.

Klamath Falls, Ore.—County Comrs. will construct steel bridge across Link River at Main St.

BIDS DESIRED.

Sussex, Va.—Until Sept. 21, by Co. Comrs., for constructing steel bridge 37 ft. long over Spring Swamp.

Franklin, W. Va.—Until Sept. 25, by County Commissioners, for constructing two bridges in Pendleton Co. Address State Rd. Bureau, Morgantown, W. Va.

Gastonia, N. C.—Until Oct. 5, by Co. Comrs. (O. B. Carpenter, clk.), for constructing two steel bridges across South Fork River, one at Worth and other at Vestal Ford. Salvaged steel on banks to be used in erection and figures in the bid.

Fort Lauderdale, Fla.—Until Oct. 3, by County Comrs. for constructing a steel draw bridge, 55 ft. clear channel opening, at Deerfield; also one at Hallandale. Frank A. Bryan, clk. bd.; H. C. Davis, engr. comrs.

Benton Harbor, Mich.—Until Oct. 2, by Harry P. South, city clk., for constructing a steel viaduct at Britain Ave., about 180 ft. long and 24-ft. roadway, advertised in this issue.

Illinois.—See "Reinforced Concrete."

Rolfe, Iowa.—Until Oct. 1, by Town Council (Bryon C. Boss, clk.), for constructing steel water tank of 25,000 gals. capacity and repairs to present tower to carry same.

Rock Rapids, Iowa.—Until Sept. 18, by County Auditor, for 16 steel spans and beam bridges, ranging from 20 to 100 ft. Bids desired on any or all bridges, on substructures and steel superstructure f.o.b. any station in Lyons Co. W. C. Wyckoff, Co. engr.

Missoula, Mont.—Until Sept. 25 by W. J. Babington, co. clk., for constructing Rock Creek bridges across Hellgate River, between Missoula and Granite Counties. E. P. Ballard, co. clk.

Perryville, Mo.—Reported desired until Sept. 25 by Thos. J. Killian, road and bridge comr., for constructing steel bridge, 42 ft. long, 15 ft. wide, with concrete floor and concrete abutments, over Lick Creek, on Birmingham Rd.; also steel bridge, 56 ft. long, 14 ft. wide, with wood joist and floor on tubular piers over main drainage ditch on Perry and Belgique Rds.

Spokane, Wash.—Until Sept. 28, Leonard Funk, comr. pub wks., for repair of Washington St. bridge and viaduct over Spokane River and Great Northern Railway. G. W. Duffy, city clk.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**New Brunswick, N. J.** — Contract awarded by Board of Freeholders to H. W. Schrimpf, Perth Amboy, for reinforcing draw span of Albany St. bridge over Raritan River.

Albany, N. Y.—Following are two bids opened Sept. 6 by W. W. Wotherspoon, state supt. pub. wks., for Contract 99, Oswego Canal Sect. 1, constructing bridge over Oswego River at Minetto: (a) Engineer's estimate, grand total $117,171; (b) Larkin & Sangster, 906 D. S. Morgan Bldg., Buffalo, $115,981; (c) Lupfer & Remick, Buffalo, $116,801:

Chapter 147, Laws 1903 and amendatory laws.	(a)	(b)	(c)
1,140 cu. yd. excavation	$2.20	$2.20	$2.60
24.6 M ft. sawed lumber, creosoted	70.00	70.00	65.00
6.72 M ft. sawed lumber, plain	60.00	60.00	45.00
32 cu. yd. first-class reinforced concrete	15.00	15.00	13.00
2,500 cu. yd. second-class reinforced concrete	11.00	11.00	13.00
441,000 lb. structural steel	.055	.065	.04
124,000 lb. metal reinforcement	.04	.04	.048
130 lin. ft. concrete balustrade	3.00	3.00	3.00
450 sq. yd. wood block pavement	3.00	3.00	2.25
1,620 lb. metal duct	.12	.12	.10
300 lin. ft. lattice railing	3.00	3.00	2.50
6 channel lamps (ea.)	20.00	20.00	12.00
1 maintaining navigation (lump sum)	300.00	300.00	360.00
1 cofferdam, pumping, bailing and draining (lump sum)	8,000.00	3,500.00	9,600.00

Chapter 716, Laws 1915.	(a)	(b)	(c)
6,240 cu. yd. excavation	$0.80	$0.80	$0.64
4,170 cu. yd. forming embankment	.15	.15	.10
2,700 cu. yd. second-class concrete	7.00	7 00	8.00
240 cu. yd. first-class reinforced concrete	15.00	15.00	16.00
24,800 lb. structural steel	.06	.06	.07
7,800 lb. metal reinforcement	.04	.04	.04
2.94 M ft. triple-lap sheet piling	70.00	70.00	46.00
39.60 M ft. sheeting and bracing	50.00	50.00	25.00
166 sq. yd. cobblestone gutter	1.25	1.25	1.00
2,700 sq. ft. concrete sidewalk	.20	.20	.12
100 lin. ft. concrete edging	.30	.30	.30
880 lin. ft. concrete curb	.75	.75	.51
103 lin. ft. stone header	.75	.75	.50
1,025 lin. ft. concrete balustrade	3.00	3.00	2.00
1,540 sq. yd. brick pavement	2.75	2.75	2.40
6 catch basins (ea.)	35.00	35.00	25.00
215 sq. yd. waterproofing, 2 layers	.30	.30	.25
53 sq. yd. waterproofing, 1 layer	.20	.20	.20
635 lin. ft. vitrified clay conduits	1.00	1.00	.75
2,000 lb. metal duct	.12	.12	.10
1 cofferdam, pumping, bailing and draining (lump sum)	2,000.00	900.00	2,400.00

Gainesville, Ga.—Following bids opened Aug. 11 by County Comrs. for constructing steel bridge across Chattahooche River (not including approach). International Steel & Iron Co., Evansville, Ind., $4,612; Austin Bros., Atlanta, $5,740; East St. Louis Steel Bridge Co., East St. Louis, $5,785.

★**Viroqua, Wis.**—W. E. Gifford, Madison, secured contract to construct 2 steel bridges at $10,200. W. C. Buetow, div. engr., Wisconsin highway comn., Viroqua.

★**Boone, Iowa.**—Contract awarded Des Moines Bridge & Iron Wks., Des Moines, for constructing Fraser River Bridge, two piers and 150 ft. span, at $10,555. J. A. Illeman, county highway engr.

★**Oacoma, S. D.**—Contract awarded Federal Bridge Co., Des Moines, Iowa, at $15,319, for constructing repairs, etc., to county bridges. K. McKenzie, co. aud.

★**Ray, Ariz.** — Contract awarded by County Bd. Supervs., Florence, for constructing 205-ft. skew span bridge over Mineral Creek awarded to Topeka Bridge & Iron Works, Topeka, at $11,995 (bids opened Aug. 17).

St. Martine, Que.—Following are four lowest bids opened Aug. 28 by N. Mallette, secy.-treas., for constructing steel bridge over Chateguay River near Church, in this parish: Ubalde Ouellette, Lachine, $33,950; L. Lemieux, Montreal, $34,455; Lorrain & Dayneault, Napierville, $34,575; McKinnon Holmes, Sherbrooke, $34,979.

★**Lindsay, Ont.**—Contract awarded Burlington Steel Co., Hamilton, for steel reinforcing bars required in connection with erecting $3,000,000 arsenal.

REINFORCED CONCRETE

PROPOSED WORK.

Brooklyn, N. Y. — Adriance Machine Wks., 254 Van Brunt St., will erect 6-story reinforced concrete, 100 x 200 ft., machine shop at Richard and Delevan Sts.; cost $180,000.

Wellsville, N. Y.—It is proposed to construct a reinforced concrete, two-span bridge at Main St., each span 50 ft. F. E. Hermans, engr., Albany; Harry Craig, co. supt. highways, Canaseraga.

Plainfield, N. J.—See "Industrial Plants and Warehouses."

Johnstown, Pa.—Reported Council considering construction of concrete and steel viaduct from upper end of Maple Ave., Woodvale, to lower end of Conemaugh, to connect with ends of First and Chestnut Sts. Address City Clerk.

Montgomery, Ala.—Election to be held Nov. 7 to vote on constructing a concrete bridge across Tallapoosa River 4 miles below Montgomery, costing $60,000. T. H. Edwards, engr., Montgomery; W. F. Black, clk. bd. revenue, P. O. Box 574.

Mermenton, La.—State Highway Department, Baton Rouge, will construct concrete bridge across Mermenton River at Mermenton.

Fredericksburg, Tex.—County Comrs. plan constructing concrete bridge over Pedernales River at Austin Crossing.

Spokane, Wash.—Tentative plans being prepared for concrete bridge over south channel of river at Howard River; cost $15,000. Address City Clk.

London, Ont.—Plans will be prepared for a concrete building for galvanizing plant for McClary Mfg. Co. (W. N. Gartshore, mgr.); cost $60,000.

BIDS DESIRED.

Newark, N. J.—Until Sept. 21 (readvertisement) by Bd. Street and Water Comrs. (M. R. Sherrerd, ch. engr.) for constructing steel railroad bridge over tracks of Central RR. of N. J. at Port St., to consist of two reinforced concrete abutments, four reinforced concrete piers, with necessary piling, advertised in this issue.

Ebensburg, Pa.—Until Sept. 22, by Co. Comrs. for constructing reinforced concrete girder bridge, over Laurel Run in West Taylor Township. Herman T. Jones, co. controller; O. P. Thomas, consulting engr., Leader Bldg., Johnstown, Pa.

Norristown, Pa.—Until Sept. 21, by Wm. D. Heebner, county compt., for repairs to stone arch bridge over Towamencin Creek, constructing three-span concrete slab bridge over Swamp, constructing two-span slab bridge over Minister Creek, and three-span concrete slab bridge over Sandy Run, and other bridge work throughout the county.

Dana, W. Va.—Until Oct. 7, by P. J. Walsh, engr. and genl. supt. road constr., Charleston, for a 60-ft. reinforced concrete bridge over Campbells Creek, near Dana.

Fairmont, W. Va.—Reported desired until Sept. 20 by Frank J. Wilfong, co. rd. engr., for constructing concrete bridges across Paw Paw Creek at Grays Flat, Prickett Creek, Mill Fall Run, and Ices Run.

Arcadia, Fla.—Until Oct. 18, by Bd. Co. Comrs. (A. L. Durrance, clk.), for constructing reinforced concrete bridge approximately 4700 ft. long, with draw span, 50 ft. clear opening, and 2100 lin. ft. causeway, to be monolithic beam and slab structure supported on concrete piles, hydraulic fill, protected by reinforced concrete sheet piling. H. S. Jaudon Eng. Co., engrs., Savannah, and Bartow, Fla.

Bay Minette, Ala.—Reported desired until Oct. 3, by Co. Bd. for 380 ft. steel or reinforced concrete bridge over Little River.

Monroeville, La.—Reported desired until Oct. 3 by County Comrs. for constructing 80-ft. steel concrete or reinforced concrete span bridge with about 300-ft. wooden pile approach across Little River. C. E. Barker, co. engr.

Circleville, Ohio.—Reported desired until Oct. 10, by Fred. A. Nicholas, co. aud., for constructing steel and concrete bridge over Salt Creek. W. C. Row, co. engr.

Brookville, Ind.—Until Oct. 2, by Comrs. Franklin Co., for constructing several concrete bridges and one steel and other bridge work. C. G. Reifel, co. aud.

Illinois.—By State Highway Comn., Springfield, for constructing bridges as follows:

Until Sept. 20:

Hull, New Canton bridge, concrete, 3 spans, 50 ft., 16-ft. roadway. Engineer's estimates, $9,680. Same bridge of steel, $11,220.

Watertown, Wis.—Reported desired until Sept. 19, for constructing reinforced concrete bridge, 24-ft. span and 18-ft. roadway. F. N. McHugh, town chmn.

Anoka, Minn.—Reported desired until Sept. 22, for constructing 30-ft. beam span on reinforced concrete abutments across Cedar Creek, and a 30-ft. beam span across Seelye Creek, and a 14-ft. beam span with alternate plans for reinforced concrete slab across Crooked Brook. Arthur A. Gaswell, co. aud.

Kansas City, Mo.—Until Sept. 28, by Bd. Pub. Wks., for constructing a reinforced concrete arch bridge over Brush Creek at Troost Ave., cost $20,000; over McGee St. trafficway at Twenty-sixth St., cost $14,500; over Wyandotte St. on Thirty-first St., cost $11,700, and reinforced concrete masonry culvert at Fifty-first St. near Indiana Ave., cost $5,000. Victor H. Cockrane, engr. of bridges; Curtis Hill, city engr.

Santa Barzara, Cal.—Until Sept. 28, by Bd. Superv. (C. A. Hunt, clk.), for constructing reinforced concrete bridge over Gaviota Creek on line of State Highway; cost $11,560.

Santa Barbara, Cal.—Until Oct. 2, by Bd. Superv., Santa Barbara, for reinforced culvert bridge at Station 265 on Guadalupe Road, near Guadalupe; cost $2,000; and for Cat Canon Bridge at Sisquoc, Cal.; cost $7,000. Mayberry & Parker, Los Angeles, and Fred L. Johnson, Santa Barbara, engrs.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Buffalo, N. Y.**—Contract awarded John W. Cowper Co., Fidelity Bldg., for erecting 3 and 4-story and basement, 75 x 175 ft., reinforced concrete and brick addition to General Hospital, High and Elm Sts.; cost $200,000.

★**Philadelphia, Pa.**—Contract for constructing 3-story concrete cooler house for West Philadelphia Stock Yards Co. awarded to Irwin & Leighton, Twelfth and Cherry Sts., at $100,000.

★Contract for erecting additions to include 5-story building, 300 x 98 ft., reinforced concrete, and two buildings, one story, 312 x 91 ft. and one 75 x 384 ft., for Edw. C. Budd Mfg. Co., on Hunting Park Ave. and King St., awarded to F. W. Mark Constr. Co., Finance Bldg., at $375,000 Ballinger & Perrot, Methodist Bldg., archts.

Ohio.—See "Roads and Paving."

★**Michigan.**—Contracts awarded as follows by State Highway Dept., Lansing, for constructing trunk line bridge No. 66 over Huron River at French Landing Station, in Van Buren Township, Wayne County, substructure Meredith Constr. Co., Detroit, and superstructure, Elkhart Bridge & Iron Co., Elkhart, Ind.

★**Brawley, Cal.**—Contract for erecting reinforced concrete, 100 x 100 x 40 ft., cold storage building, timber icing dock 900 ft. long, frame and corrugated iron, 100 x 80 ft., ice factory, for Holton Power Co., awarded to F. L. Somers of Pomona. Contract for furnishing machinery to Vilter Mfg. Co.; total cost about $100,000.

★**Santa Barbara, Cal.**—Contract awarded W. M. Keadbetter, Los Angeles, for constructing reinforced concrete bridge over Arroyo Quemado at Sta., 306 x 00 Sect. F., at $40,150. Next three lowest bidders: S. M. Kerns, Long Beach, $41,775; Snare & Triest, Los Angeles, $44,944, and Jacobs Constr. Co., Los Angeles, $47,973. Mayberry & Parker, Los Angeles, and Fred L. Johnson, Santa Barbara, engrs.

ROADS AND PAVING

PROPOSED WORK.

Olean, N. Y.—City Council considering paving portion of W. State St. in the spring; cost $50,000. Address City Clk.

Bordentown, N. J.—State Rd. Dept. and Burlington County Freeholders (Mt. Holly, county seat), are taking steps to straighten road between Trenton and Bordentown by abolishing "Dead Man's Curve."

Elizabeth, N. J.—City Council will issue $42,000 street improvement bonds. Address City Clk.

Florence, N. J.—Jas. Logan, Mount Holly, is engr. on a $60,000 concrete curb and sidewalks job here.

Glen Ridge, N. J.—Street paving bonds for $55,000 will be sold Sept. 25, by Borough Council, John A. Brown, clk.

Hohokus, N. J.—Borough Council will grade and macadamize five streets; cost $19,300. Address Borough Clk.

Mount Holly, N. J.—Board of Freeholders authorized survey for change in alignment on present improved road, Bordentown to Trenton, estimated to cost $6,000; also survey of Camden Pike, Moorestown, to Camden Co. line; estimated cost $35,000. Jas. Logan, engr., Mount Holly.

Newark, N. J.—Board of Street and Water Comrs. plan repaving High St. with granite, pave Mapes St. with brick and Salem St. with asphalt, all on 6-in. concrete foundation. M. R. Sherrerd, ch. engr.

New Brunswick, N. J.—City Commission plans paving Stratford Pl. with 6-in. concrete pavement. Address City Clerk.

Newton, N. J.—Election to be held to vote on $12,000 bonds for extension of concrete road on Spring St.

Board of Freeholders will spend $11,000 for constructing Beemerville-Branchville Rd.; work will be done by day labor. Harvey Snook, co. engr.

Trenton, N. J.—City Commission plans constructing about a mile of boulevard on South Broad St. Address City Clerk.

City Commission will expend about $40,000 to extend Passaic St. across Delaware and Raritan Canal and construct bridge over same. Address City Clerk.

Pittsburgh, Pa.—City Council considering paving portions of Broadway at $50,000; Wenzel Way, $30,000, and Westfield St., $28,000. Robert Swan, dir. pub. serv.

Somerset, Pa.—County Comrs. will improve ½ mile road at Bakersville; cost $25,000.

Spring City, Pa.—City Council will issue $20,000 street paving bonds. Address City Clk.

Charleston, W. Va.—Big Sandy Road Improv. Dist. bonds for $170,000 will be sold Sept. 25. Address M. P. Malcolm, pres. Kanawha County Court.

Harrisville, W. Va.—County Court sold $240,000 road bonds.

Beaufort, N. C.—See "Waterworks and Sewerage Systems."

Greenville, S. C.—Election to be held Sept. 26 to vote $65,000 additional street paving bonds (about $130,000 to be spent); $25,000 sewer extension, and $60,000 city hospital bonds (about $100,000 to be spent). W. F. B. Haynsworth, city engr.

Atlanta, Ga.—City Council rescinded former action awarding contract for paving Peachtree St. from Fifteenth St. to city limits and will ask new bids at once. Address City Clk.

Jacksonville, Fla.—Board of County Comrs. will construct permanent sand-clay road from end of Dinsmore brick road to county line, completing last link of Dixie Highway. For further information address L. L. Meigs, chmn. of bd.

Election to be held Oct. 15 to vote on $60,000 road bonds and $14,000 Federal funds for hardsurfacing roads across county following old Spanish trail.

St. Cloud, Fla.—Citizens Sept. 5 voted $15,000 bonds for grading, paving and curbing streets. Fred B. Kenney, clk. and aud.

Birmingham, Ala.—Temporary injunction issued restraining Bd. of Revenue from entering into any contract for construction of proposed road from Birmingham to Warrior River, bids for which were to be opened Sept. 11.

Vernon, Ala.—Contract will soon be let by County Comrs. for constructing 15 miles of road which will complete route of proposed Jackson Highway through Lamar County.

Alexandria, La.—Rapides Parish Road Dist. No. 8 bonds for $60,000 will be sold Sept. 28, by T. C. Wheaton, pres. police jury.

Canton, Miss.—Dist. No. 1, paving bonds for $75,000; also Dist. No. 3, paving bonds for $50,000, will be sold Oct. 3, by Bd. Co. Comrs. (D. C. McCool, clk.).

Henderson, Ky.—City Council plans constructing river roadway from Fifth St. through Atkinson Park, about 2 miles. Address City Clk.

Cincinnati, Ohio. — City Council approved estimates for improving Ludlow Ave. from Cornell Pl. to Miami and Erie Canal, granite and bitulithic, $200,854, and all granite, $219,394.

New Concord, Ohio.—No bids received Sept. 6 by N. C. Trace, clk., for paving with brick and concrete on College and Depot Sts. and Montgomery Boule.

Warren, Ohio.—Road bonds for $18,000 will be sold Sept. 25 by Board County Comrs. (W. L. Hoffman, clk.).

Minneapolis, Minn.—City Council considering paving 15 miles of arterial streets including Cedar, Nicollet, Lyndale, Forty-fourth Aves. and other streets; cost $500,000.

Leavenworth, Kan.—Contract will soon be let for resurfacing about 45,000 yd. on Broadway with tar macadam. Address City Clerk.

Norfolk, Neb.—City Council considering paving 40 blocks in residential section. Address City Clk.

Omaha, Neb.—Reported steps being taken to construct brick road, 20 ft. wide, from east end of Locust St. viaduct to Carter Lake Club grounds, about 2 miles; cost $20,000. Address County Clk.

Great Falls, Mont. — City Council adopted resolutions grading Central Ave., $10,635; paving, grading, etc., Third Ave., $11,500. W. H. Harrison, city clk.

Forest City, Ark.—Construction of 45-mile strip of macadamized road between Marion and Forrest City, costing about $200,000, is under consideration. Brooks Norfleet, Forrest City, is interested.

Little Rock, Ark.—Surveys completed for improving by constructing asphalt macadam pavements, cement sidewalks and curbing on fifty-two blocks in Hillcrest. Henry Levinson, city engr.

Melbourne, Ark.—State Highway Dept., Little Rock, preparing surveys for road from Mt. Olive to Melbourne and from Melbourne to Guion. For further information address McGill, Little Rock.

Austin, Tex.—Attorney General approved $224,000 bond issue for Hardin County Rd. Dist. No. 3.

El Paso, Tex.—Plans submitted to City Council for paving Myrtle St., $91,337, Dallas St., $30,869. James Gladding, city engr.

Palestine, Tex.—City Council will pave public square and residential section; cost $25,000. Address City Clk.

Redwater, Tex.—Citizens voted $25,000 bonds for roads in Redwater Precinct.

Clinton, Okla.—Benham Eng. Co., Oklahoma, engaged as engineers for paving about 15 business blocks at a cost of $80,000.

Sand Springs, Okla.—Contract soon to be let for paving with asphaltic concrete at a cost of $110,000.

Aberdeen, Wash.—Reported City Council authorized surfacing of W. Boule.; cost $10,882. Louis Kelsey, city engr.

Enumclaw, Wash.—Reported City Council has postponed paving on seventeen blocks, costing between $22,000 and 24,000 until next spring. W. I. Lippard, city engr.

Everett, Wash.—Contract will soon be let for improving Wetmore Ave. by paving, grading, etc.; cost $19,645. Louis Lesh, city clk.

San Francisco, Cal.—Board of Public Works will pave Battery St., from California St. to the Embarradero with wooden blocks; cost $40,000.

Clifton, Ariz.—U. S. Forest Service and Supervs. Greenlee County will construct about 75 miles of road from Clifton to Springerville; cost $250,000. S. C. Redd, co. engr., Clifton; Paul Reddington, dist. forester, Albuquerque.

BIDS DESIRED.

Brooklyn, N. Y.—Until Sept. 21, by L. H. Pounds, pres. Brooklyn Borough, for regulating and repaving with permanent grade 1 granite pavement on 6-in. concrete foundation, in all about 4970 sq yd., and for sidewalks on Eighty-eighth St. Total security $10,200.

New Brighton, S. I., N. Y.—Until Sept. 20, by Calvin D. Van Name, pres. Borough Richmond, for regulating and repaving with vitr. brick pavement on concrete foundation, roadway of Westervelt Ave., in all about 6700 sq. yd. vitr. brick pavement, including mortar bed and cement grout joint. Security $9,000.

New Brighton, S. I., N. Y.—Until Sept. 21, for regulating and repaving with concrete paving on Willow Brood Rd. and Port Richmond Rd., in all about 12,600 sq. yd. concrete pavement, 4750 cu. yd. excav., etc. Security $9,000.

New Brighton, N. Y.—Until Sept. 22, by Calvin D. Van Name, pres. Richmond Boro., for regulating and repaving with granite block pavement on concrete foundation portions of Orient Ave., Louis St., in all about 3400 sq. yd., including sand bed and cement grout joints, together with curbing, etc. Security, $7,000.

Belmar, N. J.—Until Sept. 26 by Boro. Council for improving F St., about 15,150 sq. yd. one course concrete pavement. Clyde Potts, engr., 30 Church St., New York City.

Newark, N. J.—Until Sept. 28, by Bd. Street & Water Comrs. (Morris R. Sherrerd, ch. engr.), for paving portions of Porter Ave., Stengle Ave., in all about 5500 sq. yd. bitulithic pavement, together with curbing, etc.

Ridgefield Park, N. J.—Until Sept. 26, by Board of Commissioners, for improving Grove, also Gordon Sts., advertised in this issue. M. D. Starker, village clk.

Trenton, N. J.—Until Sept. 25, by State Rd. Dept., State House, for furnishing and applying 10,000 gals. of tar, grade N. or UB. as defined by Jersey State Specification and for furnishing in piles along road about 350 tons of dustless screening material, to be applied on Princeton-Bomer's Corner Rd. between Princeton and Rocky Hill. Edwin A. Stevens, comr. of roads.

Baltimore, Md.—Until Sept. 20, by Bd. of Awards, care City Register, for grading and paving with cement concrete sections of 25 alleys.

Baltimore, Md.—Until Sept. 27, by Bd. Awards, for grading and paving portions Lexington St., Etting St. and Gay Sts.

Maryland.—Until Sept. 26, by State Road Comn., 601 Garrett Bldg., Baltimore, for Contract A-A-11, Anne Arundel County, B-26, Baltimore County, and D-10 A, Dorchester County, advertised in this issue.

Roanoke, Va.—Reported desired until Sept. 21 by G. H. Tucker, city clk., for paving with waterbound macadam Commerce St., grading Ninth St. and macadamizing with binder on Second St. F. L. Gibboney, city engr.

High Point, N. C.—Until Sept. 28, for 40,000 sq. yd. and alternate bids for 100,000 sq. yd. paving sheet asphalt, bituminous concrete, brick and durax block considered. Arthur Lyon, city engr. Anderson & Christie, consulting engrs., Charlotte.

Ft. Lauderdale, Fla.—Until Sept. 25, by County Comrs. for approximately 6 miles of hard surfaced road, 75,000 yd. earthwork and corrugated iron pipe for culverts. Frank A. Ryan, clk. bd.; H. C. Davis, engr. to comrs.

Jacksonville, Fla.—Reported desired until Oct. 2 by L. D. Smoot, comr. pub. wks., for 1974 sq. yd. brick pavement, 3849 sq. yd. asphaltic concrete pavement.

Rockford, Ala.—Reported desired until Sept. 19 for constructing 23 miles of road. W. P. Noon, co. engr., Goodwater.

Grenada, Miss.—Until Oct. 2, by Co. Superv. (M. E. Powell, clk.), for constructing 50 miles sand clay road; amount available $100,000. Snowden & Hauser, engrs., Jackson.

Louisville, Ky.—Until Sept. 20, by Bd. Pub. Wks. (Roger G. McGrath, secy.), paving portions of Parker Ave., Thirty-fourth and Thirty-fifth Sts. Samples of vitr. block must be submitted.

Columbus, Ohio.—Until Sept. 21 by Bd. Co. Comrs. (John Scott, clk.) for furnishing material and constructing roads as follows: Draining and macadamizing Gerard Ave. Rd., Indianaola Ave. Rd. in Clinton Township, Clouse Rd. in Plain Township and Fairview Ave. Rd. in Franklin Township.

Coshocton, Ohio.—Until Sept. 21, by Sam Ashman, service safety dir., for paving portions of Seventh St., Chestnut St., Oak Ave. and other streets, in all about 8700 sq. yd.

London, Ohio.—Until Sept. 22, by John W. Byers, vil. clk., for constructing sidewalks, curbs and gutters on N. Water, S. Water, Toland and a number of other streets.

Ottawa, Ohio.—Reported desired until Sept. 26, by Chas. F. Heckman, vil. clk., for 11,584 sq. yd. glutean treatment on Second St.

Sebring, Ohio.—Until Oct. 9, by Harry Jenkins, vil. clk., for block pavement on Oregon Ave., Eighteenth and other streets, including 15,500 ft. stone curb Total cost $53,000. Village portion $13,600. H. C. Stratton, engr., Sebring..

Tiffin, Ohio.—Until Sept. 20, by Wm. Heller, dir. pub. service, for paving portions of North Washington St. and St. Clair Sts. with vitr. brick or block on crushed stone or concrete foundation, in all about 5214 sq. yd.

Indiana.—By County Commissioners, for constructing county roads as follows:

Until Oct. 2:

Fowler, constructing two roads in Gilboa Township, Warren Monkey, co. aud.

Versailles, constructing crushed-stone road in Laughery Township. J. Francis Lochard, co. aud.

Brookville, constructing about 15,400 ft. road in Brookville Township. C. G. Reidel, co. aud.

Until Oct. 3:

Monticello, constructing crushed-stone road, in Union Township. A. G. Fisher, co. aud.

Logansport, constructing road, in Clay Township. A. P. Flynn, co. aud.

Rennsselaer, stone roads in Gillman and Jordan Townships. Jos. P. Hammond, co. aud.

Vincennes, 11,200 ft. gravel road, in Johnson Township. J. I. Muentzer, co. aud.

Martinsville, gravel road in Jackson and Monroe Township. Sam Watson, co. aud.

Bloomfield, macadam roads in Strafford and Jefferson Townships. Geo. E. Kidd, co. aud.

Corydon, constructing gravel roads or macadam roads in Webster, Blue Ribbon and Harrison Townships. J. L. O'Bammon, co. aud.

Winamac, constructing gravel road. W. C. Munchenberg, co. aud.

Goshen, road in Concord Township. A. R. Bemenderfer, co. aud.

Until Oct. 4:

Frankfort, 5253 ft. gravel road in Forest Township. Edw. Spray, co. aud.

Until Oct. 5:

Laporte, constructing roads in Lincoln and Prairie Township. F. A. Hausheer, co. aud.

Until Oct. 25:

Brazil, constructing county line stone road and gravel road. Wm. O. Greaser, co. aud.

Berwyn, Ill.—Until Sept. 19, by Oscar N. Lindahl, secy. bd. local improvements, for paving portions of Sixty-second, W. Twelfth, Home Ave. and other streets with asphaltic concrete pavement, together with concrete combined curb and gutter.

Illinois.—Until Sept. 20, by State Highway Dept., Springfield, for constructing roads as follows:

Carbondale, Jackson Co., Sect. D, 7277 ft. bituminous macadam, engineer's estimate $12,376; Sect. E, bituminous macadam, 3600 ft., engineer's estimate $5,720; Sect. F, bituminous macadam, 3500 ft., engineer's estimate $6,120; Sect. G, bituminous macadam, 2245 ft., engineer's estimate $5,124.

Collinsville, Madison Co., Sect. C, bituminous macadam, 4125 ft., Troy Road, engineer's estimate $5,382.

Maryville, Sect. D, Madison Co., concrete, 4364 ft., engineer's estimate $8,179.

Hillsboro Montgomery Co., Sect. C, earth 20,900 ft., engineer's estimate $6,727.

Nokomis, Montgomery Co., Sect. E, earth 21,025 ft., engineer's estimate $6,637.

Kansas City, Mo.—Until Sept. 19, by Bd. Pub. Wks. (W. H. Benham, secy.), for furnishing material and paving portions of Fifty-first St., Dickinson and Baltimore Ave., and other streets with Portland cement concrete; Southwest Boule. with creosoted wood block; artificial stone sidewalks on Fifty-seventh, Thirty-second and other streets.

St. Louis, Mo.—Reported desired until Sept. 22 by Bd. Pub. Service, Rm. 315 City Hall, for improving portions of Bestrehan St. with brick, Lanham Ave. bitulithic and Locust St. concrete and asphalt. Estimated total cost $71,400.

Sidell, Ill.—Until Sept. 21 by Comrs. of Town Highways (Jas. Dodd, chmn.) for constructing about one mile concrete pavement, including grading, shaping of roadway, constructing all drainage, ditches, etc. Allen McKee, town clk.

Los Angeles, Cal.—Until Sept. 25, by Bd. Pub. Wks. (H. B. Ferris, secy.), for grading and constructing concrete paving, cement curb and gutter in Council St.; also asphalt paving in 11 blocks of Fourth St.

Riverside, Cal.—Until Sept. 20, by Bd. of Superv. (A. B. Pilch, clk.), for constructing concrete overhead crossing 80 ft. long and 18 ft. wide, over Southern Pacific Ry. tracks on county road ½ mile west of Beaumont; cost $14,000.

Santa Ana, Cal.—Until Oct. 4, by Bd. Superv. (W. B. Williams, clk.), for constructing 4-in. concrete paving 16 ft. wide on about one mile of Myford Road. County to furnish cement, sand, gravel and crushed rock.

Lasalle, Que.—Until Oct. 13, by F. Lafleur, Secy.-Treas., for macadam and concrete, to surface about 5 miles of roadway. Beique & Charton, engrs., Montreal.

Calgary, Alta.—Reported desired until Sept. 25 by City Engr. for purchasing from city one No. 11 Warren portable asphalt and repair plant.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Holly Springs, Miss.**—Following are bids opened Sept. 3 by Byhalia Road Dist. Comrs. for constructing 9.9 miles of road, including about 79,000 cu. yd. earth excav.: McTighe & Hughey, Memphis, Tenn., 17.9 cts. per cu. yd. (awarded contract); Anderson, Oxford, Miss., 19.85 cts.; Roper Bros., Memphis, Tenn., 20 cts., and A. L. Dumus, Memphis, Tenn., 20 cts. G. W. McCleskey, engr., 11 S. Second St., Memphis, Tenn.

Massachusetts. — Following are three lowest bids opened Sept. 5 by Massachusetts Highway Comn., Boston, for constructing Highways:

★Town of Upham.—Chas. E. Horne, Millburk, $15,745 (awarded contract); Perini Constr. Co., Ashland, $17,207, and B. E. Savage, Worcester, $17,545.

Town of Uxbridge (not yet awarded).—Luchini-Mazani, Milford, $12,617; Chas. E. Horne, Millbury, $13,875, and R. H. Newell Co., Uxbridge, $12,930.

Towns of Arlington-Lexington (not yet awarded).—John A. Gaffey, Medford, $20,175; M. DeMatteo, Roslindale, $24,620, and Fred E. Ellis, Melrose, $25,610.

★**Albion, N. Y.**—Contract awarded for paving E. Bank St. with Albion brown sandstone blocks on concrete foundation to Hempdt & Washington, Monticello, at $9,618.

New York, N. Y.—Lowest bid opened Sept. 7 by Douglas Mathewson, pres. Bronx Boro, for constructing bituminous concrete on cement concrete foundation on College Ave., about 6860 sq. yd., submitted by W. F. Presley, 108 E. 119th St., at $11,461, and 5100 sq. yd. sheet asphalt pavement on Southern Boule. by Asphalt Constr. Co., Madison Ave. and 137th St., at $16,686.

Oscar Daniels, Woolworth Bldg., submitted, Sept. 11, to Douglas Mathewson, pres. Bronx Boro., lowest bid for laying sidewalks, etc., on E. 213th St., at $22,179, and on Dyre Ave., at $22,806.

Hackensack, N. J.—Following are bids opened Sept. 5 by H. W. Durham, co. engr., Oradell, for improving Belleville Turnpike: Engineer's estimate $18,928. Chas. T. Kavanaugh, 34 W. Fifty-fifth St., Bayonne, 94 per cent; R. J. Emmer, 150 Nesbit St., Weehawken, 99½ per cent; Northern Constr. Co., 655 Broad St., Newark, 110½ per cent; Standard Bitulithic Co., 31 Market St., Newark, 114 per cent.

Newark, N. J.—Following is unit figures of J. D. Geiger, 80 Hartford St., low bidder for repaving Roseville Ave. from Orange St. to Springdale Ave. (bids opened Sept. 7 by Bd. Street & Water Comrs.): 15,000 sq. yd. 4-in. wood block on old concrete, $2.34; 400 cu. yd. on concrete, $5.20; 3000 lin. ft. 16 x 5-in. curb set in concrete, 78 cts.; 3000 lin. ft. old bluestone curb reset in concrete, 35 cts.; 500 lin. ft. old bluestone curb reset at driveways, 35 cts.; 200 lin. ft. 16 x 5-in. four cut corners, set in concrete, 12-ft. radius, $1.20; 3000 sq. ft. cement walk, 5-in. thick, 16 cts.; 2 new basins with single inlet, $100; 4 new inlet basins, $100; 2 new basins, using old granite heads, retrimmed, $100; 2 new inlets to basins, $25; 1 old granite head, reset, $3; 21 new iron manhole heads and covers as per plan, $15; total $42,643. Total of next three lowest: Glenfield Constr Co., $47,477; Newark Paving Co., 133 First St., $48,450; O'Gara & Maguire, 127 Frelinghuysen Ave., $48,781.

★**Plainfield, N. J.**—Contracts for paving with macadam on Leland, Sumner, Kensington, Edgewood and Stelle Aves., in all about 30,850 sq. yd., awarded Hickey & Houghton, Inc., Somerville, at $26,437. And. J. Garrett, street comr.

★**Moundsville, W. Va.**—Contract for paving about 1 mile of Green Valley Road (bids opened Sept. 5), awarded by Co. Comrs. to R. J. McFadden, Moundsville; R. C. Yoho, co. surv.

★**Stacy, N. C.**—Contract for constructing 4½ miles of roads (bids opened Aug. 21) awarded by J. O. Maron, road comr., to J. W. Boon, Newport.

★**Atlanta, Ga.**—Contract awarded by City Council to Southern Tile & Stone Co., Birmingham, for paving Greenwood Ave. from Ponce de Leon Pl. to Frederika St. with natural lake asphalt.

Boston, Mass.—Following are unit figures of four lowest bids opened Sept. 11 by Edw. F. Murphy, comr. pub. wks., for paving on various streets—(I) sheet asphalt, (II) Topeka, (III) bitulithic: (a) D. M. Biggs & Co., 60 March St., Dorchester, (I) $179,242, (II) $180,140; (b) Quinlan & Robertson, Montreal, Que., (I) and (II) $180,557; (c) Coleman Bros., Chelsea, Mass., (I) $183,685, (II) $184,135, (III) $183,685; Warren Bros. Co., 142 Berkely St., Boston, (III) $189,297.

Items	(a)	(b)	(c)	(d)
1—Removing 41 trees and stumps	$500.00	$400.00	$400.00	$550.00
2 A—24,465 cu. yd. earth excav	0.75	0.75	0.75	0.74
2 B—20 cu. yd. earth excav. for water boxes	2.50	1.30	1.00	1.25
2 C—390 cu. yd. rock excav	6.00	4.50	5.00	4.00
3 A—27,320 lin. ft. straight edgestone laid	0.22	0.24	0.24	0.26
3 B—2,481 lin. ft. circular edgestone laid	0.16	0.16	0.20	0.21
3 C—1,284 lin. ft. edgestone reset	0.16	0.14	0.20	0.18
5 A—55 sq. yd. granite block hauled and laid gravel joints	1.00	0.60	0.70	0.55
5 B—185 sq. yd. granite block relaid gravel joints	0.70	0.70	0.60	0.65
5 E—210 sq. yd. granite blocks hauled and laid grout joints	1.70	1.50	1.60	1.80
5 F—245 sq. yd. granite blocks relaid grout joints	1.60	1.40	1.50	1.70
6 B—15 sq. yd. granite blocks relaid gravel joints	0.70	0.50	0.70	0.50
6 E—70 sq. yd. granite blocks hauled and laid grout joint	1.70	1.45	1.50	1.45
6 F—215 sq. yd. granite block relaid grout joint	1.60	1.25	1.25	1.40
7 A—44,895 sq. yd. asphalt laid, including base	1.98	2.02	2.10	...
7 B—44,895 sq. yd. Topeka laid, including base	2.00	2.02	2.11	...
7 C—44,895 sq. yd. bitulithic laid, including base	...	...	2.10	2.16
7 D—8,845 sq. yd. brick blocks furnished and laid, including base	2.95	2.90	2.85	2.95
7 E—35 sq. yd. wood block furnished and laid, including base	4.00	3.35	3.50	3.65
8 B—30 sq. yd. brick blocks relaid	0.60	0.25	0.30	0.35
9 A—201,395 sq. yd. artificial stone sidewalks laid	0.15	0.15	0.15	0.155
9 B—1,620 sq. yd. artificial stone driveways	0.17	0.16	0.16	0.165
9 C—24 lin. ft. artificial stone curbstone	2.00	1.00	1.00	1.00
11 A—5,950 sq. yd. loam furnished and seeded	0.60	0.70	0.60	0.75
12 A—1,300 lin. ft. wood fencing, Type 1	0.50	0.40	0.50	0.45
12 B—44 lin. ft. wood fencing, Type 2	2.00	1.25	2.00	2.00

New York, N. Y.—Following are unit figures of four lowest bids opened Sept. 7 by Douglas Mathewson, pres. Bronx Boro., for sheet asphalt pavement on concrete found. on University Ave.: (a) W. F. Presley, 108 E. 119th St., $78,675; (b) Asphalt Constr. Co., Madison Ave. and 137th St., $82,706; (c) Barber Asphalt Paving Co., Woolworth Bldg., $84,731; (d) Uvalde Asphalt Paving Co., 1 Bway., $88,029.

	(a)	(b)	(c)	(d)
22,750 sq. yd. sheet asphalt outside railway area	$1.15	$1.33	$1.585	$1.25
6,810 sq. yd. inside railroad area	1.15	1.33	1.45	1.25
2,210 sq. yd. asphalt block pavement outside railway area	1.95	2.10	2.35	2.25
1,120 sq. yd. inside railway area	2.00	2.10	2.15	2.25
6,090 cu. yd. Class B concrete	5.30	5.00	4.25	66.00
1,600 lin. ft. new bluestone curb	0.90	0.90	0.80	0.90
5,750 lin. ft. old bluestone curb	0.35	0.35	0.30	0.50
3,120 lin. ft. concrete curb, including maintenance for 1 yr.	0.77	0.80	0.74	0.85

★**Lexington, Miss.**—Contract awarded Inland Constr. Co., Chandler, Okla., by County Commissioners, for constructing 40 miles of gravel roads in Holmes Co., Dist. No. 1, at $145,000, including all materials except gravel for surfacing and pipes for culverts. (Bids opened Sept. 1.)

★**Louisville, Ky.**—Contract awarded by Bd. of Pub. Wks. to K. A. Barker, Louisville, at $37,000, for paving Lyons Ave., from Barbee St. to Shipp Ave., with concrete.

★Contracts awarded by Bd. of Pub. Wks. to J. A. Cahill, Louisville, for paving portions of Bloom, McHenry Sts. and alleys with vitrified blocks at total of $12,300.

★**Newport, Ky.**—Contract awarded by City Comn. to Metzel & O'Hearn, Covington, at $11,536, for paving Tenth St., from C. & O. bridge to corporation line, with wood block.

★**Columbus, Ohio.** — Contracts awarded by Pub. Serv. Dir. for improving streets as follows: To A. W. Burns & Co., Columbus, paving Tulane Rd., from High St., at $25,040; Detroit Ave., from Summit Ave. to East Alley, $7,096; Cleveland Trinidad Asphalt Co., 420 Lakeside Ave., Cleveland, pave Longview Ave., from High St. to Beech Hill Ave. with asphalt, at $17,427.

Ohio.—Following are lowest of bids opened Aug. 31 by Clinton Cowen, state highway comr., Columbus, for state highway work:

Coshocton Co., Sect. A, Walhonding-Newark Rd., New Castle and Perry Township, length 2.37 miles, waterbound and surface treated macadam, Lee, Griggs & Anderson, Millersburg, $8,519.

Cuyahoga Co., Sect. A, Cleveland-Sandusky Rd., 5.34 miles, Elyria Constr. Co., Elyria, brick, $157,836; Pace Bros., Cleveland, bitulithic concrete and Hillside brick (2-B), $157,403; Johnson Constr. Co., Chicago, bitulithic concrete and Hillside brick (a-C), $159,007.

Erie Co., Sect. J., Columbus-Sandusky Rd., Groton Township, 4 miles waterbound macadam, Buckeye Eng. Co., Norwalk, $37,035.

Franklin Co., Sect. F, Columbus-Lancaster Rd., Marion Township, 1.32 miles, solid natural lake asphalt (no bids received).

Highland Co., Sect. M-2, Milford-Hillsboro Rd., Liberty Township, 0.41 miles waterbound macadam, Basil Lunsford, Pedro, $1,400. Sect. D, West Union-Belfast Rd., 1.75 miles waterbound macadam, Bean & Co., Highland, $7,303.

Jackson Co., Sect. H and h, Jackson-Ironton Rd., Village Oak Hill and Jefferson Township, 1.08 miles brick, Chas. and Geo. P. Mahl, Ironton, Contract No. I, $25,892, and No. II, $3,169.

Knox Co., Columbus-Wooster Rd., Clinton Township, concrete girder bridge and substructure over Dry Run. Lewis Pickering, Bellefontaine, $2,200.

Pickaway Co., Sect. A, Circleville, Adelphi Rd., 5.1 miles waterbound gravel, Wesley E. Justus, Circleville, $17,663.

Seneca Co., Sect. O, Lima-Sandusky Rd., Liberty Township, C. W. Sprout & J. H. Murphy, Burgeon, $11,988.

Warren Co., Sect. A and B, Morrow-Lebanon Rd., length 2.82 and 4.47 miles respectively, waterbound macadam (no bids received).

★**Xenia, Ohio.**—Contract for paving East Main, Riger, Columbus, Monroe and other streets (bids opened Aug. 29) awarded by city to Andrews Asphalt Paving Co., Hamilton, as follows: 21,500 sq. yd. sheet asphalt, $1.98 per sq. yd.; 27,600 lin. ft. curb and gutter, 55 cts.; 1820 lin. ft. circular curb, 75 cts.; 1580 lin. ft. protection curb, 25 cts.; 34 inlets, $17; 13 manholes, $40; 3500 lin. ft. 15-in. sewer, 70 cts.; total, $43,608. J. P. Shumaker, city engr.

★**Fort Wayne, Ind.**—Following contracts awarded by County Comrs. for constructing roads: To A. H. Fry, Fort Wayne, for 14,696 ft. of Feighner lower Huntington Rd. at $16,489; Rider Webster, Fort Wayne, for 10,514 ft. of Simmer's Rd., Monroe Township, at $9,538.

★**Rushville, Ind.**—Contract awarded by County Comrs. to Charles E. Redington, Greensburg, at $15,615, for constructing 15,320 ft. road in Posey Township.

★**Shelbyville, Ind.**—Contract awarded by County Comrs. to D. H. Fatout, Indianapolis, at $24,929, for constructing Bassett Rd. in Hanover Township.

★**Waterloo, Ind.**—Contract awarded by County Comrs. to G. W. Condon, Omaha, at $25,181, for grading and gravelling five sample, detached miles of model highway.

★**Kaukana, Wis.** — Contract awarded Western Constr. Co., 343 S. Dearborn St., Chicago, for paving Lawe St. with Aztec sheet asphalt.

★**Milwaukee, Wis.**—Contract awarded by Dept. Pub. Wks. to Dean Constr. Co., Milwaukee, at $10,448 for paving alleys in Eighteenth Ward.

George Czerwinski, Milwaukee, at $10,084 submitted lowest bid to Dept. Pub. Wks. for granite block pavement on Clinton St. from Virginia to Oregon Sts.

★**Sheridan, Mont.**—Reported City Council awarded contract to Warren Constr. Co., Portland, at $25,000, for bitulithic pavement.

★**Cartersville, Mo.**—Contract for paving Main St. (bids opened Sept. 7), awarded W. T. Burrus, Cartersville. A. M. Baird, city attorney.

★**Kansas City, Mo.**—Contract awarded by City Council to J. W. McMurry Constr. Co., 709 Sharp Bldg., at $19,450 for constructing temporary approach to Twenty-third St. viaduct.

★**Austin, Tex.**—Contract awarded by Comrs. Court to Finley Method Co., Houston, at $44,000, for treating 10 miles of San Antonio-Austin Rd. with tarvia.

★**Waxahachie, Tex.**—Contract awarded by City Council to Taylor, Walker & Bell, Dallas, at about $40,000, for paving about 1 mile of Ferris Ave.

Colfax, Wash.—Reported County Comrs. rejected bids for grading and gravelling Permanent Highway No. 12. Bert Bragg & Co., Colfax, at $82,217, submitted lowest bid. John M. McCaw, co. engr.

Seattle, Wash.—Lowest bid submitted to City Council for grading, etc., Forty-seventh St., S. W., by L. H. Goerig, 3611 E. Terrace St., at $23,135.

Following bids opened recently by Bd. of Pub. Wks. for paving Alki Ave. with (a) asphalt, (b) concrete; D. E. Traphagen, Alaska Bldg., (a) $26,207, (b) $25,853; G. Argentieri & Co., 989 Rainier Ave., (a) $26,661, (b) $28,079; Jahn Constr. Co., Pioneer Bldg., (a) $28,523, (b) $29,054, and Coluccio & Niblett, 1642 Lane St. (a) $29,056, (b) $28,701.

★**Bakersfield, Cal.**—Contract awarded John D. Marsh, 155 Wilson Blk., Los Angeles, for (a) improving 8.4 miles Bakersfield-McKittrick Rd. between Bowerbank and Lokern, at $34,317, and (b) grading, surfacing with broken stone and constructing culverts on 8.51 miles Randsburg-Johannesburg-Stringer Dist., Div. 12, at $43,483. Other bids were: White & Gaskell, Long Beach, (a) $37,878; Coast Constr. Co., 1419 E. Twenty-ninth St., Los Angeles, (a) $43,359; Cornfield & Davis, Los Angeles, (a) $43,375; Lynn S. Atkinson, Investment Bldg., Los Angeles, (b) $49,668; Mesmer & Rice, Marsh-Strong Bldg., Los Angeles, (b) $52,056; George S. Benson & Sons, Los Angeles, (b) $54,944.

★**Huntington Beach, Cal.**—Following are bids opened Sept. 4 by City Trustees for improving Seventeenth St., involving 311,651 sq. ft. concrete pavement, 1911 lin. ft. concrete and corrugated pipe culverts, etc.: L. G. Garnsey, 514 Central Bldg., Los Angeles, at $51,256 (awarded contract); California Constr. Co., Los Angeles, $53,240, and George R. Curtis, Los Angeles, $53,369.

★**Los Angeles, Cal.**—Contract awarded by City Council to Fairchild-Gilmore-Wilton Co., Pacific Electric Bldg., at $20,936, for improving Eleventh St., San Pedro Harbor District, involving 101,108 sq. ft. grading, 55,962 sq. ft. concrete pavement with bituminous surface, 45,146 sq. ft. warrenite pavement on bituminous base, 7631 sq. ft. cement walk.

Contract awarded by Board Supervs. for constructing 10.63 miles concrete pavement on Sect. D Mint Canyon Rd. to Bent Bros., 825 Central Bldg., at $127,137.

★Following are lowest bids opened recently by Bd. of Pub. Wks. for improving Gaffey St., San Pedro Dist., involving 158,058 sq. ft. grading and bitulithic paving, 25,250 sq. ft. cement walk, granite block gutters, etc.: Fairchild-Gilmore-Wilton Co., Pacific Electric Bldg., at $33,229 (awarded contract); Bryant & Austin, Los Angeles, $34,555, and California-Arizona Constr. Co., Los Angeles, $35,005.

Newport Beach, Cal.—S-C Contr. Co., 543 Title Insurance Bldg., Los Angeles, was lowest bidder at about $20,000 for constructing concrete pavements, cement curbs and walks on First and other streets (bids opened Sept. 4 by City Trustees).

★**Riverside, Cal.**—Contract awarded by Bd. of Supervs. to Conner Contr. Co., 709 Higgins Bldg., Los Angeles, at $10,136, for constructing 2.85 miles of concrete pavement on Santa Ana Canyon Rd., Route 1, east from Orange County line.

San Diego, Cal.—Following are four lowest bids opened recently by City Council for grading and constructing concrete pavements on McCall St. and other streets in La Playa: E. A. McAlpin, San Diego, $24,470; John Engebretson, San Diego, $25,036; Jonas Hanson, San Diego, $25,489, and California-Arizona Constr. Co., Los Angeles, $28,100.

★Contract awarded for above work to E. A. McAlpin, San Diego.

Santa Ana, Cal.—Following are four lowest bids opened Sept. 6 by Bd. of Supervs. for constructing about 2 miles of earth road in Santa Ana Canyon, about 8 miles northeast of Olive, involving about 17,120 cu. yd. excavation, etc.; Brashear-Burns Co., Van Nuys Bldg., Los Angeles, $20,205; Clay Kellogg, Santa Ana, $23,994 (alternate bid); R. H. McCray, Los Angeles, $21,723, and Richard Rothwell, $21,747.

★**Santa Barbara, Cal.**—Contract for asphalt pavement on Anacapa and Valerco Sts. (bids opened Sept. 7), awarded by A. B. Cook, city engr., to A. L. Pendola, Santa Barbara, at $11,603.

★**Stockton, Cal.** — Contract awarded Paul & Caldwell, care City Clk., at $13,828, for paving Scott Ave. and Van Buren and Monroe Sts. G. W. Pulich, city clk.

★**Vallejo, Cal.**—Unit figures of Worswick Constr. Co., Los Banos, successful contractor for street improvement including 56,248 cu. yd. excav., 48 cts.; 754,315 sq. ft. concrete base for asphalt concrete pavement, 7.92 cts.; asphaltic concrete surface, 1-in. thick, 751,715 sq. ft. 2.31 cts.; 18,326 sq. ft. concrete brick pavement, 26 cts.; 21,362 sq. ft. concrete sidewalk 11.5 cts.; 38,527 lin. ft. concrete curb, 40 cts.; corrugated iron culverts, guard rail, etc. Alfred E. Edgcumbe, city clk.

Ventura, Cal.—Following are four lowest bids opened Sept. 7 by County Supervs., for grading and constructing culverts on 2.08 miles of Santa Susanna Pass Rd., Div. 10, Sect. 2, involving 55,000 cu. yd. excavation, 690 ft. 18 to 36-in. corrugated iron pipe in culverts, 780 lb. reinforcing steel: C. L. Hyde, Constr. Co., 333 Spreckles Bldg., San Diego, $27,884; C. H. Hudson, Trust & Savings Bldg., Los Angeles, $27,899; S-C Contr. Co., 543 Title Insurance Bldg., Los Angeles, $31,153, and J. S. Hiland, Los Angeles, $31,609.

RAILWAYS
Steam and Electric

PROPOSED WORK.

Dover, N. J.—Reported Delaware, Lackawanna & Western RR. (G. J. Ray, ch. engr., Hoboken) will double track its line from Hoboken to Dover.

St. Clair, Pa.—Schuylkill Ry. Co. of Girardville contemplates constructing power plant at St. Clair.

Sharpsburg, Pa.—Reported Pennsylvania RR. (Alex. Shand, ch. engr., Philadelphia), contemplated constructing new classification yard at Sharpsburg; $500,000 appropriated.

Lynchburg, Va. — Reported Southern Ry. (B. Herman, ch, engr. M. W. and structures, Washington, D. C.), will make extensive improvemnts here.

Winchester, Va.—Julian Monroe, Kingwood, is ch. engr. for Winchester & Western RR., which is to be constructed from Winchester to Gainesboro, through Gore and Black Creek Valley, to Wardensville, W. Va. Ward & Larrick, attorneys, Winchester.

Fairmont, W. Va.—Reported Monongahela RR. (D. K. Orr, ch. engr.), is to be extended from Fairmont to Clarksburg and on to Belington.

Greensboro, N. C.—Southern Ry. (B. Herman, ch. engr. M. W. and Structures, Washington, D. C.), it is reported, plans improvements costing $200,000.

Kinston, N. C.—Plans being prepared for construction of line from Kinston south toward Wilmington. Address F. I. Smith, secy. Chamber Commerce.

Detroit, Mich.—Reported Pennsylvania RR. (Alex Shand, ch. engr., Broad St. Station, Philadelphia), plans extensive freight and passenger terminal improvements here.

Santa Ana, Cal.—San Pedro, Los Angeles & Salt Lake RR. intends constructing the Santa Ana branch, from Pico to Santa Ana, about 25 miles, and will let contract early in 1917. Arthur Maguire, ch. engr., 539 Pacific Electric Bldg., Los Angeles; H. C. Nutt, genl. mgr., Los Angeles.

Holbrook, Ariz.—Western Pine Lumber & Mill Co. (F. H. Bowen, pres., Red Key, Ind.) contemplates constructing 120-mile railroad from Holbrook to White Mountain lumber district, work to begin about February.

Wockenburg, Ariz.—A. L. Garford, Elyria, Ohio, is reported planning constructing standard gage railroad from Wockenburg to Sayre, 16 miles.

BIDS DESIRED.

New York, N. Y.—Until Sept. 28, by Public Service Comn. for First Dist., 120 Broadway., for constructing railroad yard in connection with the White Plains Road extension of first subway, one block east of White Plains Road at 239th St.

Niagara Falls, N. Y.—Reported desired by City Manager for all work for elimination of College Ave. grade crossing except excavation and steel work, awarded by New York Central RR.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Trenton, N. J.** — Contract reported awarded by Pennsylvania RR. to John A. Kelly Co., Philadelphia, for eliminating grade crossings at Whitehead Rd. and E. Clinton Ave. on main line.

★**Richmond, Va.**—Contract for excavation work on James River branch of Richmond, Fredericksburg & Potomac Ry, awarded to Winston & Co., American National Bank Bldg., at about $150,000.

★**Belmont, N. C.**—Contract awarded by Southern Ry. Co. to Robert Russell, Charlotte, for constructing 1.3 miles of line at Belmont.

★**Marengo, Wis.**—Contract for completing Marengo, Lake Geneva & Northern Ry. from Marengo to Delevan awarded to Cortland Engineering Co., 42 Bway., New York.

New York, N. Y.—Following are unit figures of bids opened Sept. 8 by Public Service Comn. for First Dist., 120 Broadway, for installation of tracks on 7th Ave.-Lexington Ave. line from Broadway and 43d St. to Battery and from West Broadway and Murray St. to Fulton and Joralemon Sts.: (a) Engel & Hevenor, 220 Broadway, $229,440; (b) Thos. Crimmins Constr. Co., 444 E. 69th St., $248,475; (c) T. H. Reynolds Constr. Co., Inc., 1480 Broadway, $260,010.

Item.			(a)	(b)	(c)
6	25 cu. yd.	For concrete masonry in place	$10.00	$8.00	$13.00
9-D	20 cu. yd.	For removal of concrete masonry	25.00	30.00	28.00
17-E	50 Net ton.	For furnishing and delivering c.-i. pipe, tees, and elbows	60.00	60.00	90.00
25	10 Net ton.	For furnishing and delivering c.-i. head hole frames and covers	80.00	25.00	90.00
1028	21,000 each.	Installing anticreepers	.10	.10	.10
1050	59,000 lin. ft.	(a) Type I Track, tang, and curves over 2,000 ft. rod	.89	1.10	.95
	10,700 lin. ft.	(b) Type I Track, curves of 2,000 ft. to 701 ft. radius	1.44	1.64	1.20
	8,000 lin. ft.	(c) Type I Track, curves under 701 ft. radius	1.66	1.66	1.40
1052	23,500 lin. ft.	(a) Type II Track, tang, and curves over 2,000 ft. radius	4.02	4.05	4.80
	850 lin. ft.	(b) Type II Track, curves of 2,000 ft. to 701 ft. radius	5.01	4.59	5.00
	100 lin. ft.	(c) Type II Track, curves under 701 ft. radius	5.17	4.61	5.20
1056	12,000 lin. ft.	(a) Type IV Track, tang and curves over 2,000 ft. radius	2.02	2.42	2.80
	265 lin. ft.	(b) Type IV Track, curves of 2,000 ft. to 701 ft. radius	2.60	3.00	3.00
	1,600 lin. ft.	(c) Type IV Track, curves under 701 ft. radius	2.80	3.02	3.20
2140A	Installing Special Portion 140 complete		7.56	7.90	8.30
2141A	Installing Special Portion 141 complete		5.12	5.20	7.50
2142A	Installing Special Portion 142 complete		18.00	13.08	14.30
2143A	Installing Special Portion 143 complete		5.42	5.60	7.50
2144A	Installing Special Portion 144 complete		16.20	11.40	14.30
2145A	Installing Special Portion 145 complete		10.12	10.20	12.30
2147A	Installing Special Portion 147 complete		6.01	6.20	7.50
2148A	Installing Special Portion 148 complete		5.89	6.10	7.50
2149A	Installing Special Portion 149 complete		5.69	6.00	7.50
2153A	Installing Special Portion 153 complete		5.96	4.50	7.50
2154A	Installing Special Portion 154 complete		13.14	11.55	13.20
2155A	Installing Special Portion 155 complete		13.18	11.60	13.20
2156A	Installing Special Portion 156 complete		5.96	6.20	7.40
2157A	Installing Special Portion 157 complete		5.12	5.30	7.40
2161A	Installing Special Portion 161 complete		6.01	6.10	9.10

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Brooklyn, N. Y.—Plans being prepared by Kreymborg Architectural Co., Southern Blvd. and 163rd St., New York, for 4-story 50 x 63-ft., factory and 26 x 30-ft. stable, which Chas. A. Wheeler contemplates erecting on Grant Ave.; cost $75,000.

Buffalo, N. Y.—Schoeffkopf Aniline & Chemical Wks. plans $140,000 brick addition to dye works and five-story warehouse; cost $202,700.

New York, N. Y.—Plans prepared by E. A. Baxter Engineering & Appraisal Co. of Buffalo for a 6-story, 100 x 145 ft. building to be erected at Corlear and Water Sts. for Standard Milling Co.; cost $150,000.

Plans prepared by W. E. Wood Co. for 3-story, 100 x 150 ft. salesroom and service station to be erected at Fifty-seventh St. and Eleventh Ave. by Edgar F. and John S. Appleby and leased to Chevrolet Motor Car Co.; cost about $60,000.

Kearny, N. J.—Nairn Linoleum Co., Kearny, will erect addition to storage building and drying rooms; cost $50,000.

Johnstown, Pa.—Reported contract soon to be let for erecting dairy and refrigerating plant at Locust St. and Sugar Alley for Somerset Dairy Co-Operation (W. M. Baker, mgr.); cost about $60,000.

Philadelphia, Pa.—Plans being prepared by Heacock & Hokanson, Bailey Bldg., for a 4-story brick and concrete factory building for Keystone Spinning Mills. Co.

Tinius Olsen Testing Co., 500 N. Twelfth St., plans erecting four-story 50 x 60-ft. addition to factory.

Claymont, Del.—Contract soon to be let for erecting steel frame and concrete plant for Victor Motor Co., 206 W. Ninth St., Wilmington, about 5 miles from Wilmington.

Wilmington, Del.—Plans completed for $50,000 factory which the Wilmington Leather Co. intends erecting at Webb and Greenhill Sts.

Charlottesville, Va.—H. E. Young & Co., Pittsburgh, plans to erect wood extract plant in Charlottesville; cost $150,000.

Oxford, N. C.—Bob Jeffries of Chase City, Va., and associates, will erect box factory at Oxford, N. C.; cost $100,000.

Colon, S. C.—Southern State Steel Corp. chartered with $100,000 capital to build bridges and structural steel work and will erect a fabricating plant.

Cleveland, Ohio.—Reported Swift & Co., 3181 W. Sixty-fifth St., will erect 4-story steel, concrete and brick addition to plant and 3-story addition to fertilizer house.

Plans being prepared for factory to be erected on Harvard Ave. and E. Forty-ninth St. for Cleveland Co-Operative Stove Co. (J. H. O'Brien, secy.), 2323 E. Sixty-seventh St.; cost, about $200,000.

Golconda, Ill.—Golconda Portland Cement Co. proposes erecting plant here to cost $1,000,000. W. A. Calhoun of Paducah, Ky., engr.

Green Bay, Wis.—New England Supply Co. of Providence, R. I., will erect a factory in Green Bay; cost about $350,000.

Sioux City, Iowa.—Chicago, Milwaukee & St. Paul Ry. Co. (C. F. Loweth, ch. engr., Chicago, Ill.) plans erecting shops and roundhouse here to cost about $1,000,000.

Great Falls, Mont.—Reported Chinook Elevator & Milling Co., Great Falls, will erect 50-bbl. capacity flour mill and 30,000-bu. capacity grain elevator.

Galveston, Tex.—Reported C. H. Koster of Alvin is secy.-treas. of Reville Rice Assoc., which proposes erecting $1,000,000 plant here.

Walla Walla, Wash.—Extensive improvements to Gilbert Hunt plant, manufacturers of "Pride of Washington" separators and feed mills, contemplated. Address Secy. Commercial Club for information.

Modesto, Cal.—Borden Condensed Milk Co. will erect a factory in Modesto; cost $100,000.

Monolith, Cal.—Bd. of Superv. appropriated $50,000 for additions and improvements to county's cement plant at Monolith.

Bisbee, Ariz.—Reported Copper Queen Consolidated Mining Co., Bisbee, plans erecting 2500-ton capacity concentrating plant to handle ores from Sacramento hill.

Chicoutimi, Que.—The sawmills of A. Gagnon, recently destroyed, will be rebuilt; cost $50,000.

Montreal, Que.—Automobile Club of Canada plans erecting club house, garage and workshops to cost $1,000,000. G. A. McNamee, 909 New Birks Bldg., may be able to give information.

Fergus, Ont.—See "Prices and Lettings."

Galt, Ont.—Dominion Bldg. Products Co. (W. J. Heron, mgr.), will equip new brick-making plant to be operated by electrical machinery; cost $1,000,000.

Toronto, Ont.—Wm. F. Green, care Cameron & Crooks, Royal Bank Bldg., will prepare plans and supervise construction of a 20-stamp mill for Tashorn Mines Co.

Chocolate plant of Harry Webb Co., Buchanan St., recently destroyed by fire, will be rebuilt and new machinery installed.

BIDS DESIRED.

Taylor, Tex.—By city for equipments of all kinds for the by-products of the municipal abattoir together with necessary equipment for abattoir. W. E. Dozier, city mgr.

PRICES AND LETTINGS.

★Indicates award of contract.

★East Deerfield, Mass.—Contract reported awarded by Boston & Maine RR. to H. Wales Lines Co., Meriden, Conn., for erecting a brick and steel, 40 ft. high, 170 ft. wide, 200 ft. long, locomotive shop; cost $80,000.

Buffalo, N. Y.—See "Reinforced Concrete."

★Plattsburg, N. Y.—Contract awarded by Underwood Paper Co. (Thos. F. Adriance, vice-pres. and mgr., Glens Falls) to R. H. Rhinelander, Glens Falls, for erecting 2-story 100 x 80-ft. mill and 2-story 25 x 50-ft. machine shop; cost $90,000.

★Philadelphia, Pa.—Contract for erecting brick packing house on Noble and Darien Sts. for John Morell & Co., awarded to John N. Gill & Co., 1215 Filbert St.; cost $50,000.

★Wm. Steele & Sons Co., 1600 Arch St., have contract for erecting six-story 376 x 400-ft. factory at Twenty-fifth and Reed Sts., for S. B. & B. W. Fleisher; cost $120,000.

★Pittsburgh, Pa.—Contract awarded Edw. A. Wehr, 6101 Penn Ave., for erecting fireproof factory and warehouse at Chartiers Ave. and Rebecca St., Northside, for National Casket Co.; cost $70,000.

★Reading, Pa.—Contracts reported awarded by Carpenter Steel Wks. for erecting open-hearth furnace department to L. H. Focht & Son, Reading, and to Beard Constr. Co., Reading, for new machine shop; total cost $150,000.

★Cincinnati, Ohio.—Contract awarded M. J. Roche Constr. Co., 609 Johnston Bldg., for erecting $200,000 factory for F. H. Lawson Co., Evans, Whatley and Boston Sts. Elzner & Anderson, 136 Ingalls Bldg., archts.

★South Bend, Ind.—Jas. Stewart Co., Inc., 30 Church St., New York, secured contract to erect 150 x 1100-ft. foundry and 300 x 900-ft. machine shop for Studebaker Corp., Main and Bronson Sts.

★Fergus, Ont.—Contract for erecting brick and concrete factory addition for Beatty Bros. awarded J. W. Oakes, Guelph; cost $50,000. New machinery to be purchased.

★Port Colborne, Ont.—Contract awarded by International Nickel Co., 42 Exchange Pl., New York, to The Foundation Co., Ltd., New York and Montreal, Que., for constructing refinery here.

★Toronto, Ont.—Wells Bros., 96 Gould St., secured contract to erect abattoir buildings for Wm. Davies Co., 521 Front St.; cost $500,000.

BUILDINGS Public and Private

PROPOSED WORK.

Holyoke, Mass.—Revised plans prepared for isolation hospital; appropriation $60,000. J. J. White, mayor.

Providence, R. I.—Plans being prepared for 10-story addition to Rhode Island Hospital Trust Co.'s building.

Bridgeport, Conn.—Health and Charities Boards considering erecting public welfare building; $75,000 available. F. W. Behrens, Jr., pres. Charities Bd.

Stamford, Conn.—At October town meeting steps will be taken to provide site for proposed Junior High School to cost $250,000.

Brooklyn, N. Y.—Plans filed for erection of parochial school to be erected at Sidney Pl. and Livingston St. for Church of St. Charles Borromeo; cost about $90,000.

R. F. Almirall, 185 Madison Ave., New York, reported architect for 4-story, 475 x 430 ft., brick library to be erected at Flatbush Ave. and Plaza; cost $5,000,000.

New York, N. Y.—Chas. B. Meyers, 1 Union Sq., is architect for four 5-story tenement houses, to be erected on Grand Boulevard and 167th St. for Dulcet Holding Co.; total cost about $260,000.

Plans completed by Moore & Landsiedel, Third Ave. and 148th St., for 5-story, 65 x 100 ft. flat house, to be erected at 180th St. and Valentine Ave., for Chas. Schlesinger; estimated cost $70,000.

Kreymborg Architectural Co., 1029 E. 163d St., is crath. for two 9-story buildings to be erected at Daly Ave. and 181st St. for S. Shapiro; total cost $100,000.

Niagara Falls, N. Y.—Y. W. C. A. building is to be erected at Main and Fourth Streets; cost $66,000. Address Secretary Y. W. C. A.

Asbury Park, N. J.—Plans prepared by McKim, Mead & White, 101 Park Ave., New York, for an auditorium to be erected in Asbury Park on site of Bradley auditorium; cost $500,000. Address City Clerk.

Trenton, N. J.—All bids for erecting fire alarm and police telegraph building and garage rejected. New bids will be received by City Comn.; cost about $65,000.

Chester, Pa.—Plans being prepared by Clarence W. Brazer, 1133 Bway., New York, for a municipal building; cost $65,000.

Easton, Pa.—Plans being prepared by Wm. H. Michler, Easton, for 3-story and basement, 236 x 193 ft. main building; 3 story, 165 x 230 ft. nurses' home, and 3 story, 113 x 53 ft. steam-heating plant of brick, granite and limestone, to be erected for Easton Hospital Association; cost $150,000.

Gettysburg, Pa.—Election in November to vote $70,000 bonds to erect new high school. Address Clk. School Bd.

Greenville, Pa.—C. C. and A. L. Thayer of New Castle, engaged to prepare plans for school for which $125,000 bonds were recently voted. Address Bd. of Educ.

Philadelphia, Pa.—Contract soon to be let by Peuckert & Wunder, archts. and engrs., 310 Chestnut St., for erecting 4-story and basement brick and reinforced concrete bakery at 209 N. Fifth St.

Pittsburgh, Pa.—McClure & Spahr, 320 Fourth Ave., engaged to prepare plans for proposed West End High School. Address Bd. of Educ.

Plans prepared by Rutan & Russell, Magee Bldg., for 4-story garage, to be erected on Forbes St., for Aaron DeRoy Motor Car Co.; estimated cost $80,000.

Baltimore, Md.—Crain & Ferguson, 15 Beacon St., Boston, Mass., are architects for one- and three-story stone edifice and parish house to be erected for Mt. Calvary Church; cost $200,000.

Montgomery, Ala.—Election to be held Oct. 17 to vote $300,000 bonds for erecting city hall. Address Board Commissioners.

Akron, Ohio.—Reported plans prepared for Masonic Temple to be erected at Mill and High Sts.; cost $240,000.

Holland, Mich.—Tentative plans prepared for five-story hotel which Hermanus Boone, owner of Hotel Holland, proposes erecting; cost about $100,000.

Rocky River, Ohio.—Plans being prepared by W. C. Owen & Co., 1900 Euclid Ave., Cleveland, for studio buildings to be erected here for Midland Film Co., 453 Leader-News Bldg., Cleveland; cost about $150,000.

Detroit, Mich.—North Woodward Methodist Episcopal Church plans erecting new edifice to cost $350,000. Rev. M. S. Rice, pastor.

Leon, Iowa.—Erection of a Roman Catholic Church costing about $60,000 contemplated here.

Minneapolis, Minn.—Plans being prepared for extensive additions to Curtis Court and Leamington Hotel, Tenth St. and Third Ave. S.; cost, about $750,000.

Leavenworth, Kan.—Election to be held Sept. 19 to vote $150,000 bonds for erecting city hall.

Bozeman, Mont.—Reported Fred F. Willson, Bozeman, engaged to prepare plans for 65 x 90-ft. brick and terra cotta moving picture theater to be erected for Gallatin Amusement Co.; cost about $50,000.

Bellaire, Tex.—Co. Comrs. contemplating erecting brick and fireproof building for Harris County School for Girls at Bellaire. Address Co. Clk.

Galveston, Tex.—Plans prepared by A. J. Bellis, 1403 Twenty-third St., for proposed 10-story hotel contemplated at Tremont and Market Sts.; cost about $168,000. C. H. Moore, 2722 H St., reported interested.

Alva, Okla.—Citizens voted $75,000 school bonds. Address School Bd.

Long Beach, Cal.—See "Piers, Dams and Foundations."

Los Angeles, Cal.—City Bd. of Pub. Service (J. A. Vroman, secy.), Knickerbocker Bldg., will probably erect a 10-story building at Fifth and Olive Sts. for city departments.

Merced, Cal.—Trus. Merced Union High School Dist. (M. H. Robinson, secy.), will soon select architect to prepare plans for proposed $150,000 high school.

Visalia, Cal.—Board of Supervisors appointed committees to secure plans for hospitals and hall of records, each to cost about $80,000.

Idaho Falls, Idaho.—Bd. County Comrs. considering issuing $100,000 bonds for erection of courthouse. F. W. Jordan, clk. Bonneville County.

St. John, N. B.—Plans being prepared by Neil Brodie, 42 Princess St., for brick and steel powerhouse and laundry to be erected at Public Hospital; cost $50,000.

London, Ont.—L. H. Carrothers, Bank of Toronto Bldg., is architect for stone, concrete and brick hydro office building and show rooms which the London Hydro Comn. (E. V. Buchanan, genl. mgr.) proposes erecting; cost $75,000.

Ottawa, Ont.—Bowles Lunch Co., 149 Yonge St., Toronto, intends erecting brick and stone restaurant; cost $50,000.

BIDS DESIRED.

Albany, N. Y.—See "Excavation, Drainage and Dredging."

Brooklyn, N. Y.—Until Sept. 25, by C. B. J. Snyder, supt. school bldgs., New York City, for erecting School No. 16, on the northerly side of Wilson St. Separate bids for plumbing and drainage. Security, $44,000.

East View, N. Y.—Until Sept. 21, by Co. Bldg. Comn, 15 Court St., White Plains (Arthur W. Lawrence, chmn.), for erecting, including heating and plumbing, almshouse at East View. Walker & Gillette, Archts., 128 E. Thirty-seventh St., New York City.

New York, N. Y.—Until Sept. 21, by F. J. Kracke, comr. of plants and structures Manhattan Borough, for interior finish of tower of municipal building. Security $12,000.

Bayonne, N. J.—Until Oct. 20, by Jas. A. Wetmore, superv. archt., Treas. Dept. Washington, D. C., for erecting U. S. Postoffice.

Garfield, N. J.—Until Sept. 21 by Bd. Educ. (James Peacock, vice-pres.) for erecting high school. Probable cost $90,000.

Du Bois, Pa.—Until Oct. 19 by Jas. A. Wetmore, acting superv. archt., Washington, D. C., for construction of U. S. post office, advertised in this issue.

Florence, S. C.—Until Sept. 21, by J. B. McBride, co. superv., for erecting a brick and concrete jail building for county. W. J. Wilkins & Co., archts., Williamson Bldg., Florence.

Cartersville, Ga.—Reported desired until Sept. 20 by Paul Gilreach, mayor, for erecting municipal building. Edward & Sayward, archts., 633 Candler Bldg., Atlanta.

Nashville, Tenn.—Reported desired until Sept. 20, by Wm. Nelson, chmn. com. bd. educ. for erecting Warner School. Asmus & Norton, archts., 634 tSahlman Bldg.

Bucyrus, Ohio.—Reported desired until Sept. 26 by Geo. E. Ryan, clk. bd. educ., for erecting school of composite type for Township Consolidated Rural School Dist. D. E. Schureman & Son, archts., Delaware.

Cleveland, Ohio.—Reported desired until Sept. 22, by Comr. Purchases and Supplies, for erecting comfort station.

Pleasant City, Ohio.—Until Oct. 11, by Sarah Affleck, clk. bd. educ., for erecting a school. Matheny, Allen & Mounts, Archts., Huntington Bank Bldg., Columbus.

Benton, Ind.—Reported desired until Sept. 19, by Dr. Wade Taylor, school trus., for erecting two-story 118 x 74 ft. brick and stone high school.

Detroit, Mich.—Until Sept. 26, by Bd. Educ. (Chas. A. Gadd, secy.), for erecting a 20-room school on McMillan Ave. Separate bids for heating, ventilating, electric wiring, etc.

Jackson, Mich.—Until Sept. 22, by Bd. Educ. (Geo. W. Scotford, secy.), for erecting East Intermediate school on E. Main St. and Page Ave. Separate bids for plumbing, heating and ventilating. Claire Allen, Dwight Bldg., Jackson.

Chicago, Ill.—Reported desired until Sept. 20 by P. Gerhart, archt., 65 W. Randolph St., for erecting a 10-story, 90 x 160 ft. hotel. Probable cost $460,000.

Jesup, Iowa.—Until Sept. 19 (extension of date), by Bd. of Ed., Consolidated Dist. (R. L. Bordner, secy.), for erecting high and grade school 2-story and basement, 98 x 159 ft. Separate bids for heating, etc. Cost $75,000. H. E. Netcott, Archt., Independence.

Anoka, Minn.—Reported desired until Oct. 1 by State Bd. Control, St. Paul, for erecting 3-story, 55 x 96 ft. hospital. C. H. Johnston, 715 Central Bank Bldg., St. Paul, archt.

Ottawa, Kan.—Until Oct. 11, by H. W. Chaffee, clk. bd. educ., for erecting fireproof school. Geo. P. Washburn & Son, Archts., Ottawa.

Seneca, Kan.—Until Sept. 26, by John T. Campbell, city clk., for furnishing material and erecting city hall. Geo. A. Shaul, Archt., Seneca.

Mitchell, S. D.—Until Sept. 20 (readvertisement), by John C. Chapman, archt., Sioux Falls, for erecting Methodist State Hospital.

Webster, S. D.—Reported desired until Jan. 1 by Bd. Educ. (Oscar Grus, clk.), for erecting high school. Holmes & Flinn, 8 Dearborn St., Chicago.

Collinsville, Okla.—Until Sept. 20, by Pub. Library Bd. (H. C. Bollman, secy.), for furnishing material and erecting a library. Geo. P. Washburn & Son, archts., Ottawa.

Okmulgee, Okla.—Later official reports state bids desired until Sept. 28, by Bd. Co. Comrs., for furnishing material and erecting 4-story fireproof construction, including heating, plumbing, electrical work, county jail and court building. G. W. Goree, co. clk.

Pueblo, Col.—Until Sept. 30, by City Council, for erecting a municipal auditorium and city hall. Cost $220,000. Wm. W. Stickney, archt., Pueblo; John Jackson, city clk.

PRICES AND LETTINGS.

★Indicates award of contract.

Milton, Mass.—Following are three lowest bids opened recently by Killam & Hopkins, archts., Boston, for erecting addition to Vose school: Morgan Constr. Co., Milton, $160,156; Magahey & O'Connor, Cambridgeport, $160,178 and Jos. Slotnick, Chelsea, $162,000.

★New Britain, Conn.—Contracts for erecting new Burritt School awarded as follows: General contract, T. W. Crowe, 64 Grove Hill St., $118,000; heating and ventilating, Stone & Underhill, Boston, Mass., $11,287; plumbing, M. A. Schaffer Co., Bristol, $6,100; wiring, Spring & Buckley Electric Co., 79 Church St., $3,924.

New York, N. Y.—Following are four lowest bids opened Sept. 11 by Bd. Educ. for general construction and structural steel and ironwork for Manhattan Trade School for Girls at Lexington Ave. and Twenty-second St.: General construction—Thos. Dwyer, Bway. and 216th St., $228,000; Frymier & Hanna Co., 25 W. Forty-fifth St., $229,400; John Kennedy & Co., 1133 Bway., $231,000; John H. Parker Co., 315 Fourth Ave., $239,535. Structural Steel and Ironwork—Milliken Bros., Inc., 111 Bway., $80,000; The Hinkle Iron Co., 534 W. Fifty-sixth St., $86,000; Hay Foundry & Iron Wks., 15 Madison Sq. N., $86,480; H. C. Stowe Constr. Co., $88,100. Lowest for plumbing and drainage submitted by Wells & Newton Co., Ave. B. and Seventeenth St., at $24,365.

Plainfield, N. J.—Following are four lowest bids on general construction opened Sept. 5 by John J. Carroll, city clk., for erecting city hall: P. F. Kenny Co., 33 Old Broadway, New York, $102,000; Norman Ker Co., 1123 Broadway, New York, $104,800; John T. Brady & Co., 103 Park Ave., New York, $109,511; John Lowry, Jr., Inc., 8 W. Fortieth St., New York, $110,866. Lowest on other parts of work: Plumbing, Dennis Galbraith, Plainfield, $3,165; heating, Miller & Brady, 217 E. Thirty-fifth St., New York, $4,079; also electric work at $1,446.

★Philadelphia, Pa.—Contract for constructing recreation building at Fifty-first St. and Kingessing Ave. for city awarded to Frank G. Stewart, 4953 Hazel St., at $126,500.

★Contracts for erecting 2-story and basement stone addition to Northeast High School reported awarded as follows: General construction, Thos. Reilly, 1616 Thompson St., at about $332,815; heating, A. McClintock, 1937 Ridge St., $72,218; electrical equipment and wiring, J. F. Buchanan & Co., 1719 Chestnut St., $20,770; plumbing, Bowman Bros., $16,649.

★Pittsburgh, Pa.—Contract awarded J. E. Welland & Co., Pittsburgh, for erecting Wallace Apartment Bldg., Craig St. and Fifth Ave.; cost $300,000.

★Ridley Park, Pa.—Contract for erecting 2-story, brick and terra cotta high school reported awarded Wills-Ludwick & Co., Philadelphia; cost about $65,000.

★Athens, Ala. — Contract for erecting courthouse awarded Little-Cleckler Constr. Co., Anniston, at $124,700.

★Covington, Ky.—Contract awarded by Samuel Hannaford & Sons, archts., Sixth and Vine Sts., Cincinnati, to John J. Craig, 24 W. Ninth St., for erecting $100,000 office building for German Mutual Fire Insurance Co., Pike St. and Madison Ave.

Cincinnati, Ohio.—Following bids opened Sept. 5 for erecting Y. W. C. A. building at Canal and Elm Sts.: David Hummel Bldg. Co., 2629 Spring Grove Ave., $370,000; J. M. Roche Constr. Co., 609 Johnston Bldg., $356,300; Ferro Concrete Constr. Co., Richmond and Harriet Sts., $339,740; Carroll Blake Constr. Co., Birmingham, Ala., $319,142.

★Cleveland, Ohio.—Contract for fireproof floor construction for Winton Hotel awarded to Goldsmith Metal Lath Co., 53 Central Ave., Cincinnati, at $40,000.

★Crowell-Lundoff-Little Co., 1951 E. Fifty-seventh St., secured contract for erecting 1-story, 241 x 304 ft., brick, steel and concrete addition for White Co., St. Clair Ave. and E. Seventy-ninth St.; estimated cost $200,000.

★Eaton, Ohio.—Contract for erecting 3-story 74 x 146-ft. court house and jail awarded to J. M. Roche Constr. Co., 609 Johnston Bldg., Cincinnati, at $196,866. Bids opened Aug. 26 by County Commissioners. Richards, McCarty & Bulford, archts., 1001 Hartman Bldg., Columbus.

★Ft. Dodge, Iowa.—J. C. Mardis Co., Des Moines, secured contract to erect 4-story annex to Wahkonsa hotel, at about $125,000.

★Irwin, Iowa.—Contract awarded C. C. Norgaard, Council Bluffs, for erecting high and grade school, at $48,890; heating, Schollman Bros., Omaha, at $11,745; electric work, Standard Electric Co., St. Joseph, $1,746. Peter Steenhusen, secy. bd. directors consolidated independent school district.

★Knoxville, Iowa.—Contract awarded J. E. Tusant & Son Co., Des Moines, at $55,386 for erecting high school; electric work, Marion Co., Knoxville, $19,427. L. G. Dowell, secy. bd. educ.

★St. Louis, Mo.—Contract for erecting 20-story Hotel Statler at Ninth St. and Washington Ave. awarded Westlake Constr. Co., Mercantile Bldg.; cost $2,000,000.

★Antigonish, N. S.—Contract for erecting brick and stone library and gymnasium for St. Francois Xavier University awarded to J. J. Grant, South St., New Glasgow, at $50,000.

★McAdams Junction, N. B.—Henry Post, Woodstock, has contract for erecting powerhouse and other buildings for Canadian Pacific Ry.; cost $50,000.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Waterbury, Conn.—Chas. H. Preston, Waterbury, has prepared plans for Dam No. 2 which the manufacturers of Naugatuck Valley will construct to impound the waters of Lead Mine Brook. Dam to be 1300 ft. long, 142 ft. high and will contain 800,000 cu. yd. cyclopian masonry.

Mobile, Ala. — Reported Louisville & Nashville RR. (W. H. Courtenay, ch. engr., Louisville, Ky.) will spend $78,600 to rehabilitate coal docks here. Plans provide for electrically operated hoists and other machinery.

Natchez, Miss.—City Council reported considering constructing breakwater to protect waterworks from Mississippi River. Address City Clk.

Cresco, Iowa.—No bids received Sept. 6 by J. H. Howe, Cresco, for rebuilding dam on Upper Iowa River.

Beaumont, Tex.—Citizens voted $230,000 bonds for improvements to docks, including two additional units of municipal wharves, $45,000 for machinery at warehouse wharf No. 2 and 1000 ft. quay wall.

Hamlin, Tex.—City will let contract in about 40 to 60 days for constructing a concrete dam across California Creek; also about 1½ miles of 12-in. c.-i. pipe for city water supply; cost $50,000. H. C. Hord, city engr.

Seattle, Wash. — Reported Seattle Constr. & Dry Dock Co. (C. W. Wiley, pres. and genl. mgr.), intends constructing floating dry dock; cost about $400,000.

BIDS DESIRED.

Albany, N. Y.—See "Excavation, Drainage and Dredging."

Buffalo, N. Y.—Until Sept. 21 by Lighthouse Inspector, Buffalo, for rebuilding wharf ,etc., at Sandusky Bay Lighthouse Depot (Cedar Point), Ohio.

Tompkinsville, N. Y.—Until Sept. 29, by J. T. Yates, lighthouse inspector, Tompkinsville, for furnishing and placing riprap foundations for Hunts Point Light Station, Hunts Point, N. Y.

St. Louis, Mo.—Reported desired until Sept. 29 by Bd. Pub. Service for constructing municipal dock at N. Market St., 900 ft. long, concrete on wooden piling; cost $200,000.

Seattle, Wash.—Until Sept. 20 by Port Commission of Seattle (C. E. Remsberg, secy.) for erecting two-story transit shed extension on the existing substructure of Wharf No. 2, East Waterway Terminal; also for supplying cement to proposed grain elevator storage annex in East Terminal Waterway Improvement, and constructing grain elevator storage annex foundations of East Waterway Terminal. G. F. Nicholson, ch. engr. port comn.

Port Stanley, Ont.—Until Sept. 29 by R. C. Desrochers, secy. dept. pub. wks., Ottawa, for constructing extension to west breakwater at Port Stanley.

Vancouver, B. C.—Until Sept. 25, by J. G. Sullivan, ch. engr. Canadian Pacific Ry. Co., Winnipeg, Man., for constructing jetty pier in Vancouver.

PRICES AND LETTINGS.

★Indicates award of contract.

★Cincinnati, Ohio.—Contract for foundation work for $80,000 plant of Globe Register Co., McMillan St., near Reading Road, awarded Ferro Concrete Constr. Co., Richmond and Harriet Sts.

Albany, N. Y.—Following are unit figures of four lowest bids opened Sept. 6 by W. W. Wotherspoon, state supt. pub. wks., for Terminal Contract No. 31, constructing a dock wall and approach at Lyons: (a) Engineer's estimate $57,925; (b) Lupfer & Remick, Buffalo, $51,654; (c) Chesley, Earl & Heimbach, Inc., 20 Breckenridge St., Buffalo, $51,923; (d) J. A. LaPorte, Mechanicsville, $53,426; (e) State Highway Constr. Co., Beacon, $55,495.

	(a)	(b)	(c)	(d)	(e)
1 clearing (lump sum)	$25.00	$25.00	$1.00	$25.00	$25.00
1 cofferdam, pumping, bailing and draining (lump sum)..	27,000.00	27,000.00	15,500.00	24,000.00	24,500.00
15,400 cu. yd. excavation	.50	.10	.60	.45	.55
10,400 cu. yd. forming embankment..	.05	.05	.05	.05	.05
6.2 M ft. sawed lumber.....	70.00	70.00	80.00	50.00	70.00
500 lin. ft. wooden fence.....	.30	.30	.30	.30	.30
2,800 cu. yd. second-class concrete.	7.00	7.00	8.40	6.90	6.75
1,620 lb. c.-i. pipe	.035	.04	.035	.035	.035
1,220 lin. ft. 4-in. drain tile.....	.12	.12	.12	.12	.12
220 lb. structural steel	.07	.08	.07	.07	.07
4,100 lb. iron castings, plain.....	.05	.06	.05	.05	.05
500 lin. ft. malleable c.-i. nosing..	1.30	1.30	1.30	1.30	1.30
82 fender fastenings (ea.)	1.50	1.50	1.50	1.50	1.50
70 lin. ft. metal curb protection.	.35	.35	.35	.35	.35
650 cu. yd. gravel surfacing.....	1.50	1.25	1.50	1.00	1.50
500 lin. ft. w.-i. pipe railing.....	.60	.60	.60	.60	.60

★Port Colborne, Ont.—Contract awarded Kenneth Morrison, Port Colborne, for constructing extension of reinforced concrete to breakwater; cost $25,000.

★Vancouver, B. C.—Contract reported awarded by City Council for constructing retaining wall, etc., on Coal Harbor Causeway to Cotton & Co., Ltd., Vancouver, at $40,985.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Miami, Fla.—Reported constructing a drainage system on land adjoining Tamiami trail, costing $20,000, is under consideration. Capt. J. F. Jaudon, Miami, may be able to give information.

Marks, Miss.—Indian Creek Drainage Dist. received estimates and surveys for proposed drainage system for 44,000 acres of delta land in Panola, Tunica and Quitman counties at a cost of $240,000. Address County Clerk.

Marion, Ohio.—Directors of Upper Scioto Drainage & Conservancy Dist., including Chas. W. Smith of Mt. Victory, adopted official plan for district improvement; estimated cost, $296,400.

Crookston, Minn.—Reported construction of a judicial ditch in Roseau and Marshall counties costing $90,000 is under consideration. Address County Clerk.

Auburn, Neb.—Contract to be let early in new year by Superv. of Drainage Dist. No. 3 for 3500 acres involved in Muddy Creek; estimated cost $55,000. J. F. Relf, engr., Falls City.

Falls City, Neb.—Contract soon to be let by Supervs. Drainage Dist. No. 4, for draining 3400 acres; estimated cost $100,000. J. F. Relf, co. engr.

Modesto, Cal.—Citizens voted $465,000 bonds for constructing Waterford Irrigation Dist. Address Clerk of District.

Paradise, Cal.—Directors of Paradise Irrigation Dist. have been asked to approve plans for building dam at Magalia to store 80 ft. of water, and building first unit of the distributing system.

BIDS DESIRED.

Albany, N. Y.—Until Oct. 3, by W. W. Wotherspoon, state supt. pub. wks., for state canal work as follows: Contract No. 2-G, Erie Canal, Sect. 1, constructing spillway at Waterford side-cut adjacent to Barge Canal Lock 2, and installing taintor gate with operating equipment; Contract No. 44-A, Erie Canal, Sect. 5, constructing canal prism near Junction Lock at New London, length 0.6 miles; Contract 132, Erie Canal, Sect. 5 and 6, constructing lighthouse range, towers, beacon, etc., on Oneida and Onondaga lakes; Contract 133, Erie Canal, Sect. 4, constructing Junction lock at Mohawk; Terminal Contr. No. 48 on east side of Genesee River at Rochester.

Until Oct. 10, by W. W. Wotherspoon, state supt. pub. wks., for following: Contract 59, Erie Canal, Sect. 9; Contract No. 81, Erie Canal, Sect. 5; Contract No. 137, Erie Canal, Sect. 3; Contract No. 91-A, Erie Canal, Sect. 1, and Terminal Contract No. 201, advertised in this issue.

Lumberton, N. C.—Trenching machine excavation for 3 miles of water and sewer lines at Lumberton. Want machine to cut 15 ft. deep and 20 to 22 in. wide. Work to be done immediately. Want price per cu. yd. for any depth up to 15 ft. on a basis of 7000 cu. yd. Address W. M. Wilkes, Durham.

Charleston, S. C.—Until Oct. 7 by Bureau Yards and Docks, Navy Dept., Washington, D. C., for dredging in Cooper River, from Charleston Harbor to the Navy Yard.

Greenwood, S. C.—Until Sept. 19 by Comrs. Rileys Drainage Dist. to dredge streams of Turkey, Mulberry and Mars Creek, about 13 miles; ditches varying from 14 to 24 ft. at bottom with one-half to one ft. side slope. Work can be done with floating dipper dredge. W. A. Sanders, engr., Anderson.

Indianapolis, Ind.—Reported desired until Sept. 22 for widening Fall Creek. Probable cost $100,000. B. J. T. Jeup, city engr.

Terre Haute, Ind.—Reported desired until Sept. 20 by Prairie Creek Levee Assoc., 401 Star Bldg., for constructing drainage ditches in Vigo and Sullivan Counties.

Ada, Minn.—Until Sept. 19, by D. E. Fulton, co. aud., for constructing ditch and 10 laterals in Lockhart Township. J. H. Baugh, engr., Warren, Minn.

Mankato, Minn.—Until Sept. 21 by C. L. Kennedy, co. aud., for constructing Judicial Ditch No. 9, Blue Earth County, in all about 74,435 ft. 6 to 36-in. tile, constructing concrete head wall, etc. Estimated cost $37,549.

Owatonna, Minn.—Until Sept. 30, by M. J. Parcher, co. aud., for constructing county ditch No. 4, to consist of about 16,739 ft. tile, concrete, manholes, etc. Geo. A. Ralph, engr., Fulton Blk., St. Paul.

PRICES AND LETTINGS.

★Indicates award of contract.

Albany, N. Y.—Following are unit figures of four bids opened Aug. 30 by W. W. Wotherspoon, state supt. pub. wks., for Contract 135, Erie Canal, Sect. 3, excavating land on south bank of Mohawk River between bridge and Dam No. 10 at Canajoharie: 150,100 cu. yd. excav., engineer's estimate, 52 cts. per cu. yd.; total, $78,052; Great Lakes Dredge & Dock Co., Albany, 38 cts.; $57,038; A. A. Parker, Waterford, 43 cts.; $63,543; Houston Barnard, Rochester, 45 cts.; $67,545; J. A. LaPorte, Mechanicsville, 48 cts.; $72,048.

★Miami, Fla.—Following are unit figures of four lowest bids opened Sept. 5 by Maj. W. B. Ladue, Corps Engrs., U. S. A., Jacksonville, for dredging and rock removal in Miami Harbor, Fla., (a) 161,685 cu. yd. rock, (b) 138,290 cu. yd. sand, (c) total: Bowers Southern Dredg. Co., Galveston, (a) 68 cts., (b) 20 cts., (c) $137,604 (recommended for award); Eugene Breymann, Boston, (a) 90 cts., (b) 10 cts., (c) $159,345; Coastwise Dredging Co., Norfolk, (a) 86 cts., (b) 18 cts., (c) $163,941; Morris & Cummins Dredg. Co., New York, (a) 94 cts., (b) 22 cts., (c) $182,408.

Tiffin, Ohio.—No bids received Sept. 2 by County Comrs. for constructing Rock Creek Improvement, estimated cost, $28,331. Address County Engr.

★Brazil, Ind.—Contract awarded by Wm. S. Rawley to Fred Morgan, Indianapolis, for excavating new channel of Eel River from Neal's Mill to White River, at 9.65 cts. per cu. yd. for first 300,000 cu. yd. and 10 cts. for last 100,000 cu. yd. Mr. Morgan sublet southern one-fourth of excavation to East & De Frees of Worthington at 10 cts. per cu. yd.

★Naperville, Ill.—Contract for constructing drains in Dist. No. 2 (bids opened Sept. 6) awarded by Oliver W. Strubler, town clk., to National Drain Tile Co., Terre Haute, Ind., at $10,979.

★Logan, Iowa.—Contract awarded Mills Constr. Co., Logan, at 7 cts. per cu. yd., for Upper Willow levee (cost $85,000), and 18 cts. per cu. yd. for Powley and Upper Boyer Dists. levees. J. M. Albertsen, co. aud. (bids opened Sept. 5).

★Buffalo, Minn.—Contract for constructing county ditch No. 31 and No. 28 (bids opened Sept. 2) awarded by County Comrs. to Ajax Dredg. Co., Glencoe.

★Shakopee, Minn.—Contract for constructing Ditch No. 5, Scott County, about 130,090 cu. yd. excav. (bids opened Sept. 4), awarded James McKillip, Faribault, at $14,984. A. J. Mayer, co. aud.

★Argenta, Ark. — Contract awarded Edw. J. Hahn, Little Rock, at $60,700, to construct ditches and laterals to drain 15,000 acres in Faulker's Lake Bud.

★Sarnia, Ont.—Contract awarded B. Blair Co., Woodstock, for constructing tile drainage work; cost $16,170.

TUNNELS AND SUBWAYS

PRICES AND LETTINGS.

★*Indicates award of contract.*

Cleveland, Ohio.—Following are four lowest bids opened Sept. 6 by County Comrs. for constructing subway approaches to high level bridge: Bates & Rogers Constr. Co., Chicago, Ill., $624,000; The Foundation Co., 233 Bway., New York, $625,000; Hunkin-Conkey Constr. Co., Cuyahoga Bldg., $655,000; National Foundation & Eng. Co., 1302 Citizens Bldg., $670,000.

★Contract for above subway awarded Bates & Rogers Constr. Co., Chicago.

★**Winnipeg, Man.**—Contract awarded J. H. Tremblay, 814 Sterling Bank Bldg., for constructing tunnel; cost $37,000.

MISCELLANEOUS

PROPOSED WORK.

Conduits—Burlington, N. J.—City authorities granted permission to Delaware & Atlantic Telegraph & Telephone Co. to lay wires in underground conduits.

Park—Roselle, N. J.—Council decided to have a park laid out at a cost of $15,000.

Conduits—Stockton, N. J.—Delaware & Atlantic Telegraph & Telephone Co. has asked borough for permission to install conduits, manholes and poles throughout the town.

Garbage Disposal Plant—Altoona, Pa.—City Comrs. considering constructing garbage disposal plant. Address City Clk.

Transmission Line—Reading, Pa.—Reading Transit & Light Co. will erect a transmission line to Kutztown.

Garbage Disposal—Newport, Ky.—Election Nov. 7 to vote $40,000 bonds for constructing garbage disposal plant. Jos. Herman, city engr.

Transmission Lines—Wooster, Ohio.—Wooster Electric Co. contemplates extending transmission lines 8 miles beyond Smithville.

BIDS DESIRED.

Elevators—New London, Conn.—Until Sept. 29, by W. E. Clarke, resident engr. rivers, harbors and bridges comn., for installing 4 freight elevators, Contract No. 3, advertised in this issue.

Book Shelving, Etc.—Albany, N. Y.—Until Sept. 28, by Trus. Pub. Bldgs., Capitol, for additional book shelving, etc., for Legislative Library Rooms 337-A and 337-B, wood furniture for Court of Appeals, advertised in this issue. Louis F. Pilcher, State Archt., Albany.

Electric Winches—Brooklyn, N. Y.—Until Sept. 22 by Rich. C. Harrison, first deputy and acting comr. of docks, Pier A, New York, for Contract No. 1483, furnishing and installing 6 portable electric winches with appurtenances, on pier near foot of Thirty-fifth St., Boro. Brooklyn. Security $6,800.

Fence, Etc.—Sharpsburg, Md.—By N. Y. Monument Comn. (Lewis R. Stegman, chmn., 116 Nassau St., N. Y. City) for constructing fence around N. Y. State Reservation, seven acres in area, on battlefield of Antietam, near Sharpsburg. To consist of two types of concrete posts with steel or galvanized fixtures. Also for constructing and erecting concrete wall and pillars as an entrance frontage at said reservation, to consist of two main and two subordinate pillars and foundations as monoliths and intervening walls and gates.

Metal Work for Gate Operating Machinery—Louisville, Ky.—Until Oct. 9, by U. S. Engineer office, Louisville, for gate operating machinery for Lock No. 41, Ohio River, advertised in this issue.

Cables—Cleveland, Ohio.—Until Sept. 22, by Commissioner Purchase & Supplies, for underground lead cable for dept. of fire.

Grading—Dallas, Tex.—Until Sept. 21, by J. F. Witt, co. engr., for grading west approach to Commerce St. viaduct.

Dragline Excavators—Denver, Colo.—Until Oct. 2, by U. S. Reclamation Service, Denver, for furnishing dragline excavators, advertised in this issue.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Grouting for Tunnel—New York, N. Y.—Following are bids opened Sept. 12 by Bd. Water Supply, Municipal Bldg., for Contract 178, grouting rock above Eastview Tunnel of Catskill Aqueduct: Wm. Heyman, 15 Exchange Pl., Jersey City, $38,320; A. L. Guidone & Son, Inc., 52 Vanderbilt Ave., $55,445, and Lupfer & Remick, Buffalo, $59,670.

Frogs and Switches—New York, N. Y.—Lowest bid opened Sept. 8 by Public Service Comn. for First District, for furnishing special work (Order No. 10), including frogs and switches and necessary appurtenances, to be used in construction of Southern Boule. and Westchester Ave. branch of Lexington Ave. subway, submitted by Ramapo Iron Wks., 30 Church St., at $11,427.

Filling in Swamp Lands—New York, N. Y.—Following are four bids opened Sept. 7 by Comrs. Parks, New York, for filling in swamp lands in southerly portion of Van Cortlandt Park, Boro. Bronx; (a) filling in place 126,000 cu. yd., (b) shrinkage and settlement lump sum, (c) total: Frank Brancaccio Co., Inc., 350 Fifth Ave., (a) 48 cts., (b) $2,000, (c) $62,480; Summit Eng. & Constr. Co., 116 Broad St., (a) 72¼ cts., (b) $1, (c) $91,036; Oscar Daniels Co., Woolworth Bldg., (a) 75 cts., (b) $2,000, (c) $96,500; Friestendt Underpinning Co., 233 Bway., (a) 83 cts., (b) $2,500, (c) $107,080.

Disposal of Garbage—Orange, N. J.—Following are two bids opened Sept. 5 by Danl. F. Minohan, Mayor, for collection and disposal of garbage and ashes: Maloney Constr. Co., $26,400; Ralph Del Deo, $16,995.

★**Traveling Crane—Coshocton, Ohio.**—Contract for traveling crane at waterworks pumping station awarded Brown Hoisting Machinery Co., Cleveland. Chester & Fleming, engrs., Pittsburgh.

★**Apron Conveyors on Wharf—Houston, Tex.**—Following are bids opened recently by city for constructing three apron conveyors for municipal wharf No. 4: Edw. Hanak Contr. Co., Houston, $18,168 (awarded contract), and Otis Elevator Co., Houston, $20,760.

★**Asphalt Shingles—Panama.**—Contract awarded Barber Asphalt Paving Co., Philadelphia, for furnishing the Panama Canal authorities about 3,000,000 slate-surfaced asphalt shingles.

Proposals

For Proposals Advertised See Pages 44, 45 and 46.

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.		See Eng. Record.
Sep. 18.	South Bethlehem, Pa. Adv. Aug. 19 to Sep. 9.	Aug. 19
Sep. 18.	Pitman, N. J. Adv. Sept. 9.	Sep. 9
Sep. 19.	Columbia, S. C. Adv. Sep. 2.	Sep. 2
Sep. 19.	Shaker Heights (P. O. Cleveland), Ohio	Sep. 9
Sep. 19.	Miles Center, Ill.	Sep. 9
Sep. 19.	Montclair, N. J. Adv. Sept. 9.	Sep. 9
Sep. 19.	Granite Falls, Minn.	Sep. 16
Sep. 19.	New York, N. Y.	Sep. 16
Sep. 19.	Pittsburgh, Pa.	Sep. 16
Sep. 19.	Burbank, Cal.	Sep. 16
Sep. 20.	Denver, Col.	Sep. 2
Sep. 20.	Glasford, Ill.	Sep. 16
Sep. 20.	Cleveland, Ohio.	Sep. 16
Sep. 20.	Struthers, Ohio.	Sep. 16
Sep. 21.	Viola, Ill. Adv. Sep. 2, 9.	Sep. 2
Sep. 21.	Red Cloud, Neb.	Sep. 16
Sep. 21.	Griswold, Iowa.	Sep. 16
Sep. 21.	Glendale, Cal.	Sep. 16
Sep. 21.	Tarentum, Pa.	Sep. 16
Sep. 22.	Louisville, Ky.	Sep. 16
Sep. 25.	Bonds, Riverton, Wyo. Adv. Sep. 9.	Sep. 9
Sep. 25.	Watervliet, N. Y. Adv. Sep. 16.	Sep. 16
Sep. 25.	Columbus, Ohio.	Sep. 16
Sep. 26.	New York, N. Y.	Sep. 16
Sep. 26.	Ottawa, Ohio.	Sep. 16
Oct. 1.	Cuyahoga Falls, Ohio.	Sep. 2
Oct. 3.	Port Clinton, Ohio.	Sep. 2
Oct. 4.	Bonds, Dublin, Ga. Adv. Sep. 9, 16.	Sep. 9
Oct. 4.	Jacksonville, Fla.	Sep. 16
Oct. 9.	East Orange, N. J. Adv. Sep. 16.	Sep. 16
Oct. 10.	Port Clinton, Ohio.	Sep. 16
Oct. 10.	Lebanon, Ohio	Sep. 16
Oct. 11.	Bellwood, Pa. Adv. Sep. 16.	Sep. 16
Oct. 15.	Hermosa Beach, Cal.	Aug. 26
Oct. 16.	Cleveland Heights (P. O. Warrensville), Ohio.	Sep. 16
Oct. 23.	Havana, Fla.	Sep. 16
——	Franchise, Key West, Fla. Adv. Sep. 2, 9.	Sep. 2

STRUCTURAL STEEL WORK

Bids Close.		See Eng. Record.
Sep. 21.	Sussex, Va.	Sep. 16
Sep. 25.	San Bernardino, Cal.	Sep. 2
Sep. 25.	Perryville, Mo.	Sep. 16
Sep. 25.	Franklin, W. Va.	Sep. 16
Sep. 25.	Perrysville, Mo.	Sep. 16
Sep. 25.	Missoula, Mont.	Sep. 16
Sep. 26.	Corning, Ark.	Sep. 9
Sep. 28.	Spokane, Wash.	Sep. 16
Sep. 29.	Neodesha, Kan.	Sep. 9
Oct. 1.	Rolfe, Iowa.	Sep. 16
Oct. 2.	Benton Harbor, Mich. Adv. Sep. 16.	Sep. 16
Oct. 2.	Fort Lauderdale, Fla.	Sep. 16
Oct. 5.	Gastonia, N. C.	Sep. 16

REINFORCED CONCRETE.

Bids Close.		See Eng. Record.
Sep. 19.	Los Angeles, Cal.	Aug. 19
Sep. 20.	Portland, Ore.	Sep. 9
Sep. 20.	Fairmont, W. Va. Adv. Sep. 16.	Sep. 16
Sep. 20.	Illinois	Sep. 16
Sep. 21.	Newark, N. J.	Sep. 16
Sep. 21.	Norristown, Pa.	Sep. 16
Sep. 22.	Manhattan, Kan.	Sep. 2
Sep. 22.	Anoka, Minn.	Sep. 16
Sep. 22.	Ebensburg, Pa.	Sep. 16
Sep. 25.	St. Peter, Minn.	Sep. 9
Sep. 26.	Kansas City, Mo.	Sep. 16
Sep. 28.	Santa Barbara, Cal.	Sep. 16
Sep. 28.	Kansas City, Mo.	Sep. 16
Oct. 2.	Santa Barbara, Cal.	Sep. 16
Oct. 2.	Brookville, Ind.	Sep. 16
Oct. 3.	Titonka, Iowa	Sep. 9
Oct. 3.	Little River, Ala.	Sep. 9
Oct. 3.	Monroeville, La.	Sep. 16
Oct. 3.	Bay Minette, Ala.	Sep. 16
Oct. 7.	Princeton, Minn.	Sep. 9
Oct. 7.	Dana, W. Va.	Sep. 16
Oct. 10.	Circleville, Ohio.	Sep. 16
Oct. 18.	Arcadia, Fla.	Sep. 16

ROADS AND PAVING.

Bids Close.		See Eng. Record.
Sep. 18.	Albany, N. Y. Adv. Sep. 2 to 16.	Sep. 2
Sep. 19.	Pasco, Wash.	Aug. 26
Sep. 19.	New Orleans, La.	Aug. 26
Sep. 19.	Goodwater, Ala.	Sep. 2
Sep. 19.	Maryland (2 prop.) Adv. Sep. 9, 16.	Sep. 9
Sep. 19.	Meriden, Conn. Adv. Sep. 9, 16.	Sep. 9
Sep. 19.	Washington, D. C. Adv. Sep. 9, 16.	Sep. 9
Sep. 19.	Ridgewood, N. J.	Sep. 9
Sep. 19.	Montclair, N. J. Adv. Sep. 9, 16.	Sep. 9
Sep. 19.	Berwyn, Ill.	Sep. 16
Sep. 19.	Rockford, Ala.	Sep. 16
Sep. 19.	Kansas City, Mo.	Sep. 16
Sep. 20.	Phoenix, Ariz.	Aug. 19
Sep. 20.	Florence, S. C.	Sep. 2
Sep. 20.	Lawrenceburg, Tenn. Adv. Sep. 2, 9.	Sep. 2
Sep. 20.	Scottsboro, Ala.	Sep. 2
Sep. 20.	Louisville, Ky.	Sep. 16
Sep. 20.	Tiffin, Ohio.	Sep. 16
Sep. 20.	New Brighton, N. Y.	Sep. 16
Sep. 20.	Baltimore, Md.	Sep. 16
Sep. 20.	Riverside, Col.	Sep. 16
Sep. 20.	Illinois.	Sep. 16
Sep. 21.	Santa Barbara, Cal.	Sep. 2
Sep. 21.	Fort Warren, Mass.	Sep. 2
Sep. 21.	Newark, N. J.	Sep. 9
Sep. 21.	Paducah, Ky. Adv. Sep. 9, 16.	Sep. 9
Sep. 21.	Pittsburgh, Pa.	Sep. 9
Sep. 21.	New Brighton, N. Y.	Sep. 16
Sep. 21.	Coshocton, Ohio.	Sep. 16
Sep. 21.	Brooklyn, N. Y.	Sep. 16
Sep. 21.	Roanoke, Va.	Sep. 16
Sep. 21.	Sidell, Ill.	Sep. 16
Sep. 21.	Columbus, Ohio.	Sep. 16
Sep. 22.	London, Ohio.	Sep. 16
Sep. 22.	St. Louis, Mo.	Sep. 16
Sep. 22.	Indianapolis, Ind.	Sep. 16
Sep. 22.	New Brighton, S. I., N. Y.	Sep. 16
Sep. 23.	Charlestown, W. Va. Adv. Sep. 2 to 16.	Sep. 2
Sep. 23.	Indiana	Sep. 9
Sep. 25.	Lebanon, Ind.	Sep. 2
Sep. 25.	Seattle, Wash.	Sep. 2
Sep. 25.	San Antonio, Tex. Adv. Sep. 9, 16.	Sep. 9
Sep. 25.	Los Angeles, Cal.	Sep. 9
Sep. 25.	Trenton, N. J.	Sep. 16
Sep. 25.	Calgary, Alta.	Sep. 16
Sep. 25.	Fort Lauderdale, Fla.	Sep. 16
Sep. 26.	New Orleans, La.	Aug. 26
Sep. 26.	Maryland. (2 Props) Adv. Sep. 16.	Sep. 16
Sep. 26.	Ottawa, Ohio.	Sep. 16
Sep. 26.	Ridgefield Park, N. J. Adv. Sep. 16.	Sep. 16
Sep. 26.	Belmar, N. J.	Sep. 16
Sep. 27.	Baltimore, Md.	Sep. 16
Sep. 28.	Newark, N. J.	Sep. 16
Sep. 28.	High Point, N. C.	Sep. 16
Sep. 29.	New Orleans, La.	Aug. 26
Sep. 29.	Indiana	Sep. 9
Oct. 2.	Jacksonville, Fla.	Sep. 16
Oct. 2.	Grenada, Miss.	Sep. 16
Oct. 3.	Bakersfield, Cal.	Aug. 26
Oct. 3.	Indiana	Sep. 16
Oct. 4.	Indiana	Sep. 16
Oct. 5.	Indiana	Sep. 16
Oct. 9.	Sebring, Ohio	Sep. 16
Oct. 13.	Lasalle, Que.	Sep. 16
Oct. 25.	Indiana	Sep. 16

RAILWAYS

Bids Close.		See Eng. Record.
Sep. 28.	New York, N. Y.	Sep. 16

BUILDINGS.
Public and Private.

Bids Close.		See Eng. Record.
Sep. 19.	Des Moines, Iowa	Sep. 9
Sep. 19.	Booneville, Ind.	Sep. 9
Sep. 19.	Leavenworth, Kan.	Sep. 16
Sep. 19.	Jesup, Iowa	Sep. 16
Sep. 19.	Benton, Ind.	Sep. 16
Sep. 20.	West Point, N. Y. Adv. Aug. 26 to Sep. 16.	Aug. 26
Sep. 20.	Collinsville, Okla.	Sep. 9
Sep. 20.	Ridgefield Park, N. J. Adv. Sep. 9, 16.	Sep. 9
Sep. 20.	Mitchell, S. D.	Sep. 16
Sep. 20.	Chicago, Ill.	Sep. 16
Sep. 20.	Cartersville, Ga.	Sep. 16
Sep. 20.	Collinsville, Okla.	Sep. 16
Sep. 20.	Bayonne, N. J.	Sep. 16
Sep. 20.	Nashville, Tenn.	Sep. 16
Sep. 21.	Highland Park, Mich. Adv. Aug. 19 to Sep. 9.	Aug. 19
Sep. 21.	Wilberforce, Ohio	Sep. 2
Sep. 21.	Newton, N. J.	Sep. 2
Sep. 21.	Bayonne, N. J.	Sep. 2
Sep. 21.	Brooklyn, Mich.	Sep. 9
Sep. 21.	East View, New York	Sep. 16
Sep. 21.	New York, N. Y.	Sep. 16
Sep. 21.	Garfield, N. J.	Sep. 16
Sep. 21.	Florence, S. C.	Sep. 16
Sep. 22.	Prairie du Chien, Wis.	Sep. 9
Sep. 22.	Carthage, Mo.	Sep. 9
Sep. 22.	Jackson, Mich.	Sep. 16
Sep. 22.	Bayonne, N. J.	Sep. 16
Sep. 22.	Cleveland, Ohio.	Sep. 16
Sep. 25.	Norfolk, Neb.	Sep. 2
Sep. 25.	Jefferson, Iowa	Sep. 2
Sep. 25.	De Land, Fla.	Sep. 9
Sep. 25.	Brooklyn, N. Y.	Sep. 16
Sep. 26.	Jacksontown, Ohio	Sep. 9
Sep. 26.	Detroit, Mich.	Sep. 16
Sep. 26.	Bucyrus, Ohio.	Sep. 16
Sep. 26.	Seneca, Kan.	Sep. 16
Sep. 28.	Springfield, Mass.	Sep. 9
Sep. 28.	Okmulgee, Okla.	Sep. 16
Sep. 29.	Okmulgee, Okla.	Sep. 9
Sep. 30.	Pueblo, Col.	Sep. 16
Oct. 1.	Anoka, Minn.	Sep. 16
Oct. 2.	Willows, Cal. Adv. Aug. 26, Sept. 2.	Aug. 26
Oct. 3.	Huntington, W. Va.	Sep. 2
Oct. 5.	Berlin, N. H.	Sep. 2
Oct. 6.	Skohegan, Me.	Sep. 2
Oct. 11.	Ottawa, Kan.	Sep. 16
Oct. 11.	Pleasant City, Ohio	Sep. 16
Oct. 12.	Buckhannon, W. Va.	Sep. 9
Oct. 16.	Dickinson, N. D.	Sep. 9
Oct. 17.	New Orleans, La.	Sep. 2
Oct. 19.	Du Bois, Pa. Adv. Sep. 16.	Sep. 16
Jan. 1.	Webster, S. D.	Sep. 16

FOUNDATIONS, PIERS AND DAMS.

Bids Close.		See Eng. Record.
Sep. 20.	Seattle, Wash.	Sep. 16
Sep. 21.	Buffalo, N. Y.	Sep. 16
Sept. 25.	Houston, Tex.	Aug. 5
Sep. 25.	Vancouver, B. C.	Sep. 16
Sep. 26.	Chicago, Ill. Adv. Sep. 2 to 16.	Sep. 2
Sep. 26.	Fremont, Neb	Sep. 9
Sep. 28.	Nashville, Tenn. Adv. Aug. 19, Sep. 2, 16.	Aug. 19
Sep. 29.	Port Stanley, Ont.	Sep. 16
Sep. 29.	Tompkinsville, N. Y.	Sep. 16
Sep. 29.	St. Louis, Mo.	Sep. 16

EXCAVATION, DREDGING AND DRAINAGE.

Bids Close.		See Eng. Record.
Sep. 18.	Sioux City, Ia. Adv. Aug. 19, 26.	Aug. 19
Sep. 19.	Ada, Minn.	Sep. 9
Sep. 19.	Greenwood, S. C.	Sep. 16
Sep. 20.	St. Ignatius, Mont. Adv. Aug. 19.	Aug. 19
Sep. 20.	Terre Haute, Ind.	Sep. 16
Sep. 21.	Marion, Ark.	Sep. 9
Sep. 21.	Mankato, Minn.	Sep. 16
Sep. 22.	St. James, Minn.	Sep. 9
Sep. 23.	New London, Conn. Adv. Sep. 9, 16.	Sep. 9
Sep. 27.	Malta, Mont.	Sep. 2
Sep. 28.	Fort Laramie, Wyo. Adv. Aug. 26.	Aug. 26
Sep. 30.	Owatonna, Minn.	Sep. 16
Oct. 3.	Albany, N. Y.	Sep. 16
Oct. 7.	Charleston, S. C.	Sep. 16
Oct. 10.	St. Ignatius, Mont. Adv. Sep. 9.	Sep. 9
Oct. 10.	Albany, N. Y. Adv. Sep. 16.	Sep. 16
——	Rock Island, Ill. Adv. Aug. 5, 12.	Aug. 5
——	Albany, N. Y. Adv. Aug. 26.	Aug. 26

MISCELLANEOUS.

Bids Close.		See Eng. Record.
Sep. 19.	Power pump, Harrisburg, Pa. Adv. Sept. 9.	Sep. 9
Sep. 20.	Rock, New Orleans, La.	Sep. 2
Sep. 20.	Fire Escapes on School, Ridgefield Park, N. J. Adv. Sep. 9, 16.	Sep. 9
Sep. 21.	Garbage Inc. Plant, Etc., Panama	Sep. 9
Sep. 21.	Fire Escapes, Willard, N. Y. Adv. Sep. 9, 16.	Sep. 9
Sep. 21.	Grading Viaduct Approach, Dallas, Tex.	Sep. 16
Sep. 22.	Removal of wreck, Norfolk, Va. Adv. Sep. 2 to 16.	Sep. 2
Sep. 22.	Electric Winches, Brooklyn, N. Y.	Sep. 16
Sep. 22.	Cables, Cleveland, Ohio.	Sep. 16
Sep. 23.	Gate valves for lock, Louisville, Ky. Adv. Sep. 2 to 16.	Sep. 2
Sep. 28.	Electric fixtures, Albany, N. Y. Adv. Sep. 9, 16.	Sep. 9
Sep. 28.	Book Shelving, etc., Albany, N. Y. Adv. Sep. 16.	Sep. 16
Sep. 29.	Elevators, New London, Conn. Adv. Sep. 16.	Sep. 16
Sep. 30.	Coal, New York, N. Y. Adv. Sep. 16.	Sep. 16
Oct. 2.	Wreck, Newport, R. I. Adv. Sep. 2 to 16.	Sep. 2
Oct. 2.	Iron Castings, Louisville, Ky. Adv. Sep. 9, 16.	Sep. 9
Oct. 2.	Dragline Excavator, Denver, Col. Adv. Sep. 16.	Sep. 16
Oct. 4.	Elevator, Washington, D. C.	Aug. 26
Oct. 4.	Stokers, Fargo, N. D. Adv. Sep. 9, 16.	Sep. 9
Oct. 9.	Metal work for gate operating machinery, Louisville, Ky. Adv. Sep. 16.	Sep. 16

A RECENT estimate of the municipal work in Philadelphia which is either contracted for or ready for letting, but which is being postponed or prosecuted with greatly reduced forces because of the labor shortage, places its total value at $1,000,000. It is said that contractors have been granted extensions of time to give them an opportunity to assemble organizations at least capable of starting work awarded to them. Some port improvements and considerable municipal building work are affected, and fears are expressed that the new subway work will be hampered or delayed.

Recent state elections in Maine and New York and Republican campaign claims that appear to have some foundation indicate a wholesale alignment with that party of the independent vote in Central and Eastern states. This factor, together with the large earnings and bright prospects of the steel trade, may account for the recent great activity in the stock market. The steel business, indeed, continues to exhibit most favorable conditions and prospects. The steel ingot-making capacity of the country, according to the *Iron Age* estimate, will have reached 43,200,000 tons a year by 1917, on top of the increase from 33,500,000 to 40,000,000 tons between Jan. 1, 1913, and the beginning of this year. The total increase of 20 per cent in four years is not thought abnormal; and while increased prices may reduce home consumption in some directions, increased exports continue to account for at least half of the additional output, and steel appears actually scarcer now than at the beginning of the year. It is argued that the European war can hardly last less than another year, and that prices are sure to be firmly maintained in the meantime.

Lumber, our other great structural product, however, has not felt the effects of any corresponding export demand. And now that home consumption is improving, the industry is in danger from the threatened car shortage, which already is felt in the fir territory. A serious car shortage, of course, would be just as unfavorable to the consumer as to the producer. While steel has been helped by the war, lumber has suffered. In 1914 about 230,000 tons carrying capacity was required to transport all our steel exports, as against at least 2,200,000 tons to carry our lumber exports. With the scarcity of vessels and more urgent need abroad for steel, barely 900,000 tons carrying capacity was found for export lumber products during the last fiscal year, while steel exports took up practically an equal tonnage. The reduction in exports of lumber from 1914 to 1916 represents one of from 10 to 4 per cent of last year's total sales of lumber. Neither has lumber fared so well as steel in domestic business, in spite of the recent increased demand, which has benefited pine producers much more than the fir industry. Fir, produced mainly on the west coast and largely transported heretofore by water, has improved mainly in sales to be delivered locally or by rail.

There is little doubt that the lumber export situation has been a large factor in keeping the market so favorable to the contractor that the lumber industry has little to fear in comparison with the steel business from the close of the war, and that unless a severe depression should follow the conclusion of peace and greatly reduce home consumption the lumber situation is not likely to be more favorable to the buyer for some time.

Labor Shortage Delays City Work at Philadelphia

Temporary Stock Boom Perhaps Based on Steel and Political Situations—Reduced Exports of Lumber Have Kept Market Favorable to Contractors

Buildings

The following building construction is noted in this issue:

Contracts awarded:	Kind	Cost
Nashville, Tenn.	Custom house	$347,000
Port Arthur, Tex.	High school	321,000
Bids desired:		
Mason City, Iowa	School	250,000
Proposed work:		
New York, N. Y.	Warehouse	200,000
Baltimore, Md.	Copper mill	500,000
Pittsburgh, Pa.	High school	265,000
Pittsburgh, Pa.	School	298,000
Pittsburgh, Pa.	Warehouse	1,000,000
Youngstown, Ohio	Steel mill	3,000,000
Alliance, Ohio	Machine shop	500,000
Detroit, Mich.	Freight house	1,000,000
Oakland, Cal.	Packing plant	300,000
Los Angeles, Cal.	Office building	600,000

Roads and Paving

Road and paving work noted in this issue is summarized below:

Contracts awarded:	Kind	Cost
Monroe, La.	Gravel roads	$109,000
Bismark, N. D.	Asphalt	447,000
Bids opened:		
Albany, N. Y.	16 highway sections	780,000
Atlantic City, N. J.	Asphalt	194,000
Bids desired:		
Columbus, Ohio	22 highway sections	$415,000
Proposed work:		
Boston, Mass.	Paving	116,000
Bath, N. Y.	Highways	262,000
Lake Charles, La.	Road bonds voted	900,000
Texarkana, Ark.	Paving	160,000
Seattle, Wash.	Paving	125,000

This issue also contains many notices of elections to vote road bonds, most of the issues proposed running well into the hundreds of thousands. The most recent letting of New York state highway work, reported in this issue, discloses increasingly serious conditions in the road-construction field in the East. Not a single bid was received for constructing eight of the twenty-four sections advertised, and for only two of the sections were more than three bids received. Undoubtedly this is due to the shortage of labor, and to the fact that most of the highway contractors are already busy.

Waterworks and Sewers

Toledo, Ohio, has awarded a $140,000 sewer contract. A sewer costing $50,000 has been contracted for at Anaconda, Mont. Water-main construction amounting to $140,000 has been awarded at Ottawa, Ont. An outfall sewer contracted for at Fresno, Cal., will cost $322,000. Bids are desired at Piermont, N. Y., for constructing 3 miles of 8 to 15-in. sewers.

Boston will soon let a contract for sewer work to cost $750,000. Sewer extensions proposed at Port Arthur, Tex., will cost $93,000. Waterworks extensions valued at $90,000 are proposed at McMinnville, Ore. A storm drainage system under consideration at Long Beach, Cal., will cost $96,000. Plans are being prepared at Kitchener, Ont., for waterworks to cost $100,000.

Miscellaneous Headings

Other work noted in this issue includes the following:

Contracts awarded:	Kind of Work	Cost or Quantity
New York, N. Y.	Track installation	$229,000
Washington, D. C.	Retaining wall	309,000
Clarksville, Miss.	Levees	720,000
Las Vegas, N. M.	Irrigation	500,000
Portland, Ore.	Jetty	650,000
California	Steel bridge	124,000
Winnipeg, Man.	Building steel	169,000
Bids opened:		
New York, N. Y.	Track installation	103,000
New York, N. Y.	Subway section	810,000
Memphis, Tenn.	Levee work	245,000
Bids desired:		
Natchez, Miss.	Levees, cu. yd.	2,600,000
New Orleans, La.	Levees, cu. yd.	2,590,000
Houston, Tex.	Wharves	$185,000
Portland, Me.	Viaduct	750,000

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Boston, Mass.—Contract soon to be let by Mayor for extending the Standway sewerage system and installing proposed Standway improvements; cost $750,000.

Lynn, Mass.—Construction of sewerage system contemplated. Address City Clerk.

Shelton, Conn.—Completion of sewerage system contemplated; probable cost, $30,000. Address City Clerk.

Canton, N. Y.—Election soon to be held to vote on construction of waterworks; cost $157,000, including 2000 tons c. i. pipe and 2,000,000-gal. reservoir. Chas. E. Perry, engr., Albany.

Cranford, N. J.—Plans being prepared for joint trunk line sewer system. Clyde Potts, 30 Church St., New York, may be able to give further information.

Dover, N. J.—City Comrs. considering an additional supply of water.

Sewer Comrs. having plans prepared for disposal plant. Plans to be submitted to State Bd. of Health.

Newark, N. J.—Contract soon to be let by Bd. Street & Water Comrs. for c. i. water pipes and special castings for high and low pressure systems.

Rockaway, N. J.—State Bd. Health, Trenton, approved plans presented by Liondale Bleach, Print & Dye Wks., for disposal plant.

Summit, N. J.—Construction of storm sewers in Sussex and Fernwood Roads and other streets under consideration; cost $100,000. Robt. C. Wheeler, engr., Summit; J. C. Kentz, city clk.

Catawissa, Pa.—Borough Engineer directed to prepare plans for construction of sewage disposal plant.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Galeton, Pa.—Public Service Comn., Harrisburg, directed the Galeton Water Co. and borough engineer to prepare plans for improvements to the water system, and submit them to said comn.

Harrisburg, Pa.—Building of intercepting sewer for upper end of West Side postponed temporarily, because of scarcity of labor. Address City Engr.

McKeesport, Pa.—Proposed to lay, this winter, about 18,000 ft. of sanitary sewers. J. F. Monroe Smith, city engr.

Nescopeck, Pa.—Plans submitted to Council for waterworks; cost $28,000. Address City Clerk.

Highlandtown, Md.—Comrs. Baltimore County at Towson will construct two intercepting drains at Highlandtown to prevent storm water floods; cost, about $10,000. Wm. G. Sucro, co. road engr. A. Frederick Schlee, co. comr.

Galax, Va.—It is proposed to install sewer system. B. D. Beamer, city clk.

Johnston, S. C.—Election soon to be held to vote $50,000 bonds for constructing water and sewage system. Address City Clerk.

Damascus, Ga.—Installation of waterworks under consideration. Address City Clerk.

Macon, Ga.—Bd. Water Comrs. intends laying 7000 ft. pipe.

Attalla, Ala.—Citizens voted in favor of Alabama Power Co. supplying city with water from Coosa River using Gadsden water works system. Water main from by-products plant will be extended to Attalla.

Tuscaloosa, Ala.—About 1½ miles of 14-in. pipe and extensions to 6-in. pipe line are to be made; also probably a new pumping station constructed. D. L. Foster, ch. fire dept.

Shreveport, La.—City purchased plant of local water works company. Address City Clerk for further information.

Cleveland, Ohio.—City engaged Fredk. C. Noble, 50 Church St. New York, to report on foundation requirements of proposed East Side filtration plant. If report shows foundation cost would be larger than estimate, new plant may be located adjoining Baldwin reservoir, instead of on the lake front.

Middletown, Ohio.—Plans and estimates to be prepared at once for sewers for Third St.; probable cost $40,000. Address City Engr.

Newark, Ohio.—Sewer bonds for $76,500 will be sold Oct. 16 by A. Nelson Dodd, city aud.

Wilmington, Ohio.—Construction of sewerage system and disposal plant contemplated; estimated cost, $50,000. Address City Clerk.

Davenport, Iowa.—Extension of sewers on Marquette and Warren Sts. and storm drain on Cedar St. contemplated; cost about $50,000. J. W. Crowley, comr. pub. wks.

Ft. Madison, Ia.—Burns & McDonald, Kansas City, submitted report on proposed sewer system. Address City Clk.

Havelock, Ia.—Construction of waterworks under consideration. Address Town Clk.

West Point, Ia.—Citizens Sept. 11 voted $15,000 bonds to construct waterworks. Address City. Clk.

Grand Rapids, Mich.—City considering constructing sewage disposal plant. Address City Clerk.

Duluth, Minn.—Water supply main is to be laid in E. Fourth St.; cost, $25,000. E. W. Kelly, engr. water and light dept.

Staples, Minn.—All bids opened Sept. 12 by City Clerk for constructing reinforced concrete reservoir rejected. Nothing further will be done until next spring.

West St. Paul, Minn.—Citizens voted $40,000 bonds for constructing waterworks. Address City Clk.

Augusta, Kan.—Citizens voted $10,000 bonds for extensions to waterworks. Joe R. Switzer, city engr.

McPherson, Kan.—Improvements to waterworks contemplated 300 kw. unit water tube boilers, condenser, new well and pumps to be installed. Arthur Groesbeck, supt. water works.

Winfield, Kan.—Burns & McDonnell, Interstate Bldg., Kansas City, Mo., are engineers for extensions to waterworks reservoir and filter equipment included; cost, $60,000.

Dannebrog, Neb.—Citizens voted against constructing waterworks. No bids opened Sept. 15. J. R. Jacobsen, village clk.

Fessenden, N. D.—Construction of waterworks and sewer system under consideration. Address City Clk.

Mohall, N. D.—Citizens voted to construct waterworks. Address City Clerk.

Castlewood, S. D.—Citizens voted to construct waterworks; cost $20,000. Contract soon to be let. W. W. Sour, city clk.

Clear Lake, S. D.—Construction of sewer system under consideration. Address City Clerk.

Sedalia, Mo.—Burns & McDonnell, Interstate Bldg., Kansas City, Mo., are engineers for sewage disposal plant for city; cost $65,000.

Stanberry, Mo.—Contract will be let next spring for laying 4-in. mains and installing hydrants; cost $15,000. C. A. Greenlee, city clk.

Bryan, Tex.—Election to be held Nov. 7 to vote $10,000 bonds for constructing sewage disposal plant. Address City Clerk.

Houston, Tex.—Plans prepared for constructing storm sewer on W. Main, Bute, Richmond, Abbott, Travis Sts. and San Antonio Ry. right of way; cost, $11,000. Address City Engineer.

Kingsville, Tex.—Improvements to recently purchased waterworks plant contemplated. Address City Clerk.

Lockhart, Tex.—Election to be held Oct. 17 to vote on issue of $35,000 bonds for construction of sewer system. Address City Clerk.

Miami, Tex.—Waterworks and electric light plant bonds for $25,000 sold. Address City Clerk.

Mineral Wells, Tex.—Plans submitted for approval to State Sanitary Engineer at Austin by City Engineer for sewage disposal plant; cost, $12,000.

Beggs, Okla.—City reported considering waterworks. Address City Clerk.

Kusa, Okla.—Bonds sold for construction of storm sewer system; cost $25,-000. Address Mayor.

Okmulgee, Okla.—Citizens voted $25,000 waterworks improvement bonds.

Kelso, Wash.—F. Keys of Seaside, Ore., purchased local waterworks and will improve plant.

Seattle, Wash.—Engineering department filed report and estimates for water mains, etc., in Tenth Ave., n. e.; probable cost $44,084. L. B. Young, supt. waterworks.

Joseph, Ore.—Reported City Council plans extending water system 2 miles; cost about $5,000.

McMinnville, Ore.—City officials propose issuing $90,000 bonds for improving water system. Address City Clerk.

Fresno, Cal.—Contract soon to be let for constructing storm sewer system, about $123,000 available. B. E. Cronkite, city engr., Olmsted & Gillelen, engrs., 1112 Hollingsworth Bldg., Los Angeles.

San Diego, Cal.—Olmsted & Gillelen, 1112 Hollingsworth Bldg., Los Angeles, engaged by city to prepare pans for sewage disposal plant for Ocean Beach section, and to make investigations and report on outfall and disposal system for entire city.

Garland, Utah.—City will construct waterworks; cost about $30,000. Address City Clerk.

Sherbrooke, Que.—City next winter will construct 5,000,000-gal. reservoir to be excavated in rock and lined with concrete with top wall of concrete; estimated cost, $50,000. Thos. Tremblay, City Hall, engr.; E. C. Gatien, secy. treas.

Kitchener, Ont.—Herbert Johnston, city engr., will prepare plans for waterworks; cost $100,000.

BIDS DESIRED.

Boston, Mass.—Until Oct. 11, by Metropolitan Water & Sewerage Bd. (Wm. N. Davenport, secy.), for one steam turbine driven pumping unit, capacity of 50,000,000 gals. in 24 hrs., to be installed in Pumping Station at Ward St., Roxbury.

Until Sept. 27, by Metropolitan Water & Sewerage Bd. (Wm. N. Davenport, secy.), for constructing in trench and embankment 27 and 30-in. concrete sewer, Sect. 102 of high level sewer, Wesley extension south Metropolitan system in Needham, including 6851 cu. yd. embankment, 3300 cu. yd. concrete sewer in trench, 1000 cu. yd. rock excav. in trench.

Cohoes, N. Y.—Until Oct. 2, by Edw. N. Amyot, secy. bd. contract and supply, for disc type water meters ⅝ to 2 in., advertised in this issue.

Piermont, N. Y.—Until Sept. 29 (readvertisement), by A. D. Cornell, Clk. Bd. Sewer Comrs, for contract "A," constructing sewer system about 16,540 ft. 8 to 15-in. pipe, manholes, etc., advertised in this issue. Alex. Potter, engr., 50 Church St., New York.

New Brunswick, N. J.—Until Sept. 26, by Asher Atkinson, city engr., for 2500 ft. 20 and 24-in. pipe and 1500 ft. 36 and 42-in. brick sewers; cost $13,000.

West Hoboken, N. J.—Until Oct. 3, by Joint Sewer Com. of Weehawken and West Hoboken, at Town Hall, West Hoboken, for constructing joint sewer.

Philadelphia, Pa.—Reported desired until Oct. 3, by Geo. T. Danteman, dir. dept. pub. wks., for two pumps for Water Bureau, one to have a daily capacity of 25,000,000 gals. to be installed at the Queens Lane Station on Schuylkill River; other capacity of 35,000,000 gals. at Lardner's Point on the Delaware River.

Cleveland, Ohio.—Reported desired until Sept. 28, by Comrs. Purchases & Supplies, for constructing sewers in Delavan Road and six other roads and streets.

Norwood, Ohio.—Until Oct. 2, by H. J. Pierson, dir. pub. service, for 2500 ft. 6-in. Class B water pipe.

Zanesville, Ohio.—Until Oct. 2, by W. W. Roach, dir. pub. service, for furnishing material, drilling, casing and testing twenty 10-in. wells, advertised in this issue. J. R. Kommer, engr., 1116 House Bldg., Pittsburgh.

Quincy, Ill.—Waterworks bonds for $130,000 reported will be sold Oct. 1. Address City Clk.

Emmetsburg, Iowa.—Until Sept. 26, by T. F. Rutledge, city clk., for constructing 12,650 ft. 10 to 36-in. storm sewers, together with manholes, etc.

Kenyon, Minn.—Until Oct. 13, by O. B. Strand, village recorder, for laying about 2100 ft. 4-in. water mains, hydrants, gate valves, etc.

Ellis, Kan.—Until Oct. 2, by Ray Hull, supt. for improvements to waterworks, including two miles of pipe, hydrants, etc. Black & Veatch, engrs., Kansas City, Mo.

Garden City, Kan.—Until Sept. 28, for constructing sewer system. Probable cost, about $42,800. J. F. Crocker, city. clk.

Kansas City, Mo.—Until Sept. 26, by Bd. Pub. Wks. (W. H. Benham, secy.), for furnishing material and constructing sewers in Sewer Dist. No. 185.

Trenton, Mo.—Until Oct. 11 by City Clerk for constructing filter plant, capacity, 1,200,000 gal. daily; also two 1000 gal. per min. motor driven centrifugal pumps and one 62½ k.v.a. generator direct connecting to a Unaflow engine. E. E. Harper, engr., 2404 E. Thirtieth St., Kansas City, Mo.

Beaumont, Tex.—Until Sept. 28, for constructing approximately 7650 ft. water mains. J. E. Turner, secy., South Park School Dist., Beaumont.

San Antonio, Tex.—Reported desired until Oct. 5, by Street and Water Comn. (Clinton H. Kearney, comr.), for constructing three miles of sanitary sewers in the West End, South Heights and Highland Park; probable cost $20,000.

Moncton, N. B.—Reported desired until Sept. 27, by J. W. Pugsley, dept. of Railways and Canals, Ottawa, Ont., for three enclosed water tanks.

Toronto, Ont.—Until Oct. 3, by T. L. Church (Mayor), chm. bd. control, for furnishing and installing one 12-in. Venturi meter and register, indicator recorder at main sewage disposal works.

PRICES AND LETTINGS.

★Indicates award of contract.

★Waterville, Me.—Contract for constructing distributing reservoir in Waterville and Fairfield for Kennebec Water Dist. awarded to James Kerr, Rumford Falls (bids opened Sept. 16 by City Clerk). Metcalf & Eddy, 14 Beacon St., Boston, engrs. E. W. Crawford, city engr.

★Boston, Mass.—Contract awarded John T. Shea, Jr., 696 E. Sixth St., S. Boston, at $14,605 for laying water pipes in Harrison Ave., Bway., Curve, Hudson and Kneeland Sts., city proper.

★Mt. Morris, N. Y.—Later reports state contract for laying portion of conduit of municipal waterworks system between Twin Bridges and Mt. Morris was awarded to Dessiderio & Sattler of Rochester, at $9,615.

★New York, N. Y.—Following unit figures of Chas. Meads & Co., 38 Park Row, successful bidder for Contract 174, furnishing and installing riser valve controlling mechanisms and appurtenances in shafts of city tunnel Catskill Aqueduct (bids opened Sept. 5 by Bd. Water Supply, New York); 31 riser valve controlling mechanisms, $570; 31 pumps, $80; 12,-000 lbs. copper bronze and brass pipe and pipe fittings, 89 cts.; 300 lb. miscellaneous bronze and brass fittings, $240; 20,000 lbs. miscellaneous iron and steel, 20 cts.; 30,-000 lbs. galvanizing, 6 cts.; 1000 lbs. lead, 20 cts.; 22 riser valve rod jacks, $195; modified existing metal and concrete work (skilled labor), 400 days, $7; modified existing metal and concrete work (unskilled labor), 300 days, $5; total, $46,140; other bidders: Lupfer & Remick, Buffalo, $50,-210; L. K. Comstock & Co., 30 Church St., $60,145, and Child & Scott Co., 112 Wooster St., $64,530.

Piermont, N. Y.—No action yet taken on bids opened Sept. 15 for Contract "B" sewage disposal plant. Contract "A" sewer system readvertised. See "Bids Desired." A. D. Connell, clk. bd. sewer comrs.

★Utica, N. Y.—Contract for constructing sewers on Wheeler Ave., Thorn, Sophia, York and Pleasant Sts. awarded by Bd. Contract and Supply to Frank M. Johnston, 16 South St., at $13,351.

Bogota, N. J.—Following are totals of four lowest bids opened Sept. 15 by Boro. Council, for Sect. 2, Four miles 8 and 10-in. vitr. sewer Y branches, etc.: Ralph F. Kelly, Oswego, $20,917; Martin Miller & Pizzimenti, Caldwell, $21,608; C. S. Edwards Co., 1 Montgomery St., Jersey City, $23,516, and Averill Matthews Co., 919 Essex Bldg., Newark, $23,926. Clyde Potts, engr., 30 Church St., New York.

★Cleveland, Ohio.—Contract for constructing sewer in Lake Shore Boule. awarded by City Bd. of Control (bids opened Aug. 31) to Manson Co., 120 Engineers Bldg., at $71,603.

★Dayton, Ohio.—City Comn. awarded following concrete sewer contracts to Thos. P. Strack, Goodall Bldg., Cincinnati, Bolander Ave., $7,147, and Baker St., $39,363.

★Lancaster, Ohio.—Contract for constructing storm and sanitary sewers system awarded to Clover & Streets, Lancaster.

★Toledo, Ohio.—Contract awarded J. N. Bick Co., by County Comrs., for constructing Upton Ave. sewer, at $140,000.

★Ann Arbor, Mich.—Contract awarded E. L. Schneider, Ann Arbor, for sanitary sewer Contract No. 72 at $21,210. I. G. Reynolds, city clerk.

Chicago, Ill.—Following are totals of four lowest bids opened Sept. 14 by Trustees Sanitary Dist., Chicago, for construct Niles Center sewer outlet: Thos. P. Garland, 6932 Sheridan St., Rogers Park, $24,552; Marquette Constr. Co., 133 W. Washington St., $31,344; W. F. Cummings, 330 S. Paulina St., $33,459, and U. S. Dredge & Dock Co., 29 S. La Salle St., $36,650.

★St. Charles, Ill.—Contract for constructing sanitary sewers in sewage disposal dist. No. 2 and extension of water mains (bids opened Sept. 14 by Bd. Local Improvements) awarded to H. D. Hallett of Aurora, at $12,906. John W. Wilson, city engr.

★Chetopa, Kan.—Contract awarded Henry Kost, Joplin, Mo., for constructing sewer system (bids opened Sept. 5). A. C. Moore, designing engineer, Joplin; A. B. Bell, city clk.

Dannebrog, Neb.—See "Proposed Work."

★Marmath, N. D.—Contract awarded Security Bridge Co., Billings, Mont., for constructing waterworks (bids opened Sept. 11), at $18,000. Theo. Swendseid, city aud.

★Anaconda, Mont.—Contract for constructing storm sewer in Third St. awarded Clifton, Applegate & Toole, Anaconda, at $49,971 (bids opened Sept. 5). Next three lowest bidders: Monarch Constr. Co., Bozeman, $51,263; Heyden Bros., Great Falls, $54,160; R. M. Bordsen Co., Butte, $56,782.

★Hardin, Mont.—Contract for constructing sewer system and sewage disposal plant awarded to Security Bridge Co., of Billings, at about $12,000.

★Houston, Tex.—Contract for constructing sanitary sewer on Leeland and Bell Aves., from Scott St. to Emanuel St., awarded to W. Waldo, Houston, at $35,-759. Other low bidders: Horton & Horton, Houston, at $46,428; Freund & Quay, Houston, $47,416; F. C. Youmans Constr. Co., Houston, $49,061.

★Drumright, Okla.—Contract for constructing waterworks awarded to Tolbert Constr. Co., Muskogee, at $25,000.

Astoria, Ore.—Lowest bid opened by city for constructing Uppertown waterworks tunnel submitted by M. L. Kline, 515 E. Forty-eighth St. North, Portland, at $7,385.

★Fresno, Cal.—Contract for constructing intercepting and main outfall sewer system awarded to Coast Constr. Co., 1419 E. Twenty-ninth St., Los Angeles, at $322,041. Bids opened by City Council Sept. 5.

★San Francisco, Cal.—Contract awarded Thos. Crowley, of the Embareadero, San Francisco, for installing a 4-in. flexible joint pipe line at San Francisco training station, at $19,913.

★Ottawa, Ont.—Contract for pipe for water mains awarded by city to National Iron Wks., Cherry St., Toronto, at $140,-000.

STRUCTURAL STEEL WORK

PROPOSED WORK.

Buffalo, N. Y.—Reported no bids received Sept. 12 by Comr. Pub. Wks. for constructing bascule bridge over Buffalo River at Abbott Rd. New bids to be submitted on changed plans to be prepared by city engr.; also bidder may submit own plans with bid.

Elizabeth, N. J.—Election Oct. 5 to vote $54,000 bridge bonds. J. Edward Roe, county clk.

South Bethlehem, Pa.—Citizens considering new plans for proposed bridge between Bethlehem and South Bethlehem; cost $650,000. Address Co. Clk., Easton.

Wilkes-Barre, Pa.—It is proposed to construct a bridge over Susquehanna River from Wilkes-Barre to Dorrancetown. Address Richardson Hand, engr., court house, Wilkes-Barre.

Covington, Ky.—Election Nov. 7 to vote on constructing new traffic bridge over Licking River; engineer's estimate $40,-000.

Council Bluffs, Iowa.—Chicago, Milwaukee & St. Paul Ry. and Chicago, Rock Island & Pacific Ry. (C. A. Morse, ch. engr., Chicago), plan constructing viaduct on McPherson Ave.; cost $50,000.

Eldora, Iowa.—State Highway Comn., Ames, preparing plans for 50-ft. steel deck truss with two 30-ft., I-beam approach spans, 18-ft. roadway, concrete floor, piers and pedestal abutments. D. W. Dunn, county engr.

Seattle, Wash.—Contract will soon be let by Board of Comrs. for constructing Richardson Rd. trestle between Kirkland and Redmond. Byron Phelps, clk. of bd.

City Council will construct viaduct across Fortieth St. and Tenth Ave. as approach to Tenth Ave., N. E., bridge across Union Bay. Address City Clerk.

Vancouver, Wash.—Plans completed for 361-ft. bridge to be constructed across north fork of Lewis River; cost $14,000. M. R. Haack, co. aud.

BIDS DESIRED.

Philadelphia, Pa.—See "Roads and Paving."

New Martinsville, W. Va.—Until Oct. 17, by S. Myers, clk. county court, for constructing 12 bridges, advertised in this issue.

Toronto, Ont.—Until Oct. 2, by Chairman of Toronto Harbor Comrs., 50 Bay St., Toronto, for constructing Cherry St. bascule bridge. E. L. Cousins, ch. engr. and mgr. comrs.

PRICES AND LETTINGS.

★Indicates award of contract.

★Fort Plain, N. Y.—Contract awarded by Town Board to J. A. LaPorte, Mechanicsville, at $8,050, for construction of Otsquago Creek bridge at Valley Brook.

★Trenton, N. J.—Contracts awarded by Bd. Freeholders for bridge work as follows: To Dempsey & Hardy, Trenton, at $9,300, for bridge over Bruer's Mill Creek on Lawrenceville-Princeton Rd., and to Russell Klockner, Trenton, at $6,-784, for bridge on Hightstown-Princeton Junction Rd.

★Dayton, Ohio.—Contract awarded by County Comrs. to Central States Bridge Co., Indianapolis, at $18,650, for constructing steel bridge superstructure for bridge No. 38 in Harrison Township over Stillwater River (bids opened Sept. 15).

★Manhattan, Kan.—Following are four lowest bids opened Sept. 12 by County Comrs. for constructing two 260-ft. span bridges across Blue River: Canton Bridge Co., Kansas City, $33,925 (awarded contract), also awarded contract for rubble concrete pier at Garrison at $4,-830 additional; Illinois Steel Co., Jacksonville, $35,580; Western Bridge & Constr. Co., Omaha, $37,600; Midland Bridge Co., Kansas City, $38,650. Geo. H. Hungerford, co. clk.

★Austin, Tex.—Contract awarded by City Council to Ben J. Knape, Austin, at $11,000, for constructing an additional arch to bridge across Waller Creek at Fifteenth and Sixteenth Sts.

★California.—Contract awarded by California Highway Comn., Sacramento, to Mercer-Fraser Co., Eureka, at $124,650, for constructing bridge over Santa Ynez River in Santa Barbara County, Div. V, Sect. D, Route 2. Engineer's estimate $130,397.

★Montalvo, Cal.—W. M. Leadbetter Co., 651 Pacific Electric Bldg., Los Angeles, at $5,479, secured contract from County Supervs., Ventura, for constructing west extension of Montalvo bridge about one mile east of Montalvo (bids opened Sept. 12).

★Winnipeg, Man.—Contract for dome steel for new Parliament buildings awarded Manitoba Bridge & Iron Wks., Winnipeg, at about $169,000.

REINFORCED CONCRETE

PROPOSED WORK.

Johnstown, Pa.—City Council authorized issuing $100,000 bonds for construction of Leuten concrete bridge between Eighth and Seventeenth Wards.

Philadelphia, Pa.—Plans being prepared by Armand Alcantara, 2962 N. Bailey St., for 3-story, 110 x 124 ft., reinforced concrete and brick factory to be erected in North Philadelphia for General Scientific Equipment Co.; cost $150,000.

Plans being prepared by Peuckert & Wunder, 310 Chestnut St., for 6-story, re-

inforced concrete and brick bakery to be erected on Fifty-second St. and Florence Ave. for Freihofer Baking Co.

Phoenixville, Pa.—Comrs. of Chester and Montgomery Counties will construct concrete bridge over canal between Phoenixville and Mont Clare. Address County Clerk, West Chester.

Montgomery, Ala.—County plans constructing bridge at Montgomery, probably concrete on stone foundation. Address County Comrs., Williamsport.

Cincinnati, Ohio.—William Boeh, co. surv., submitted to Board of County Comrs., estimate at $46,000 as cost of constructing concrete bridge with two sidewalks and 40-ft. roadway over Millcreek at North Bend Rd.

Oskaloosa, Iowa.—It is proposed to erect a 3-story brick concrete fireproof arts and science building at Penn College. A. T. Simmons, archt., Bloomington, Ill.

Santa Barbara, Cal.—Mayberry, Parker & Johnson, 472 Pacific Electric Bldg., Los Angeles, engaged to prepare plans for reinforced concrete county hospital; $50,000 available.

Ogden, Utah.—Contract will soon be let for constructing concrete arch bridge at mouth of Ogden Canyon. Address City Recorder.

BIDS DESIRED.

Trenton, N. J.—Until Sept. 27, by Bd. Freeholders, for constructing reinforced concrete slab bridge over Honey branch of Stony Brook on Pennington-Mount Rose Rd. Chas. S. Sincerbeaux, chmn. bridge com.

Greensburg, Pa.—Until Oct. 3, by John S. Sells, co. controller, for constructing reinforced concrete arch bridge over Little Puckety Creek in Parranus Boro., also one over Sewickley Creek, Weltytown, in Mt. Pleasant Township, the I-beams for this bridge have been purchased by the township, reinforcement rods to be furnished by contractor.

Sturgeon, Pa.—Until Sept. 30, by Bd. Comrs., South Fayette Township, address John T. Patterson, secy., Sturgeon, for constructing a reinforced concrete retaining wall along portion of road in South Fayette Township known as Coulters Bottom Road. McCully Eng. Co., 709 Berger Bldg., Pittsburgh.

Hamilton, Ohio.—Until Oct. 7, by W. W. Crawford, clk. Co. Comrs., for constructing concrete steel superstructure new east abutment parapet on west abutment and repointing of the present west abutment at the Thomas and Taylor Bekett Farms.

Anderson, Ind.—Reported desired until Sept. 30, by E. T. Flahavin, co. aud., for constructing three concrete bridges over Duck Creek.

Illinois.—By State Highway Commission, Springfield, for constructing following bridges:

Until Sept. 27:

Peoria, constructing French Creek bridge, reinforced concrete, 40-ft. span, 16-ft. roadway. Engineer's estimate $2,730;

Oct. 2:

Kankakee, for Warner bridge, between Rockville, Kankakee County, and Custer and Wesley Township, Will County.

Luverne, Minn.—Reported desired until Sept. 30, by Comrs. Beaver Creek Township (Julius Stoterau, chmn.), for constructing bridge, concrete abutment, span 20 ft., 18 ft. roadway.

El Reno, Okla.—Until Oct. 5, by Geo. Jensen, co. clk., for constructing concrete and steel bridge, Nos. 30 to 42 inclusive, spans 16 to 32½ ft.; also repairing Bridge No. 0142, spans 105 ft.

Portland, Ore.—Until Dec. 6, by A. L. Barbur, city aud., for constructing reinforced concrete viaduct over tracks of Oregon-Washington Railroad & Navigation Co., between Sandy Blvd. and E. Thirty-seventh and E. Eighty-second Sts.; probable cost $750,000. Philip Dater, city engr.

PRICES AND LETTINGS.

★Indicates award of contract.

★New York, N. Y.—Contract awarded Turner Constr. Co., 11 Bway., for erecting 4-story, 203 x 239 ft., reinforced concrete garage and service station at the North River, bet. Sixty-eighth and Sixty-ninth Streets, for Hudson Motor Car Co. of New York, Inc. H. B. Mulliken, Park Ave. and Forty-first St., archt.

★Waverly, N. Y.—Contract awarded Devereli, Spencer & Co., 1007 Garrett Bldg., for erecting 50,000-bus. capacity grain elevator of concrete for Tioga Mill & Elevator Co.

★Ebensburg, Pa.—Contract awarded by Herman T. Jones, co. audr., to Portage Concrete & Constr. Co., Portage, at $5,140, for constructing 60-ft. concrete girder bridge over Little Conemaugh River (bids opened Sept. 8).

Ann Arbor, Mich.—The following are unit figures of two bids opened Sept. 6 by City Clk for constructing bridge over Huron River at Bway. (Manley Osgood, city engr.): (a) A. H. Prange, Grand Rapids, $54,867; (b) Chandler Dock & Dredge Co., Detroit, $57,118 (both rejected).

	(a)	(b)
1312 cu. yd. excav. below 760 ft.	5.00	7.80
3842 cu. yd. excav. above 760 ft.	3.00	1.04
1717 cu. yd. concrete in pier and abutments.	7.00	8.80
67 cu. yd. concrete in wing walls	9.00	14.88
1035 cu. yd. concrete in arches	16.00	17.80
92 cu. yd. concrete in spandrel walls	18.00	23.00
18 cu. yd. concrete in curbing	10.00	16.60
5615 sq. ft. sidewalk	0.12	0.12
477 lin. ft. railing	2.00	3.64
612 sq. yd. brick pavement	2.10	2.95
Lighting system	1,700.00	500.00
Roadway drainage	150.00	168.96
Removing old bridge	1,000.00	1,050.00

Topeka, Kan.—Lowest bids opened by County Comrs. for bridge work were: Waveland bridge, 90-ft. span, concrete structure over Wakarusa River between Williamsport and Auburn Townships, Topeka Bridge & Iron Co., Topeka, $11,000; Hayes bridge, 45-ft. span, concrete structure, over Blacksmith Creek in Dover Township, Allen & Fulton, Topeka, at $10,141.

★Portland, Ore.—Contract awarded by Union Meat Co. to Frank Leonard, Lewis Bldg., for erecting 6-story, 40 x 70 ft., reinforced concrete and brick slaughter house and storage building addition to their plant at Kenton; cost about $75,000.

★Visalia, Cal.—Contract awarded by County Supervs. to Parlier & Green, Tulare, at $5,986, for constructing concrete bridge, 132 ft. long, across Tule River, near Springville (bids opened Sept. 8).

★St. Boniface, Man.—Contract awarded Progress Constr. Co., St. Boniface, for erecting $75,000 concrete and brick abattoir and rendering plant for D. Balkovaske.

★Winnipeg, Man.—Contract for erecting reinforced concrete and brick warehouse for Grain Growers Grain Co., Lombard St., awarded Sutherland Constr. Co., 202 Carlton Bldg.; cost $60,000.

ROADS AND PAVING

PROPOSED WORK.

Boston, Mass.—All bids opened Sept. 11 by Comr. Pub. Wks. for paving various streets rejected. For unit figures see Sept. 16 issue.

Street Comrs. will widen and reconstruct about a mile of Norfolk St., Dorchester; cost $116,000.

Bath, N. Y.—Board of County Supervs. authorized construction of following roads: Wayland Village, 2.83 miles; Kanona-Prattsburg, 4.97 miles; Corning-Hornby, 6 miles, and Caton-Seeley Creek, 4 miles; cost $262,120.

New York, N. Y.—Plans approved for changing grade and improving Park Ave. at Thirty-fourth St. Work includes additional ramp on east side of Park Ave. between Thirty-second and Thirty-fourth Sts., relocation of subway kiosk at northeast corner of Thirty-third St. and Park Ave., and raising roadway of Park Ave. from Thirty-second to Thirty-third St. Marcus M. Marks, pres. Manhattan boro.

Morristown, N. J.—Bd. Freeholders will issue $559,000 bonds for road improvements, two county bridges and an addition to almshouse.

New Brunswick, N. J.—Board Freeholders will pave with concrete about 1 mile on Plainfield Ave., Piscataway Township.

New Brunswick, N. J.—Street improvement bonds for $60,000 will be sold Sept. 26. Eugene L. McLaughlin, city clk.

Newton, N. J.—Board Freeholders will construct about 1.7 miles experimental concrete track road in Hopatcong Borough. Harvey Snook, co. engr.

Aldan, Pa.—Borough Council adopted ordinance for issuing $12,000 road bonds. Address Borough Clerk.

Camp Hill, Pa.—City Council plans paving Market St.; cost $30,000. Address City Clerk.

Lebanon, Pa.—Berks & Dauphin Turnpike Co. will issue $75,000 bonds for resurfacing entire turnpike road. W. M. S. Moore, pres.

Pittsburgh, Pa.—City Council plans repaving Smithfield St. with wood blocks; cost $22,000. Robert Swan, dir. pub. service.

South Bethlehem, Pa.—Election soon to vote $10,000 street paving bonds. Address City Clk.

Lewisburg, W. Va.—Election Oct. 7 to vote $103,000 bonds for improving 15 miles of public roads. John S. Crawford, clk. co. court.

Madison, W. V.—Election Sept. 29 to vote $450,000 road improvement bonds. Address County Clerk.

Ravenswood, W. Va.—Election Oct. 7 to vote $150,000 road improvement bonds. Address County Clerk.

Mayo, Fla.—Election Oct. 17 to vote $600,000 road bonds. C. E. Henderson, city engr.

Lake Charles, La.—Citizens voted $900,000 bonds for extension of road system in Calcasieu Parish. Address President Police Jury.

Winona, Miss.—Citizens voted $100,000 road bonds. Bonds will be sold Oct. 2 by W. F. Blackston, city clk.

Newport, Tenn.—Ordinance passed City Council authorizing paving about 2 miles of streets. Address City Clk.

Covington, Ky.—Election Nov. 7 to vote $500,000 bonds for improving following streets: Eastern Ave. extension to Latonia Ave., $40,000; Holman St. extension to Main St., $20,000; Hermes Ave. extension, 15,000; Willow Run Boule., $50,000; Warren St. extension and connection with Rogers St., $30,000; paving Pike St. with granite from Buena Vista to Latonia Ave., $50,000; improving Kruse Ave., $25,000; new entrance into Latonia Ave. at Main St., $30,000.

Bedford, Ohio.—Paving bonds for $14,000 will be sold Oct. 12, for improving Wood Row St. C. W. Courtney, 1156 Leader News Bldg., Cleveland, engr.

Bay, Ohio.—Road improvement bonds for $45,167 will be sold Oct. 17 by A. L. Miller, village clk.

Bellefontaine, Ohio.—It is proposed to pave Stanton Ave. at a cost of $20,000. Clair A. Inskeep, dir. pub. service.

Cincinnati, Ohio.—City Council will appropriate $80,000 for widening and improving Hoppel St. from Colerain Ave. to east approach of viaduct. Address City Clerk.

William Boeh, co. surveyor, will prepare plans for improving Salem Pike, cost $12,000.

City Council approved improving portions of Eastern Ave., with wood block and granite or all granite at $80,537 and Quebec Rd. with granite, $214,375 and with bituminous macadam, $159,255.

Circleville, Ohio.—City Council sold $34,000 street improvement bonds. Address City Clk.

Cleveland Heights (P. O. Warrensville), Ohio.—Paving bonds for $31,389 will be sold Oct. 16 by H. H. Canfield, village clk.

Osnaburg, Ohio.—Street improvement bonds for $20,000 will be sold Sept. 26 by J. S. Delap, village clk.

West Salem, Ohio.—City Council sold $24,000 street improvement bonds. Address City Clk.

Urbana, Ohio.—City Council passed ordinance authorizing issuing of $30,500 bonds for paving E. and W. Court Sts. Address City Clk.

Warren, Ohio.—City Council passed ordinance authorizing issuing $19,000 bonds for improving Buckeye and Mulberry Sts. Address City Clk.

Rock Island, Ill.—City Council considering paving portions of Twenty-third St. and Second Ave.; cost $9,600.

Grundy Center, Iowa.—City Council plans paving Main and Elm Sts., with concrete; cost $80,000. E. V. McBroom, city clk.

Augusta, Kan.—Chamber of Commerce will pave 21 blocks with brick. Address Secy. Chamber of Commerce.

Beatrice, Neb.—City considering paving 26 blocks. Address City Clk.

Dardanelle, Ark.—City Council plans paving 6½ or 7 miles of sidewalks with concrete on sand foundation; cost $20,000. Winters & Dove, engrs., Ft. Smith.

Gilmer, Tex.—County Comrs. sold $100,000 bonds for roads in Rd. Dist. No. 1.

Little Rock, Ark.—State Highway Comn. (Sam Carter, Comr.) considering building 65 miles of roads in St. Francis Dist.

Port Arthur, Tex.—Bonds for $64,000 for paving Porter St. will be sold Sept. 30, by L. O. Witter, city clk.

Texarkana, Ark.—Contract soon to be let by Comrs. for paving, about 60 blocks in Improvement Dist. No. 20, for which there is $160,000 available.

Dallas, Tex.—City Council granted petitions for paving Oak Lawn Ave. with bitulithic and Hood St., with vibrolithic. Address City Clk.

Franklin, Tex.—Reported election soon to be held to vote $125,000 road bonds. Address County Clerk.

Aberdeen, Wash.—Reported City Council authorized street and drainage improvements in district west of Division St. to include drainage ditches, graveling, filling, grading, etc.; cost, $26,000.

North Bend, Ore.—Contract soon to be let by City Council for constructing Waterfront Rd. with either concrete surface finish at $31,972 or white cedar planking, $21,106.

Jackson, Cal.—Board of Supervs. have appropriated $12,000 for improving principal roads in county.

Riverside, Cal.—County Surv. will prepare plans and specifications for 5 miles of road north of Beaumont.

Contract will soon be let by County Supervs. for repairing Banning-Palm Springs Rd.; cost $15,000.

Santa Barbara, Cal.—Highway bonds for $50,000 will be sold Sept. 28 by Bd. Co. Superv.

Pocatello, Idaho.—Reported ordinances passed authorizing grading, graveling, etc., of S. Third St., cost $42,003; also for grading and paving streets in Dist. No. 14. A. R. Dawson, city clk.

BIDS DESIRED.

Hartford, Conn.—Reported desired until Sept. 26, by Bd. Contract and Supply, for paving 12,000 sq. yd. cement concrete, 4000 cu. yd. excav. on Scarborough and Ridgefield Sts.

Brooklyn, N. Y.—Until Sep. 28, by L. H. Pounds, boro. pres., for improving with grade 1, granite pavement, on 6-in. concrete foundation, portions of Thirtieth St., in all about 4290 sq. yd., together with curbing, etc. Security $7,400. Furnishing and delivering 80,000 gal. of refined asphalt, in liquid form, and furnishing and delivering 1000 cu. yd. binder stone. Security 30 per cent. of amount for which contract is awarded.

New York, N. Y.—Until Sept. 25, by Marcus M. Marks, pres. Manhattan Borough, for repaving with wood block on concrete foundation portion of Third Ave. and Twenty-fourth St., in all about 5100 sq. yd.; repaving with granite block on concrete foundation portions of Seventeenth, Thirty-first and Thirty-second Sts., about 8090 sq. yd., and with sheet asphalt on concrete foundation portions of Park Row, Eighty-eighth St., Cathedral Parkw. and other streets, in all about 29,130 sq. yd.; security, $36,500. Also same time and place separate bids for improving portions of 134th St., in all about 2200 cu. yd. earth excav., 7000 cu. yd. fill, 5200 yd. rubble concrete, etc.; security, $15,000.

Until Sept. 26, by Douglas Matthewson, pres. Bronx Borough, for repaving with sheet asphalt on concrete foundation and laying sidewalks on bridges over tracks of N. Y. C & H. R. RR. at Girard, River and Walton Aves., in all about 7020 sq. yd. sheet asphalt (medium traffic mixture) and 5750 sq. ft. one-course concrete sidewalks, and keeping in repair 5 yr. from date of completion; security, $1,400. Repaving with sheet asphalt and granite block portions of Daly Ave., in all about 6020 sq. yd. sheet asphalt pavement (medium traffic mixture) and keeping in repair for 5 yr. from date of completion; security, $5,000.

Until Sept. 28, by F. J. H. Kracke, comr. plants and structures, for repaving south roadway of approaches to Williamsburg Bridge. Security $10,000.

Elizabeth, N. J.—Until Sept. 26, for resurfacing Elizabeth and Washington Aves., portion of Blancke St., with stone and tarvia. Clarence H. Smith, borough clk.

Hoboken, N. J.—Until Sept. 29, by W. S. Scott, boro. clk., for repaving West Saddle River Rd., Public Rd., East Saddle River Rd., Wearimus Rd. and Carlton Ave.

Linden, N. J.—Until Sept. 26, for resurfacing stone and tarvia portions of Elizabeth Ave., Stiles St. and Washington Ave. Clarence H. Smith, boro. clk.

Montclair, N. J.—Until Sept. 26, by Harry Trippett, town clk., for Warrenite pavement on concrete base and concrete curb on Grand St., advertised in this issue.

Until Oct. 3, by Harry Trippett, town clk., for paving and curbing S. Fullerton Ave., advertised in this issue.

Woodbury, N. J.—Until Oct. 17, by Wm. C. Cattell, co. engr., Wenonah, for constructing gravel road on Elm and Hardingville Road, to cost $10,000.

Philadelphia, Pa.—Until Sept. 28, by Wm. H. Connell, ch. bureau highways dept. pub. wks., for following: Sched. "A," grading portions of Marlyn Road, Nedro Ave., Erringer Pl. and other streets; Sched. "B," asphalt paving on Cobbs Creek Parkway, Lansdowne Ave., Tenth, Thirteenth, Wyoming and Venango Sts.; Sched. "C," vitr. block on Mitchell and Collom Sta.; Sched. "D," granite block on Tibbon St.; Sched. "E," asphalt repairing, Clifford St.; Sched. "F," repaving on Reno, Fairhill and Terrace Sta.; Sched. "G," surfacing waterbound macadam Overbrook Ave. and Ardleigh St.; Sched. "I," repair to bridges; Sched. "J," dredging creeks in Fortieth Ward; Sched. "L," repairs to sluice and bank (Delaware River Front).

Maryland.—Until Oct. 10, by State Roads Comn., 601 Garrett Bldg., Baltimore, for Contracts No. B. C.-26 and No. B. C.-27, both in Baltimore City, advertised in this issue.

Takoma Park, Md.—Until Sept. 27, by Mayor and City Council, for constructing about 5000 sq. yd. concrete roadways and about 4500 lin. ft. curbing. Ben. G. Davis, town clk., Takoma Park, D. C.

Greenville, Miss.—Until Oct. 2, by Bd. Mississippi Levee Comrs. (W. L. Thompson, ch. engr.), for constructing concrete protection cap spur levee, Station 3769, Carter's Neck Spur, 25,000 sq. ft., about 7 miles above Greenville.

Louisville, Ky.—Reported desired until Sept. 27, by Bd. Pub. Wks., for constructing three alleys, two in the vicinity of Everett and Longest Aves., and the other from Bloom to Avery.

Cincinnati, Ohio.—Until Oct. 2, by Pub. Service Director, for improving Cora Ave. with brick and laying 6-in. water main. Probable cost $14,205. Frank S. Krug, city engr.

Ohio.—Until Sept. 28, by Clinton Cowen, State Highway Comr., Columbus, for improving the following roads, constructing bridges and culverts:

Adams County, Sect. A, West Union-Hillsboro Road, Winchester Township, with waterbound macadam. Length 2.50 miles; cost $19,024. Sect. C, West Union-Sinking Spring Road, Meige Township, waterbound macadam. Length 2.82 miles; cost $18,078.

Clinton County, Sect. A, Wilmington-Hillsboro Road, Green Township, with waterbound macadam. Length 5.02 miles; cost $21,000. Sect. E, Cincinnati-Chillicothe Road, Marion Township, with waterbound macadam. Length .77 miles; cost $5,235.

Cuyahoga County, Sect. A, Cleveland-Sandusky Road, Bay Village, with brick, bituminous or bitulithic. Length 5.34 miles; cost, brick, $167,285; bituminous concrete and Hillside, brick, $166,522; bitulithic and Hillside, brick, $166,522.

Harrison County, Sect. J, Bridgeport-Cadiz Road, Short Creek Township, waterbound macadam. Length 2.36 miles. Sect. D, Cadiz-Dennison Road, Cadiz Township, waterbound macadam. Length 2 miles; cost $11,054.

Hocking County, Sect. E, Lancaster-Logan Road, constructing 30-ft. arch bridge over Harpers Run; cost $2,526.

Huron County, Sect. B, of Barberton-Greenwich Road, Ripley Township, with concrete. Length 1.11 miles; cost $13,-386.

Logan County, Sect. D, Bellefontaine-Richwood Road, West Mansfield, with concrete. Length 0.34; cost $6,327.

Lorain County, Sect. N, Oberlin-Elyria Road, village of Oberlin. Contract No. 1, paving strip on each side of C. S. & C. Ry. Co.'s tracks with brick. Length .33 miles; cost $12,198. Alternate bids for bituminous concrete; cost $10,388. Contract No. 2, brick; cost $4,212.

Ottawa County, Sect. H, Toledo-Elmore Road, Clay Township, with waterbound macadam. Length 1 mile; cost $8,912.

Richland County, Sect. J-2, Mansfield-Shelby Road, Springfield Township, with reinforced concrete and cinders. Length .38 mile; cost $4,932.

Trumbull County, Sect. R, Youngstown-Sharon Road, in Brookfield Township, with brick. Length 1.14 miles; cost $24,467.

Tuscarawas County, Sect. A, Canton-Canal Dover Road, Dover and Fairfield Townships. Length 2.97 miles; cost $14,-529.

Vinton County, Sect. A, of McArthur-Gallipolis Road, in Vinton Township, paving with either brick, waterbound macadam or concrete. Length 1.77 miles; cost, brick, $19,432; waterbound macadam, $16,526; concrete, $17,444.

Warren County, Sect. A, Morrow-Lebanon Road, Salem Township, with waterbound macadam. Length 2.82 miles; cost $6,320. Sect. B, Morrow-Lebanon Road, in Turtle Creek Township, with waterbound macadam. Length 4.47 miles; cost $10,741.

Washington County, Sect. O, Marietta-McConnellsville Road, Adams Township. Length 1 mile; cost $6,520. Sect. M, of Hockingport-Powhattan Road, in Belpre Township. Length .96 miles; cost $3,708.

Wyandot County, Sect. A, of Bucyrus Nevada Upper Sandusky Road, in Eden and Crane Townships, with bituminous macadam. Length 4.77 miles; cost $29,-415.

Guernsey County, Sect. L, of Cambridge-Caldwell Road, Cambridge Township. Length 1.25 miles; cost $11,109.

Gary, Ind.—Reported desired until Sept. 25, for paving 4100 sq. yd. paving, 4820 ft. curb, etc. Probable cost, $11,300.

Indiana.—By County Commissioners for constructing following roads:

Until Oct. 3:

Bedford—2850 ft. gravel or macadam road, in Shawick Township. 9985 ft. in Marshall Township; 12,100 ft. in Guthrie Township, and 5286 ft. in Spice Valley Township. Ezra W. Edwards, co. aud.

Washington—Constructing gravel road in Veals Township. J. G. Clark, co. aud.

Kokomo—Stone road in Clay Township, 3968 ft. Wm. L. Benson, co. aud.

Until Oct. 4:

Columbia City.—Gravel road in Clevelena Township. Thos. A. McLaughlin, co. aud.

Shelbyville.—Gravel road 13,695 ft. long in Hanover Township. Frank W. Fagel, co. aud.

Frankfort.—5253 ft. gravel road in Forest Township. Edw. Spray, co. aud.

Until Oct. 6:

Indianapolis.—Grading, graveling or macadamizing road in Franklin Township. Leo K. Fesler, co. aud.

Oct. 14:

Liberty.—County line gravel road. Geo. W. Wray, co. aud.

Indianapolis.—Until Sept. 27, by Bd. Pub. Wks. for paving Morris, East and Wright Sts.

Jacksonville, Ill.—Until Sept. 27, for 11,-672 yd. sheet asphalt pavement, together with curbing, etc. Address H. L. Caldwell, Jacksonville.

Nevada, Ia.—Reported desired until Sept. 28, for constructing drains; probable cost, $36,500. F. E. King, co. aud.

Columbus, Kan.—Until Oct. 4, by F. H. Hawkins, city clk., for 16,952 sq. yd. pavement and 4762 lin. ft. curb and gutter. Bids on brick, sheet asphalt, asphaltic concrete and national pavement will be considered, advertised in this issue.

Kansas City, Mo.—Until Sept. 26, by Bd. Pub. Wks. (W. H. Benham, secy.), for paving with bituminous macadam Wornall Road, and with Portland cement concrete portions of Fiftieth and Fifty-first Sts. and Agnes Ave.

Hanford, Cal.—Until Oct. 2, by Bd. Superv. (E. F. Pickerell, clk.), for constructing Highway No. 4, Divs. 1, 2 and 3, approximately 9.5 miles, involving about 9500 cu. yd. excav., 801,397 or 751,410 sq. ft. 2½-in. asphaltic concrete base, with 1½-in. Topeka or Warrenite wearing surface, or same amount of 4-in. asphaltic concrete pavement, with sand wearing surface, 200 ft. guard fence, etc. Benn Duffield, ch. engr. highway comn.

Seattle, Wash.—Until Sept. 26, by Byron Phelps, clk. Bd. Co. Comrs., for constructing Bothell-Kirkland road, in all about 3 miles long; probable cost, $22,000. A. P. Denton, co. engr.

Washington.—Until Oct. 9, by State Highway Comn. (Jas. Allen, secy., Olympia), for surfacing with gravel about 2 miles of Inland Empire Highway in Benton Co. J. T. Wright, co. engr.

Scio, Ore.—Reported desired until Sept. 24, by J. S. Sticha, city recorder, for paving with macadam Main St., Dist. No. 3, and North St., Dist. No. 3, and with asphalt pavement on Main St., Dist. No. 1.

Anaheim, Cal.—Until Sept. 28, by Edw. B. Merritt, city clk., for grading and constructing 16,900 sq. ft. 4½-in. concrete paving with 1½-in. Topeka surface on alleys. Also same time and place for 62,-700 sq. ft. 4½-in. concrete pavement with 2-in. asphaltic concrete wearing surface on S. Philadelphia St.

Los Angeles, Cal.—Until Oct. 2, by Bd. Superv. (A. M. McPherrin, clk.), for improving portions of Beverly Road, with bituminous surface in Dist. No. 126, in all about 11,960 lin. ft. shaping, 33,820 cu. yd. excav., 17,054 cu. yd. concrete pavement, together with culverts, fencing, etc.

Santa Ana, Cal.—Until Oct. 4, by Bd. Superv. (W. B. Williams, clk.), for constructing three miles of earth road northwesterly from Huntington Beach, involving about 25,000 cu. yd. sand excav., 7500 sq. yd. clay surface, etc.

Tucson, Ariz.—Until Sept. 26, by Bd. of Superv. (B. L. Hitch, clk.), for constructing Sect. A, of Nogales Road, 17.8 miles, involving about 140 acres of grubbing and clearing, 69,500 cu. yd. earth excav., 5000 cu. yd. loose rock excav., 1900 cu. yd. plain concrete in dips and headwalls, 12,312 cu. yd. unscreened gravel for road surface, etc. W. C. Goetz, co. engr.

PRICES AND LETTINGS.

★Indicates award of contract.

★**Massachusetts.**—Contract awarded by Massachusetts Highway Comn., Boston, to M. DeMatteo, 146 Dudley Ave., Rosindale, for constructing trap rock macadam road in Walpole, at $4,349, and to B. E. Savage, 30 Dewey St., Worcester, for gravel road in Ashburnham, at $8,829 (bids opened Sept. 12).

Somerville, Mass. — Following bids opened Sept. 19 by City Council for 9100 sq. yd. granite block pavement on 5-in. 1:3:6 concrete base (blocks to be furnished by city): (prices given per sq. yd.). Hassam Paving Co., Worcester, $2.35; J. H. Fannon, 26 Hinckley St., Somerville, $2.50 and Dennis I. Crimmings, Powder House Boule., Winter Hill, $2.90.

Albany, N. Y.—Following are bids opened Sept. 18 by State Highway Comn. for state road works:

Road No. 1449—Maine-Glen Aubrey, Broome County, 5.35 miles (no bids received).

Road No. 1450—Castle Creek-Whitney Point, Broome County, 6.93 miles (no bids received).

Road No. 5623—Oxford-Soldiers Home, Chenango County, 1.3 miles (3 bidders): A. B. Haight, Oxford, $21,329; Paddelford & King, Sherburne, $22,180, and H. S. Schauff, Guilderland, $22,360.

Road No. 763—Hollowville-Craryville, Columbia County, 7.14 miles (no bids received).

Road No. 1439—Sidney-Masonville, Delaware County, 6.51 miles (2 bidders): Hovey E. Benedict, Williamsport, Pa., $89,961; Edw. B. Abrogast, Stroudsburg, Pa., $90,504.

Road No. 1445—East Aurora-Lancaster, Pt. 2, Erie County, 3.54 miles (only bidder): Mosier & Summers, Inc., Buffalo, $59,998.

Road No. 1446—South Newstead-Peter Cors., Erie County, .91 miles (no bids received).

Road No. 5622—Holland-Yorkshire, Pt. 1, Erie County, 5.19 miles (no bids received).

Road No. 1459—Wayland-Dansville, Pt. 2, Livingston County, 1.47 miles (lowest bidders): Bradley & McGreevey, Elmira, $19,595.

Road No. 513—Amsterdam-Morris Corner, Montgomery Co., 2.49 miles (no bids received).

Road No. 514—Snooks Corners-Amsterdam, Montgomery County, 2.7 miles (no bids received).

Road No. 515—Berryville-Sammonsville, Montgomery County, 1.61 miles (no bids received).

Road No. 517—Palatine Bridge-Stone Arabia, Montgomery County, 3.7 miles (no bids received).

Road No. 1396—Sheridan Boule.-Burnside Ave. and Rockaway Turnpike, Nassau County, 2.99 miles (only bidder): Rosenthal Engineering & Contr. Co., Inc., Brooklyn, $118,052.

Road No. 5590—Lewiston Heights-Lewiston, Niagara County, .61 miles (no bids received).

Road No. 5624—Richfield Springs Vil.-Church, Prospect & Bronner Sts., Otsego County, 1.05 miles (3 lowest bidders): Union Paving Co., Schenectady, $26,537; Federal Pavement Cor., New York City, $26,867; Harry W. Roberts Co., Inc., $26,954.

Road No. 1455—Brewster-Connecticut State Line, Putnam County, 3.42 miles (2 bidders); John R. Arborio, New Haven, $42,880; John A. Jova, Inc., Newburg, $43,499.

Road No. 1423—Speighletown-Tomahanick Reservoir, Rensselaer County, 6.43 miles (only bidder): Belmar Constr. Co., Troy, $84,592.

Road No. 5519—Malta-Ballston Spa, Saratoga County, 3.73 miles (2 bidders): F. D. Van Horn, New York City, $22,096; John B. Dower, Ballston Spa, $23,366.

Road No. 5545—Schnectady-Duanesburg, Pt. 2, Schenectady County, 5.62 miles (2 bidders): Green & Miller, Schenectady, $49,600, and Lane Constr. Cor., Meriden, Conn., $51,149.

Road No. 1401—Willard-Ovid, Seneca County, 2.13 miles (only bidder): Hovey E. Benedict, Williamsport, Pa., $22,186.

Road No. 1308—Hawthorne-Pleasantville, Westchester County, 2.15 miles (2 bidders): John A. Jova, Inc., Newburg, $22,516, and Jas. V. Troisi, Mt. Vernon, $28,545.

Road No. 1456—Westchester Ave.-Westchester County, 1.09 miles (only bidder): Daly & Merritt, Portchester, $44,153.

Road No. 1457—Lake St., Ridge St. & Harrison Ave., Westchester County, 4.62 miles (3 lowest bidders): Smith Bros. Constr. Co., Pelham, $66,380; Rosenthal Engineering & Constr. Co., Brooklyn, $69,828; Lewis Petrillo, Mt. Vernon, $75,-056.

Repair Contract No. 1001—Broome County, Road No. 125, .48 miles (lowest bidder): Sherman Contr. Co., Inc., Oneonta, $15,237.

Repair Contract No. 999—Onondaga County, Road No. 1039, 2.61 miles (lowest bidder): John H. Weidman, Syracuse, $11,555.

Repair Contract No. 1005—Albany County, Roads 1220, 365, 5501, 367, 198, 366, 178, 192 and 177 (lowest bidder): Thos. J. Martin, Beacon, $11,710.

★**Shamokin, Pa.**—Contract awarded by Borough Council to Peter Barr, Shamokin, at $28,708, for constructing roads along Coal Run and Carbon Run Creeks.

★**Georgetown, Del.**—Contract awarded C. C. Humpheys, Hackensack, for 10 miles concrete road on sects. 5 and 6, Coleman du Pont Road (bids opened Sept. 6 by County Engr.).

Frederick, Md.—H. W. Kaylor, Hagerstown, submitted lowest bid Sept. 12 for constructing Monrovia-Hyattstown Rd., at $14,719. H. L. Gaver, co. clk.

★**Maryland.** — Contracts awarded by State Roads Comn., Garrett Bldg., Baltimore, as follows: Contract No. S-9, Class A, concrete, to Ambler-Davis Co., Philadelphia, Pa.; No. B-28, macadam, Amiesite & Stone Co., 15 E. Fayette, Baltimore; No. M-15 and 418, Class C, macadam, G. B. Mullin Co., Washington, D. C.; No. K-B and 441, Class A, concrete, W. B. Shafer Co., 303 Fifth Ave., New York, N. Y.; No. 429, macadam, A. B. Rowbie, Potomac, Va.; No. 454, Class B, macadam, E. R. Sutton, Perryville, Md.; No. 442, macadam, Holt Constr. Co., Denton, Md.; No. 418, concrete bridge, Luten Bridge Co., York, Pa.

★**Monroe, La.**—Contract awarded Wetzel & Co., Monroe, for constructing 12 miles of gravel roads, including all work except gravel for surfacing, at $109,634.

★**Dayton, Ohio.**—Contract awarded by Cincinnati, Hamilton & Dayton Ry. to Thos. P. Strack, Goodall Bldg., at $10,000 for paving freight yards.

★**New Albany, Ind.**—Contract awarded by County Comrs. to W. F. Woodruff, Louisville, at $15,007, for constructing Green Valley Rd. No. 3 in New Albany Township (bids opened Sept. 15).

★**Chicago, Ill.**—Contract awarded John A. McGarry Co., Chicago, Sept. 18, by Co. Comrs. for 4¾ miles of asphaltic concrete in Breen Township (bids opened Sept. 12) at following bid: 18,000 yd. earth excav., 40 cts.; 4300 yd. borrow, 50 cts.; 742.5 yd. reinforced concrete, $15.60; 146.8 yd. plain concrete, $11.50; 16,455 sq. yd. earth shoulder, 4 cts.; 49,528 sq. yd. asphaltic concrete pavement, 80 cts.; 7½ cu. yd. brick handrail, $30; 7305 cu. yd. waterbound macadam base, $3.25; 150 cu. yd. macadam resurfacing, $3.25; 709 sq. yd. stone rip rap, 70 cts.; 18 ft. 24-in. vitr. pipe, $2; 200 ft. 2-in. pipe handrail, $1.50; 2120 ft. guard fence, 35 cts.; 12 guide posts and signs, $7 each; 2 stone wells $5 each; 100 ft. 15-in. shale pipe, 50 cts.; 280 ft. 12-in. shale pipe, 40 cts. Total, $89,186. Geo. A. Quinlan, co. supt. highways.

★**Elgin, Ill.**—Contract awarded by City Council to McCarthy Improvt. Co., Davenport, at $1 per sq. yd., total $16,983 for 15,650 macadam pavement on Douglas Ave.

★**Illinois.**—Contracts awarded as follows by State Highway Comn., Springfield: Aug. 28, to E. A. Lord Constr, Co., Monmouth, for Sect. D., Warren Co., with concrete, at $9,233; Sept. 6, Goggin Constr. Co., Arcola, Douglas Co., Sect. F, brick pavement, $11,066; Ben F. Harrison, Decatur, Macon Co., Sect. D, oiled earth, at $23,446.

★**Duluth, Minn.**—Contract awarded by City Council to J. Johnson, Duluth, at $19,649 for paving Sixth Ave. E.

★**Leavenworth, Kan.**—Contract awarded by City Comrs. to Edward Jones, Leavenworth, at about $61,930, for resurfacing Broadway with tar macadam.

★**Bismarck, N. D.**—Contracts awarded by City Comn. for paving in Dist. No. 1 with bitulithic to Hanlon & Okes, Sioux City, at $115,520, and in Dist. No. 2 with asphalt to Ford Paving Co., Cedar Rapids, at $331,568.

★**Casper, Wyo.**—Following bids opened Sept. 6 by C. M. Bryan, town clk., for 17,000 sq. yd. bitulithic pavement on Center St.: Warren Constr. Co., Portland, $39,271 (awarded contract); W. F. Henning, Casper, $40,409, and S. Birch & Sons Constr. Co., Great Falls, $39,828.

★**Georgetown, Tex.**—Contract awarded by County Comrs. to F. McMillan, San Marcos, at $30,000, for constructing about 12 miles of macadam roads out of Hutto.

★**Drumright, Okla.**—Tolbert Constr. Co. of Muskogee secured contract at $110,000 for paving streets with brick.

★**Port Angeles, Wash.**—Contract awarded J. Tower & Co., Port Angeles, at $21,-404, for 13,000 sq. yd. concrete paving and 7000 ft. curbing, etc. (bids opened Sept. 5). J. L. Beam, city clk.

Seattle, Wash.—A. J. Baumgartner, 711 Sixteenth Ave., at $21,228, submitted low bid to Bd. Pub. Wks. for paving Olive St.

★Contract awarded by Bd. Pub. Wks. to D. H. Traphagen, 806 Alaska Bldg., at $15,247, for paving Alki Ave. with concrete.

Coluccio & Niblett, 1641 Lane St., at $36,473, low bidder for paving Rainier Ave. A. H. Dimock, city engr.

★**Waterville, Wash.**—Reported contract awarded by County Comrs. to James T. Smith, Prosser, at $19,879, for constructing Permanent Highway No. 4. Robert F. Foster, county engr.

★**Portland, Ore.** — Reported contract awarded by City Council to Oregon Hassam Paving Co., Portland, at $13,051 for paving E. Davis and E. Sixteenth Sts. with Hassam Class A.

★**Hanford, Cal.**—Contract awarded by County Supervs. to Raisch Improvt. Co., San Francisco, at $61,387, for constructing about 15.25 miles of Highway No. 3, Div. 2 and 1A, Sects. 2 and 3 (bids opened Sept. 7).

Los Angeles, Cal.—R. H. McCray, 422 American Bank Bldg., at $19,338, submitted lowest bid to County Supervs., for 2.94 miles of Wright and Tweedy Rds., Rd. Dist. N. 94 (bids opened Sept. 11).

★**Newport Beach, Cal.**—Contract awarded by City Trustees to Johnson-Shea Co., Riverside, at $21,967, for constructing concrete pavement on First and other streets.

★**Pasadena, Cal.**—Contract awarded by City Comrs. to Thomas C. Breitenstein, 465 Van Wyck St., at $10,779, for constructing about 76,700 sq. ft. 4-in. oil macadam pavement, 28,200 sq. ft. cement walks, 11,500 sq. ft. cement gutter, and 5700 lin. ft. cement curb on Holliston Ave. (bids opened Sept. 5).

Ventura, Cal.—Fairchild, Gilmore Wilton Co., Los Angeles, submitted a bid on Sept. 8, at $22,655, for constructing culverts and paving approximately 220,000 sq. ft. on Main St. and Telegraph Rd. in Santa Paula. J. B. McCloskey, co. clk.

★Contract for grading and constructing culverts on Div. 10, Sect. 2, of Santa Susanna Pass Rd. (bids opened Sept. 7 by Bd. Superv.), awarded C. L. Hyde Constr. Co., Los Angeles, at $27,884.

★**Ogden, Utah.**—Contract awarded by City Comrs. to J. P. O'Neill Constr. Co., Ogden, at $37,755, for paving about a mile of Lincoln Ave. with concrete.

★**Salt Lake City, Utah.** — Contract awarded by Gordon Snow, city recorder, to J. W. Mellen, Salt Lake City, at $35,616, for paving Beck St. with concrete.

RAILWAYS
Steam and Electric

PROPOSED WORK.

Manchester, N. H.—Plans being prepared for construction of power plant for Manchester Traction, Light & Power Co. French & Hubbard, 88 Pearl St., Boston, engrs.

Goldsboro, N. C.—G. Norwood, Goldsboro, reported interested in railroad to be built from Goldsboro southeast to Seven Springs, about 15 miles.

West Point, Ga.—Chattahoochee RR. (J. T. Barker, Genl. Mgr., West Point), is reported, intends extending line to Leecker, Ala., a distance of 10 miles.

Cleveland, Ohio.—City Engr. completed plans for closing of W. Thirtieth St. and relocating tracks of Nickle Plate RR.; cost $30,000.

East Cleveland, Ohio.—Reported construction work will begin this fall by J. Free Land Co. on proposed line on Noble Rd. between Euclid Ave. and Mayfield Road; cost $35,000.

Youngstown, Ohio.—Reported Youngstown & Southern Ry. Co. considering improving line. W. J. Blackburn said to be interested.

Aurora, Ill.—Aurora, Mendota & Western RR. Co. applied to Public Utilities Comn. of Illinois for permission to construct railway between Aurora and Mendota.

Portage, Wis.—Construction of electric railway from Portage to Baraboo contemplated. S. H. Peck of Portage may be able to give further information.

Muscatine, Iowa.—Plans being considered for equipping Muscatine, Burlington & Southern Ry. for electrical operation. Electric motor equipment to be purchased.

Portland, Ore.—Portland Railway Light & Power Co. contemplates constructing double track line 2 miles long to approach Interstate Bridge over Columbia River between Vancouver, Wash., and Portland.

Clarksdale, Ariz.—Arizona Extension R. R. Co. (Jas. S. Douglas, pres.) organized to construct a railroad from Clarksdale to Mesa.

Dunnville, Ont.—Plans prepared for hydro-radial to be constructed between Dunnville and Port Erie via Port Colborne and Bridgeburg. F. F. Gaby of Ontario Hydro Electric Comn. may be able to give further information.

BIDS DESIRED.

New York, N. Y.—See "Buildings."

Portland, Ore.—Until Dec. 6, by City Council, for elimination of grade crossing O., W. RR. & N. Co. at several streets. Plans on file in New York office of Engineering Record. A. L. Barbur, city aud.

PRICES AND LETTINGS.

★Indicates award of contract.

★New York, N. Y.—Public Service Comn. for First Dist. approved contract awarded by Interborough Rapid Transit Co. to Thos. Crimmins Contr. Co., 444 E. Sixty-ninth, for installation of third rail on Queens Rapid Transit lines; cost $22,-000.

★Contract awarded by Public Service Comn. for First Dist. to Engel & Heveror, 220 Bway., for installation of tracks on Seventh Ave. branch of Lexington Ave. Rapid Transit RR., at $229,440 (bids opened Sept. 8). For unit figures see issue of Sept. 16.

New York, N. Y.—See "Buildings."

★Upper Darby, Pa.—Contract for grading, masonry and roadway construction awarded by Philadelphia & West Chester Traction Co. to Wm. J. Torrington, Philadelphia.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Brooklyn, N. Y.—See "Reinforced Concrete."

Long Island City, L. I., N. Y.—Cambridge Soap & Chemical Co., 675 Madison Ave., New York, will erect 4-story factory at Hamilton and Harris Aves.

New York, N. Y.—Plans filed for erecting 9-story warehouse on Morton and Washington Sts. for Baker & Williams; cost $200,000. Renwick, Aspinwall & Tucker, 8 W. Fortieth St., archts.

Plainfield, N. J.—J. D. Loizeaux Co., Plainfield, will erect new planing mill, timber sheds and reinforced concrete trestle to extend 800 ft. from Central RR. of New Jersey tracks.

East Pittsburgh, Pa.—Reported plans being prepared for new freight station to be erected for Pennsylvania RR. (Alex. C. Shand, ch. engr., Philadelphia); cost $50,000.

Lebanon, Pa.—Cornwall Ore Bank Co., Lebanon, plans improving plant; cost about $50,000.

Pittsburgh, Pa.—National Biscuit Co., 409 Liberty Ave., plans erecting additional factory.

Kaufmann Bros., 24 W. Grant Ave. secured site on River Ave. and Sturgiss St. and intend erecting 8-story fireproof warehouse; cost about $1,000,000.

Baltimore, Md.—Baltimore Copper Smelting & Rolling Co., Fourth Ave. and Fifth Street, Canton, reported contemplates spending $500,000 for additions and machinery.

Anniston, Ala.—Alabama Power Co. (Jas. Mitchell, pres.), Birmingham, reported plans erecting five electric steel furnaces here to cost $1,000,000.

Ensley, Ala.—Reported Birmingham Slag Co., Birmingham, intends erecting crushing plant here, to cost $75,000.

Mobile, Ala.—Reported Louisville & Nashville RR. (W. H. Courtenay, Louisville, Ky., ch. engr.) has plans for improving coal docks, to include installation of electrical hoists; cost, about $78,600.

Alliance, Ohio.—Reported Alliance Machine Co., Alliance, intends doubling capacity of plant and installing new machinery to cost $500,000.

Fremont, Ohio.—Herbrandt Co., E. State St., intends erecting $200,000 factory addition, providing city vacates Sandusky Ave.

Sandusky, Ohio.—Reported Cleveland-Sandusky Brewing Co., Sandusky, intends spending $100,000 for improving Kuebeler and Stang plants here.

Chicago, Ill.—Linde Air Products Co., 1501 S. Peoria St., purchased site at Wall and Thirty-seventh Sts., and intends erecting factory to cost about $75,000.

Peoria, Ill.—Plans being prepared for improvements and additions to plant of Peoria Malting Co., Cedar St.; cost $200,000.

Big Sandy, Mont.—Reported plans being prepared for 50-bbl. per day capacity flour mill which McNamara & Marlow Co., Big Sandy, intends erecting here.

San Antonio, Tex.—Mission Ice & Fuel Co. (J. R. Baldwin, mgr.), approved plans prepared by M. J. Dielman, 306 E. Commerce St., for new plant to cost about $55,000.

Texarkana, Tex.—Texas Glass Co., Texarkana, contemplating remodeling plant from a hand to a machine plant; estimated cost $50,000.

Tucson, Ariz.—San Xavier Extension Copper Co. (E. G. Bush, Twin Buttes, pres.) intends erecting 400-ton concentrating plant to handle oxide and sulphide ores.

Salt Lake City, Utah.—Contract soon to be let by Peoples Sugar Co., 712 McIntyre Bldg., for a 500-ton beet sugar mill which is to be erected in Sanpete County.

Canada.—Bryant Paper Co. of Kalamazoo, Mich., reported contemplating erecting pulp mill in Canada, to cost about $1,500,000.

St. Thomas, Ont.—Plant of Dehydration Co. recently destroyed by fire will be rebuilt.

PRICES AND LETTINGS.

★Indicates award of contract.

Waverly, N. Y.—See "Reinforced Concrete."

★Cincinnati, Ohio.—Contract awarded Ferro Concrete Constr. Co., Richmond and Harriet Sts., for erecting factory for Globe Register Co., Reading, Rd.; cost $85,000.

★Contract for erecting addition to plant of Cincinnati Milling Machine Co., Marburg Ave. and South St., awarded Fisher-De Vore Constr. Co., 34 W. Sixth St.; cost $60,000.

★Minneapolis, Minn.—Splady, Albee & Smith, Plymouth Bldg., secured contract to erect group of factory buildings for oxygen plant for Linde Air Products Co., at Stinson Boule. and E. Hennepin Ave.

Portland, Ore.—See "Reinforced Concrete."

Toronto, Ont.—Contract soon to be let by W. H. Hutchinson, 83 Castle Frank Rd., for erecting brick apartments to cost $65,000.

St. Boniface, Man.—See "Reinforced Concrete."

Winnipeg, Man.—See "Reinforced Concrete."

BUILDINGS
Public and Private

PROPOSED WORK.

Fall River, Mass.—Plans being prepared by H. R. Hunt, Westminister St., Providence, R. I., for 4-story brick business block to be erected on Main St. for Cherry & Webb.

New York, N. Y.—Following are unit figures of four lowest bids opened Sept. 13 by Public Service Comn. for First Dist., 120 B'way, for constructing section No. 1-B of Route No. 12, a part of the B'way-Fourth Ave. Rapid Transit RR.: (a) The Degnon Contr. Co., 30 E. 42d St., $810,265; (b) Smith, Hauser & MacIsaac, 18 E. 41st St., $823,449; (c) Fredk. L. Cranford, Inc., Mail and B'way, $839,306; (d) the Underpinning & Foundation Co., 290 B'way, $1,074,977.

Item	(a)	(b)	(c)	(d)
1—28,700 cu. yd. earth excavation above mean high water	$2.25	$3.50	$4.57	$5.15
2—5,900 cu. yd. earth excavation below mean high water	3.00	3.50	4.57	5.15
2-A—640 cu. yd. earth excavation for sewers	2.50	5.00	4.57	5.15
4-QQ—For underpinning buildings on Hanson Place, lump sum	30,000.00	2,000.00	16,500.00	5,000.00
5-E—16,100 cu. yd. for tunnel excavation above mean high water	6.00	3.50	7.00	10.50
5-F—14,200 cu. yd. for tunnel excavation below mean high water	8.00	3.50	7.00	10.50
6—13,500 cu. yd. concrete masonry	9.50	8.00	8.88	10.00
7—1,460 cu. yd. concrete masonry outside waterproofing	9.50	8.00	8.88	10.00
8—10 cu. yd. rubble stone masonry	6.00	10.00	8.00	9.00
8-A—10 cu. yd. dry rubble masonry	4.00	10.00	7.00	9.00
9—10 cu. yd. brick masonry	14.00	20.00	20.00	20.00
9-D—450 cu. yd. removal of old masonry	12.00	20.00	15.00	20.00
10—10 cu. yd. hollow tile masonry	14.00	20.00	15.00	20.00
11—1,000 bbl. grout of Portland cement	2.50	3.00	3.00	3.00
12—1,000 lin. ft. timber piles	.30	1.00	.25	1.00
13—2 M. ft. timber foundations	40.00	100.00	75.00	70.00
14—50 cu. yd. broken stone	2.00	3.00	3.00	2.00
15-a—8,500 sq. yd. one-ply waterproofing	.60	.35	.60	.50
15-b—100 sq. yd. two-ply waterproofing	.80	.70	.70	1.00
15-c—3,000 sq. yd. three-ply waterproofing	1.25	1.00	.80	1.50
15-d—100 sq. yd. four-ply waterproofing	1.60	1.20	.90	2.00
15-E—100 sq. yd. five-ply waterproofing	1.90	1.50	1.00	2.50
15-f—100 sq. yd. six-ply waterproofing	2.25	1.80	2.00	3.00
15-i—100 sq. yd. dry-ply waterproofing	.50	.35	.40	.45
16—1,550 cu. yd. brick in asphalt mastic	12.00	23.00	26.00	30.00
17-a—50 lin. ft. 12" vitrified drain pipe	1.10	.60	1.00	1.20
17-b—50 lin. ft. 10" vitrified drain pipe	.90	.50	.80	1.00
17-c—50 lin. ft. 8" vitrified drain pipe	.70	.50	.70	.80
17-d—50 lin. ft. 6" vitrified drain pipe	.50	.45	.60	.60
17-e—50 lin. ft. 4" vitrified drain pipe	.30	.40	.50	.40
17-g—50 lin. ft. 6" cast iron drain pipe	1.25	1.00	1.00	1.20
17-h—50 lin. ft. 4" cast iron drain pipe	1.00	.75	.75	1.00
17-i—50 lin. ft. 10" cast iron drain pipe	1.75	1.50	1.50	2.00
17-A(a)—50 lin. ft. 3" cast iron pipe, special extra heavy	1.00	.40	1.00	.75
17-A(b)—50 lin. ft. 4" cast iron pipe, special extra heavy	1.00	.50	1.25	1.00
17-A(c)—50 lin. ft. 6" cast iron pipe, special extra heavy	1.50	.80	1.50	1.50
17-A(d)—50 lin. ft. 8" cast iron pipe, special extra heavy	1.75	1.50	2.00	2.00
17-C(a)—50 lin. ft. 3" gavlanized wrought iron pipe	1.75	1.00	1.50	.90
17-C(d)—50 lin. ft. 6" galvanized wrought iron pipe	2.25	1.50	2.00	1.80
18—30,500 duct ft. tunnel ducts	.15	.15	.12	.16
19—1,600 tons riveted steel	80.00	95.00	95.00	125.00
20—740 tons steel beams and shapes	80.00	88.00	82.00	115.00
21—20 tons steel rods	80.00	125.00	100.00	150.00
25—5 tons miscellaneous iron castings	75.00	70.00	80.00	100.00
25-C—5 tons miscellaneous iron furnishings	75.00	70.00	100.00	120.00
26—9,200 lb. special wire forms	.20	.25	.15	.25
27-B—50 lin. ft. 1¾" oak or ash hand-rail	1.00	.50	.50	1.00
29—1,240 sq. ft. vault lights	1.50	1.10	1.60	1.40
30-a—590 sq. yd. sidewalk restored	2.00	1.50	2.00	3.00
30-e—990 sq. yd. repavement asphalt	3.00	2.75	3.00	5.00
30-f—50 sq. yd. repavement granite block	3.50	2.50	2.50	4.00
30-i—50 lin. ft. bluestone curb	1.50	1.25	1.25	2.00
30-k—50 lin. ft. 8" granite curb	1.75	2.00	2.50	3.00
32-a—7,000 lin. ft. ¾" wrought iron electric conduits	.40	.15	.30	.20
32-b—500 lin. ft. 1½" wrought iron electric conduits	.60	25	.50	.30
32-c—500 lin. ft. 2" wrought iron electric conduits	.75	.40	.60	.40
32-d—1,500 lin. ft. 1" wrought iron electric conduits	.50	.25	.40	.25
33—400 cast iron outlet boxes, each	1.00	1.00	1.00	1.50
33-A—15 cast iron pull boxes, each	5.00	1.50	1.50	1.50
34-a—100 lin. ft. 6" cast iron pipe, extra heavy	1.50	2.00	2.00	1.20
34-b—75 lin. ft. 3" cast iron pipe, extra heavy	1.00	1.00	1.50	.80
37—300 lin. ft. 12" vitrified sewer pipe	5.00	2.00	3.00	5.00
41—150 lin. ft. 24" vitrified sewer pipe	6.00	4.50	6.00	6.00
42—1 ton cast iron sewer pipe (straight)	80.00	75.00	60.00	80.00
43—1 ton cast iron sewer pipe (special)	100.00	100.00	100.00	100.00
45—175 lin. ft. 3'6"x2'4" sewer	10.00	20.00	6.00	15.00
76-R—Maintaining Long Island R. R. structure, lump sum	88,000.00	165,000.00	15,000.00	25,000.00
79—250 lin. ft. 6" water pipe	1.25	2.00	1.50	2.00
82—100 lin. ft. 12" water pipe	1.50	2.50	2.50	3.00
87—100 lin. ft. 36" water pipe	2.00	5.00	3.00	5.00
88-A—6 service connections, water, each	25.00	25.00	25.00	15.00
89—100 lin. ft. 3" cast iron gas pipe	1.00	1.00	1.00	.80
90—150 lin. ft. 4" cast iron gas pipe	1.00	1.25	1.00	1.00
91—250 lin. ft. 6" cast iron gas pipe	1.25	2.00	1.25	2.00
92—100 lin. ft. 8" cast iron gas pipe	1.50	2.50	1.50	2.50
99-A(a)—250 lin. ft. 6" wrought iron by-passing pipe	2.50	3.00	2.50	2.50
99-A(b)—250 lin. ft. 8" wrought iron by-passing pipe	3.00	3.50	3.00	3.00
99-D—6 service connections, gas, each	25.00	30.00	20.00	15.00
100—5 tons cast iron hub and spigot (straight pipe)	40.00	40.00	50.00	60.00
101—2 tons cast iron hub and spigot (special) pipe)	60.00	100.00	100.00	100.00
102—100 lin. ft. 8" high pressure fire pipe	2.50	2.50	3.50	10.00
105—100 lin. ft. 20" high pressure fire pipe	5.00	5.00	4.00	25.00
107—4 tons cast iron spigot and groove (straight pipe)	40.00	100.00	60.00	60.00
108—2 tons cast iron spigot and groove (special pipe)	60.00	100.00	100.00	100.00
127—3,000 duct ft. electric ducts and conduits	.50	1.00	.75	.80
127-A(a)—100 lin. ft. 2½" wrought iron pipe electric ducts and conduits	1.00	1.25	1.00	.90
127-A(b)—100 lin. ft. 3" wrought iron pipe electric ducts and conduits	1.00	1.50	1.00	.95
127-A(c)—100 lin. ft. 3½" wrought iron pipe electric ducts and conduits	1.00	1.75	1.00	1.00
127-A(f)—100 lin. ft. 2" Edison conduits	1.00	1.00	1.00	2.00
127-A(g)—100 lin. ft. 2½" Edison conduits	1.00	1.50	1.00	2.20
127-C—6 service connections, electric ducts, each	50.00	25.00	25.00	20.00

Springfield, Mass.—Plans prepared for 1-story, 65 x 70 ft., brick store and apartment building with 2-story, 49 x 64 ft., brick garage. R. Robinson, 360 Main St., may be able to give information.

New York, N. Y.—Reported erection of 12-story addition to Hospital for Deformities and Joint Diseases (Dr. Henry W. Frauenthal, dir.), 1919 Madison Ave., contemplated.

Samuel Katz, 405 Lexington Ave., is architect for apartment house to be erected on Crotona Park North and Prospect Ave., for Lindo Constr. Co.; cost about $100,000.

Niagara Falls, N. Y.—Bd. of Educ. contemplates erecting grammar school on Pine Ave. and 27th St., costing $50,000, and a junior high school costing $125,000.

Saratoga Springs, N. Y.—Plans being prepared for 3-story 100 x 50-ft. convent; 3-story 175 x 50-ft. college dormitory; 2-story 165 x 64-ft. parochial school; 100 x 150-ft. church; 2-story power house and garage, to be erected on Lake Ave. for Redemptorist Fathers, St. Clements College; estimates cost $300,000. Rev. Father McKenna, N. Broadway, in charge.

Utica, N. Y.—Com. on City Property, Buildings and Grounds, in a report to Common Council recommends site bounded by John, Elizabeth and Mary Sts. for new city hall.

Clifton, N. J.—All bids opened Sept. 12 for erecting addition to School No. 7 rejected as being too high. Plans to be altered and new bids asked.

Jersey City, N. J.—Board of Education contemplates following improvements: Enlarging School No. 5 on Merseles St., erecting School No. 14 on Duncan Ave., and addition to Teachers' Training School.

Plans prepared by Abraham Davis, 13 Newark Ave., for 4-story apartment house to be erected at Highland Ave. and Hudson Boule. for A. Kaplan; cost $75,000.

Lyndhurst, N. J.—Ernest Silbey, Palisade, engaged by town to prepare plans for proposed new high school to cost $65,000.

Newark, N. J.—Bd. of Freeholders considering $205,000 bond issue for improvements at Overbrook Hospital, to include three extensions to laundry, new machinery, separate electric motors and coal pockets, installation of Clark process sewage disposal system, remodeling isolation ward, new hothouse and considerable grading and driven wells.

West New York, N. J.—S. Abramson, West New York, will erect 5-story brick apartment building at Fourteenth St. and Palisade Ave.

Erie, Pa.—School Board decided to sell $200,000 school bonds. The preliminary plans prepared by W. B. Ittner, Bd. of Educ. Bldg., St. Louis, for East Side High School, costing $450,000, and Lincoln High School, costing $200,000, have been approved.

Lemoyne, Pa.—School Bd. of East Pennsboro Township, Lemoyne, Camp Hill, Wormleysburg and Lower Allen Township, of which Robt. L. Myers, Lemoyne Trust Co., Lemoyne, is a member, plans erecting joint high school.

Lewistown, Pa.—John B. Hamme of York engaged to prepare plans for brick Y. M. C. A. building to be erected here; cost $85,000.

South Bethlehem, Pa. — Preliminary sketches being prepared by A. W. Lehr, South Bethlehem, for 1-story and basement, 68 x 161 ft. church and rectory to be erected for St. John's Magyar Roman Catholic Church; cost about $70,000.

Mobile, Ala.—School improvement bonds for $150,000 sold by County Comrs. Address County Clk.

Newport, Ky.—Election Nov. 7 to vote $150,000 bonds to erect high school. Address Bd. of Educ.

Cleveland, Ohio.—An addition, costing about $50,000 is to be erected to Kensington Hotel, Euclid Ave. and E. Sixty-third St. Geo. W. Crile, 222 Osborn Bldg., owner.

Reported J. H. Greenberg, 1291 East Boule., will erect $100,000 commercial and apartment building at E. Nineteenth St. and Euclid Ave.

Lorain, O.—Directors of Black River Telephone Co., Lorain, authorized erection of new central exchange building on Ninth Street to cost about $150,000.

Newark, Ohio.—Plans being prepared by E. E. Pruitt, Hartman Bldg., Columbus, for edifice to be erected for Fifth St. Baptist Church; cost, $60,000.

Warrensville, Ohio.—School bonds for $50,000 will be sold Oct. 11 by Guy W. Shumer, clk. bd. educ.

Pontiac, Mich.—Perkins, Fellows & Hamilton, 6 North Clark St., Chicago, and Fisher Bros., Pontiac, are associate architects for enlarging High School, Central and Wilson schools; cost $150,000. E. R. Webster, secy. bd. educ.

Chicago, Ill.—Plans being prepared by Geo. C. Nimmons, 122 S. Michigan Ave., for new clubhouse for Ravisloe Country Club; cost about $70,000.

Erection of 11-story fireproof building at 523 Plymouth Court, contemplated for McCormick Estate. John A. Chapman, 30 N. La Salle St., may be able to give information.

Oskaloosa, Iowa.—See "Reinforced Concrete."

St. Paul, Minn.—St. Paul Gas Light Co., 6th and Jackson Sts., contemplates erecting new purifying plant, pumping house and boiler house at foot of James St. and on Mississippi River; cost, $250,000.

Reported First German Methodist Church Society considering erecting $70,000 edifice on Summit and Snelling Aves.

Ottawa, Kan.—Plans prepared by John Hanifen, Ottawa, for 3-story fireproof addition to Ryburn Hospital; cost about $60,000.

Kansas City, Mo.—Reported steps being taken by Kansas City Terminal Ry. (J. V. Hanna, ch. engr., Kansas City) to erect two new $100,000 passenger stations.

Ft. Sam Houston, Tex.—Bd. of Officers appointed by Maj.-Gen. Fredk. Funston, in charge of Col. Malvern Hill Barnum, chief of Southern Dept. U. S. A., Ft. Sam Houston, to have charge of warehouse and railroad tracks to be constructed as a general supply depot for Ft. Sam Houston; appropriation by Congress $750,000.

Colusa, Cal.—School Trus. considering issuing bonds for erecting proposed primary and grammar school to cost about $65,000.

Fresno, Cal.—Reported Bd. of Educ. has decided to erect 17-room annex to high school; cost, $55,000.

Santa Barbara, Cal.—See "Reinforced Concrete."

Flagstaff, Ariz. — Trost & Trost, El Paso, Tex., engaged to prepare plans for proposed $200,000 hotel to be erected here for Flagstaff Hotel Co.

Idaho Falls, Idaho.—Revised plans being prepared by Distinctive Homes Bldg. Co., Leary Bldg., Seattle, for proposed $85,000 high school.

Winnipeg, Man. — All bids recently opened for work on new Parliament buildings—excepting steel—rejected. See "Structural Steel Work," "Prices and Lettings."

Odd Fellows Lodge (B. D. Deering, I. O. O. F. Temple, secy.) plans erecting $70,000 building.

BIDS DESIRED.

Brookline, Mass.—Until Sept. 28, by Trus. Highland Road Land Tract, for erecting 7 brick cottages on Highland Road corner of High St., Brookline. Kilham & Hopkins, archts., 9 Park St. Boston.

Chelsea, Mass.—Until Sept. 25, by Jas. H. Malone, Mayor, for erecting a grammar school, Carter Dist., Forsyth St.

New York, N. Y.—Until Sept. 27, by C. B. J. Snyder, supt. of schools, for completing and finishing, including general construction, of the Evanders Child high school on East 184th St. and Field Pl., between Creston and Morris Aves., Bronx Borough. Security, 50,000.

Until Oct. 2, by C. B. J. Snyder, supt. school bldgs., Manhattan Borough, for erecting Manhattan Trade School for Girls on the northwesterly corner of Lexington Ave. and E. Twenty-second St., Manhattan Borough. Security, $60,000.

New York, N. Y.—Until Oct. 6, by Pub. Service Comn. for First Dist. (Oscar S. Straus, chmn.), for the station finish work for part of the Seventh Ave.-Lexington Ave. Rapid Transit Railroad, Manhattan Borough.

Sonyea, N. Y.—Until Oct. 10, by Percy L. Lang, pres. bd. mgrs., Craig Colony for Epileptics, Sonyea, for construction, plumbing, drainage, electric work, etc., for alterations and additions to storehouse and cold storage plant and additions and alterations to water supply, heating, etc., advertised in this issue. Lewis F. Pilcher, state archt., Capitol, Albany.

New Brunswick, N. J.—Reported desired until Sept. 25 by Alex. Merchant, superv. archt., 363 George St., New Brunswick, for erecting a 4-story, 88 x 170 ft., and one story, 56 x 37 ft., Y. M. C. A. building; probable cost $110,000.

Burlington, N. C.—Until Oct. 30 by Jas. A. Wetmore, acting supervising archt., Treas. Dept., Washington, D. C., for erecting U. S. post office at Burlington.

Wilmington, N. C.—Until Oct. 18, by James A. Wetmore, acting superv. archt. treas. dept., Washington, D. C., for installing one electric passenger elevator in U. S. customhouse, appraisers store and courthouse.

Birmingham, Ala.—Until Nov. 13, by Jas. A. Wetmore, acting superv. archt., Treas. Dept., Washington, D. C., for constructing (excepting mechanical equipment) of U. S. post office and court house at Birmingham.

Auburn, Ind.—Reported desired until Oct. 5, by Bd. of Educ. (S. E. Van Fleit, secy.), for erecting a 2-story and basement, 80 x 202 ft. high school; probable cost $75,000. A. H. Ellwood & Son, Elhart, archt.

Sullivan, Ind.—Until Sept. 28, by Bd. Co. Trus. (Ortha L. Springer, secy) for erecting county hospital.

Cedar Rapids, Iowa.—Reported desired for erecting 2-story 80 x 85 ft. brick and terra cotta edifice for First Baptist congregation.

Leeds, Iowa.—Reported desired until Oct. 4 for erecting Carnegie library. Edw. L. Tilton, 52 Vanderbilt Ave., New York City, archt.

Mason City, Iowa.—Reported desired until Oct. 2 (extension of date), by Bd. Edu. (R. L. James, secy.), for erecting 2 story and basement, 210 x 138 ft. brick and reinforced concrete school. Separate bids for heating, ventilating; probable cost $250,000. T. H. Felt & Co., 800 Grand Ave. Temple, Kansas City, Mo., archts.

Vinton, Iowa.—Reported desired until Oct. 2, by Bd. of Educ. (W. E. Bickel, secy.), for erecting two-story(140 x 48 ft. school; probable cost $100,000. Miller, Fullenwider & Dowling, 6 N. Michigan Ave., Chicago, archt.

Waterloo, Iowa.—Until Oct. 18, by Bd. of Educ. of the Independent School Dist. of East Waterloo, for erecting high school. Separate bids for heating, ventilating, plumbing, sewerage, etc. Mortimer B. Cleveland, archt., 308 First National Bank Bldg., Waterloo.

Los Angeles, Cal.—Until Oct. 2 by Bd. Pub. Wks. (H. B. Ferris, secy.) for constructing two-story and basement, 63 x 80 ft. brick city hall, library, jail and fire station at Van Nuys, San Bernardino Valley Annex. J. J. Backus, city bldg. inspector and archt., Los Angeles.

San Bernardino, Cal.—Until Oct. 12, by Bd. Supervs. (A. S. Guthrie, clk.), for erecting county hospital, including elevators, plumbing, heating, etc., three-story and basement administration building, 92 x 56 ft., one-story service building, 88 x 116 ft., both of reinforced concrete and brick; cost about $100,000. Lyman Farwell, archt., 615 Story Bldg., Los Angeles.

Miami, Ariz.—Until Oct. 1 for erecting Y. M. C. A. Building. Probable cost $75,000. H. O. Jaastad, archt., Tucson.

Boise, Idaho.—Until Oct. 23, by James A. Wetmore, acting superv. archt. treas. dept., Washington, D. C., for extension and remodeling, etc., U. S. post office at Boise.

Toronto, Ont.—Until Oct. 2, by Chmn. Toronto Electric Comn., for erecting store, office and garage building.

PRICES AND LETTINGS.

★Indicates award of contract.

Brooklyn, N. Y.—Following are four lowest bids opened Sept. 12 by Supervising Archt., Washington, D. C., for alterations to U. S. post office: McKeown Constr. Co., New York, $82,446; P. T. Cox, New York, $86,666; Werner-Hubert Co., Brooklyn, $90,568; Northwestern Constr. Co., New York, $93,461.

New York, N. Y.—See "Reinforced Concrete."

★Poughkeepsie, N. Y.—Contract awarded Wells Bros. Co., 33 W. Forty-second St., New York, by New York Central RR. to erect steel, concrete, brick and stone passenger station and express building north of Main St.

Lancaster, Pa.—Following are bids opened Sept. 5 for erecting new edifice for Emanuel Evangelical Church: Van Gundy & Wilson, Lancaster, $53,000; Martin J. Lelaney, Columbus, $53,339; D. M. McGrath, Columbus, $58,000.

★Philadelphia, Pa.—Contract awarded Geo. L. Sipper, 912 Locust St., for erecting for Henry Rohner, at 209 N. Fifth St., a 4-story and basement, brick terra cotta and granite bakery; cost $50,000. Peuckert & Wunder, engrs. and archts., 310 Chestnut St.

★Baltimore, Md.—Contract for remodeling Merchants & Mechanics National Bank, South and Water Sts., awarded H. D. Watts Co., 905 Garrett Bldg., cost about $50,000. Parker, Thomas & Rice, archts., 1109 Union Trust Bldg.

Washington, D. C.—See "Foundations, Piers and Dams."

★Nashville, Tenn.—Contract for extension to U. S. post office and courthouse awarded Norman Ker Co., 1123 Bway., New York, at $347,400.

★Covington, Ky.—Contract for erecting Homesdale High School awarrded John J. Craig, 24 W. Ninth St., at $129,825.

★Flint, Mich.—Contracts awarded by Bd. Educ. as follows for erecting Hazleton School: General construction, Koepka Bros., $31,500; heating and plumbing, Edwin Sterner Co., $11,490, and $9,905 respectively; contractors of Flint. Harvey L. Hills, purchasing agent.

★Minot, N. D.—Later reports state contract for erecting high school awarded Wodrich Constr. Co., Metropolitan Life Bldg., Minneapolis, at $423,850.

★Port Arthur, Tex. — Contracts for erecting brick, tile and cement high school awarded by Port Arthur Independent School Dist. (Thos. W. Hughen, secy.), as follows (bids opened Sept. 5): General contract, American Constr. Co., Houston, $275,000; plumbing and heating, C. C. Hartwell Co., Ltd., New Orleans, $40,596; electric work, Newberry Electric Co., Houston, $5,910.

★Los Angeles, Cal.—Contract for installing electric elevators in County Hospital awarded Baker Iron Wks., Main and Ord Sts., at $12,998.

★Sacramento, Cal.—Contract for erecting Native Sons' hall reported awarded McGillivray Constr. Co., Sacramento, at about $140,700.

Santa Barbara, Cal.—Kier Constr. Co., American Bank Bldg., San Diego, submitted lowest bid for erecting 2-story and basement, 160 x 130-ft., brick Carnegie library, at $59,938. Francis W. Wilson, 717 State St., archt.

★Wallace, Idaho. — Contract reported awarded A. J. Turner, Wallace, for erecting county infirmary and isolation hospital at $56,456.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Hickman, Ky.—Fulton County Levee Bd. preparing to issue $35,000 bonds for repairing Mile No. 4, Reelfoot Levee, 4 miles below Hickman.

Dixon, Wyo.—Contract soon to be let for irrigation ditch near Dixon; straight ditch work; 4 inverted siphons, aggregating about mile in length; cost $60,000. Wm. Garstin, ch. engr., 409 Hagerman Bldg., Colorado Springs, Colo.; E. A. Swenson, owner, Hagerman Bldg., Colorado Springs, Colo.

Farmersville, Tex.—Preliminary plans being prepared by Arthur A. Stiles, State Reclamation Engineer, for Collins County Levee Improv. Dist. No. 1, which is to reclaim about 4000 acres in valley of Pilot Grove Creek, near Farmersville. Bonds amounting to $42,000 have been voted for the project. T. E. Ball of Farmersville interested.

Hood River, Ore.—Reported irrigation bonds for $15,000 will be sold Oct. 3 by the East Fork Irrigation Dist.

Amedes, Cal.—Citizens, Sept. 7, voted to form Honey Lake Valley Irrigation Dist., 30,000 acres. Wm. L. Wales, engr., Woodland; W. L. Gilger, secy. District.

Susanville, Cal.—Honey Lake Valley Mutual Water Users Assn. incorporated to construct irrigation system in Honey Lake Valley. Carl J. Young of Reno, Nev., interested.

Woodville, Cal.—I. J. Ball and others reported considering constructing levee, 3 miles long, along Tule River.

New York, N. Y.—Following are unit figures of the four lowest bids opened Sept. 13 by Public Service Comn. for First District, 120 B'way, for station finish for part of the B'way-Fourth Ave. Rapid Transit Rlt.: (a) Jerber Stander Co., Inc., 1123 B'way, $149,325; (b) Louis Wechsler, 1133 B'way, $149,500; (c) John B. Roberts & Co., 3 W. 29th St., $151,027; (d) Thos. Dwyer, B'way and 216th St., $154,849.

Item		(a)	(b)	(c)	(d)
501	6,560 sq. ft. tile w.p. 3"x6" (a) straight.	$0.66	$0.62	$0.65	$0.63
	60 sq. ft. (b) 1" rad comb.....	1.38	1.50	1.38	1.10
	390 sq. ft. (c) 2½" rad comb.....	1.55	1.60	1.56	1.60
	10 sq. ft. (d) 20" rad comb.....	1.30	1.50	1.20	1.60
502	50,100 sq. ft. tile w.p. 4¼"x4¼" (a) straight	.66	.64	.65	.68
	120 sq. ft. (b) 1" rad comb.....	1.38	1.50	1.38	1.10
	1,900 sq. ft. (c) 2½" rad comb.....	1.54	1.60	1.54	1.60
	135 sq. ft. (d) 20" rad comb.....	1.21	1.25	1.20	1.10
509	10 lin. ft. tile bead w.p. (a) 1" rad..	.50	.60	.50	1.00
511	2,410 sq. ft. tile w.p. vit. col. (a) stight	1.15	1.20	1.15	1.10
	35 sq. ft. (b) 1" rad comb.....	1.95	2.00	2.00	2.00
	45 sq. ft. (c) 2½" rad comb.....	2.20	2.40	2.20	2.00
	10 sq. ft. (d) 20" rad comb.....	1.70	1.88	1.65	2.00
513	4,900 sq. ft. mosaic bond tile col.....	1.50	1.52	1.48	1.40
514	875 sq. ft. mosaic and tile tablets....	1.76	1.80	1.76	1.60
515	210 initial letter plaques (a) station walls, each	1.93	2.00	2.00	2.00
516	175 sq. ft. mosaic and tile dest. tablets col.....	1.93	2.00	1.93	1.75
521	14,540 sq. yd. plastering arches (b) concrete	.46	.79	.73	.55
522	1,780 sq. yd. plastering flats (a) brick or H.T.	.46	.56	.60	.60
	5,180 sq. yd. (b) concrete.....	.46	.56	.60	.70
	35 sq. yd. (c) metal lath.....	.84	1.00	1.00	1.50

New York, N. Y.—Station finish for part Bway.-Fourth Ave. Rapid Transit RR., continued:

523	5,600 sq. ft. cement work (a) wainscots or bases	.24	.12	.135	.20
	57,150 sq. ft. (c) 3" floor finish	.12	.12	.125	.12
	50 sq. ft. (d) finish on concrete, brick or H.T.	.09	.28	.15	.20
	15 sq. ft. (e) panels for signs	.12	.30	.30	.50
524	315 cu. ft. concrete work (a) copings	1.20	1.15	1.10	.60
	10 cu. yd. (b) foundations	9.20	7.00	8.25	10.00
	65 cu. ft. (c) reinforced	.85	1.25	.60	.75
	120 cu. ft. (d) protective	1.00	1.25	.50	1.00
	340 cu. ft. (e) street landings	.40	.35	.30	.50
	2,300 sq. ft. (f) tooling and rubbing	.30	.13	.15	.50
526	600 lin. ft. tr. concrete stairs, etc., (a) self-supporting stairs	1.15	1.25	1.37	1.10
	7,000 lin. ft. tr. (c) supported stairs	.85	.90	.825	.90
	2,270 sq. ft. (d) supported landings	.46	.51	.275	.50
	20 cu. ft. (e) supporting columns	1.50	.75	.60	1.00
	4,620 sq. ft. (f) non-slip treads	1.00	.75	.96	.70
	2,080 lin. ft. (g) cement bases	.25	.11	.22	.25
	40 lin. ft. (h) cement finish—exposed sides	.14	.18	.15	.30
	480 sq. ft. (h) cement finish—street landings	.17	.11	.11	.12
527	4,115 cu. ft. brick masonry (c) common	.52	.54	.50	.45
528	5 cu. ft. hollow tile (a) 2"	.88	1.00	.90	1.00
	9,440 cu. ft. (b) 3"	.55	.60	.61	.50
	1,620 cu. ft. (c) 4"	.44	.50	.50	.40
	25 lin. ft. (d) 4½"x13" flue	.50	.40	.50	1.00
528A	920 weepholes, each	.13	.32	.18	.25
528B	120 anchor straps, each				
529	20 sq. yd. metal lath (a) without furring	.23	.30	.20	.25
		.75	.75	.80	1.00
	15 sq. yd. (b) with furring	2.00	1.25	1.75	1.50
530	10 ticket booths (e) type E, each	1,150.00	940.00	880.00	940.00
532	4 doors (a) type A, each	100.00	80.00	83.00	85.00
	31 (d) type D, each	80.00	84.00	85.00	87.00
	30 (i) type G, pair	50.00	80.00	80.00	82.00
	3 (g) type J, each	87.00	85.00	93.50	100.00
	144 sq. ft. (h) type K	5.00	6.00	7.00	7.50
	1 (i) type Q, each	28.00	35.00	33.00	35.00
	20 sq. ft. (l) type L	5.50	6.00	7.00	7.50
	4 (o) type P, each				
534	10 additional hardware (a) door checks, each	33.00	40.00	45.00	45.00
		5.00	4.00	5.35	5.00
	20 (b) door stops, each	3.00	3.00	4.15	4.00
	5 (c) rubber covered chains, each	2.00	2.00	2.00	3.00
	10 (d) push plates, each	3.50	3.00	3.75	3.00
	10 (e) door pulls, each	4.50	4.00	4.25	5.00
	10 (f) kick plates, pair	12.00	10.00	10.80	12.00
536	350 lin. ft. railings (a) type FS	3.70	4.05	3.58	4.25
	50 lin. ft. (aa) type RS	4.25	5.65	4.12	5.00
	250 sq. ft. (c) type GS	.57	.60	.585	.70
	15 lin. ft. (e) type LS	3.80	4.25	3.69	5.00
	115 sq. ft. (f) type BS	.78	.80	.66	1.00
	130 lin. ft. (g) pipe	1.77	2.00	1.93	2.00
536B	60 lin. ft. oak seats	6.50	4.00	2.00	2.00
537	100 lin. ft. gates, etc. (a) low sliding	9.45	9.25	9.35	10.00
	2 (e) exit turnstiles, each	203.00	200.00	247.50	250.00
	13 (f) single gate controls, each	19.55	26.00	22.00	30.00
	5 (h) c.i. floor boxes, each	7.15	8.50	8.80	10.00
	10 lin. ft. (l) 1¼" galv. w.i. pipe	.35	.40	.39	1.00
	250 lin. ft. (m) 1" steel tubing	.57	.62	.66	1.00
	15 gate open (p) c.i. gate posts, etc.	58.65	54.00	82.50	100.00
540	55 sq. ft. frames (d) enameled sign on low railing	2.35	2.15	2.48	2.50
	5 sq. ft. (e) enameled sign in high-low-grille	2.35	2.25	2.75	3.00
	115 lin. ft. (f) enameled reflectors, sta. approach	2.13	2.25	2.20	2.20
	520 sq. ft. (g) enameled sign plates	.40	.60	.42	.55
	95 sq. ft. (k) enameled direction sign frames	1.70	1.70	1.65	2.00
542	170 lin. ft. street railings (a) type K.	8.00	7.25	8.00	9.00
	275 lin. ft. (b) type K				
542A	1,290 sq. ft. sheet metal work (a) metal ceilings	8.00	7.75	8.00	8.00
543	1,770 steel ladders, etc. (e) steel shapes	.44	.30	.44	.10
	lintels, per lb.	.055	.07	.055	.05
	400 (f) miscell. steel shapes, per lb.	.065	.08	.0675	.10
	12 (g) ladders, track, floor to platform, each	11.50	11.00	13.20	20.00
543A	1,000 lb. miscell. iron castings	.08	.08	.11	.10
544	2,300 lin. ft. oak hand rails	.63	.60	.60	.50
546	3,520 lin. ft. platform edge const. (d) wooden facia	.22	.25	.16	.20
	4,300 (e) drilling holes in angle, per hole	.25	.33	.25	.25
547	Rough plumbing (a) 3 stations, lump sum	4,600.00	4,266.80	5,750.00	7,500.00
548	25 plumbing fixtures (a) water-closet bowls, each	57.50	45.00	53.00	55.00
	15 (b) lavatories, stations, each	40.00	27.00	37.50	45.00
	11 (d). urinals, each	92.00	80.00	84.00	90.00
	5 (g) slop sinks—closets, each	80.00	65.00	73.00	80.00
	32 (h) floor drains, each	23.00	14.00	12.00	17.00
550	560 sq. ft. structural glass (aa) ¾" wainscoting	1.70	1.65	1.59	1.70
	765 sq. ft. (b) ¾" pipe chamber partition	1.90	1.85	1.82	2.00
	280 sq. ft. (c) ¾" shelves	1.75	1.70	1.65	1.75
	610 sq. ft. (d) ¾" stall partitions	2.00	2.00	1.93	2.00
	55 sq. ft. (e) 1" floor slab	3.50	3.40	3.30	4.00
	160 lin. ft. (f) curved corners and angles	1.70	1.65	1.59	1.60
551	60 c.i. work in toilet (a) posts, each.	12.35	9.60	13.20	13.50
	165 lin. ft. (b) top rails	1.26	1.15	1.65	2.00
	18 (d) register faces and frames, p. ch. part., each	12.35	10.25	12.10	12.50
	5 (e) c.i. vent. lourres, each	15.20	13.50	16.50	17.00
552	3,960 steel supporting sections, per lb.	.10	.09	.0775	.10
554	1,600 lin. ft. conduits (a) ¾"	.18	.16	.165	.15
	4,065 lin. ft. (b) 1"	.20	.21	.1875	.20
	1,000 lin. ft. (c) 1½"	.30	.27	.35	.25
	240 lin. ft. (d) 2"	.53	.37	.42	.35
	150 lin. ft. (e) 2½"	.63	.48	.54	.50
	100 lin. ft. (f) 3"	.84	.60	.64	.60
	375 lin. ft. (g) ¾" flexible	.18	.18	.165	.17
554A	30 special conduit fittings—removable cover, each	1.00	1.00	2.20	1.00
555	30 c.i. outlet boxes, each	.50	.50	.45	.50
556	1 c.i. pull box (b) 12"x12"x6"	1.60	5.00	3.08	5.00
	5 (e) 12"x6"x4", each	8.50	8.50	2.31	8.00
	42 (f) 6"x6"x4", each	1.55	1.50	1.98	2.00
	10 (h) 4"x4"x4", each	.92	1.00	.88	2.00
	4 (i) 8"x8"x4", each	1.84	2.50	2.20	5.00
557	16 c.i. heater boxes, each	12.00	11.00	11.80	11.00
558	4 steel panel-board boxes (d) 32"x5 13/16"x49" to 60", each	26.50	20.00	15.40	16.00
	3 (e) 32"x5 13/16"x37" to 48", each.	23.00	15.50	13.20	15.00
	1 (f) 32"x5 13/16"x25" to 36"	21.20	12.50	12.10	15.00
559	3 steel switchboard boxes, each	34.50	36.00	23.10	20.00
561	25,400 sq. ft. painting (a) 2 coats, iron and steel	.025	.02	.0275	.025
	47,900 sq. ft. (b) 3 coats, iron and steel.	.03	.0275	.03	.035
	198,700 sq. ft. (c) 2 coats, plaster, concrete and cement panels	.02	.0175	.0175	.025
	287 (d) letters and numerals, each	12	.10	.11	.15

Arizona.—Frank H. Olmsted, of Olmsted & Gillelen, Los Angeles, Cal., commissioned, by Dept. Interior, Washington, D. C., to investigate and report on most feasible method of controlling flood waters of Gila River through southwestern part of Arizona.

BIDS DESIRED.

Brooklyn, N. Y.—Until Oct. 2, by R. A. C. Smith, comr. of docks, New York, for Contract No 1462, dredging at head of Mill Basin, Jamaica Bay, Brooklyn Boro. Security, $20,000.

Philadelphia, Pa.—See "Roads and Paving."

New Orleans, La.—Until Sept. 29, by U. E. Engrs. Office, for constructing about 2,590,000 cu. yd. earth work in the lower Tensas Levee Dist.

Natchez, Miss.—Until Sept. 29, by Maj. W. G. Caples, corps engrs., U. S. A., Fourth Mississippi River Dist., for 2,600,000 cu. yd. levee, to consist of Ione Levee; 125,000 cu. yd.; Woodlawn enlargement 130,000 cu. yd.; Perkins Nos. 1 to 6, in all about 284,056 cu. yd.; Somerset Nos. 1 and 2, 204,520 cu. yd.; Glen Muir Nos. 1 and 2, enlargement, 205,040 cu. yd.; Hewett enlargement, 105,520 cu. yd.; Aurora enlargement 103,500 cu. yd.; White Oak Lake enlargement 51,000 cu. yd.; Kepe, new and enlargement, 150,000 cu. yd.; L'Argent sub-levee, Atchafalaya Dist., 38,000 cu. yd.; Red River Landing enlargement 264,000 cu. yd.; Smithland, new, 256,000 cu. yd.; Henrietta enlargement, Ponchartrain Dist., 285,000 cu. yd.; Toyles, new and enlargement, 392,000 cu. yd.

Nevada, Iowa.—Until Sept. 29, by F. E. King, co. aud., for furnishing material and constructing Gilbert Drainage Dist. No. 70, to be divided into two sections, Sect. 1 comprises the main ditch, and branches F, F1, F2, K, L and M. Main ditch to consist of 7449 ft. 34 to 42-in. tile branches, 8915 ft. 6 to 12-in. tile. Sect. 2 comprises the main from Station 75 and 25 to 218 and 60, and branches A, B, C, D, E, E1, E2, G, H, H1, J, J1, N and O, main ditch to consist of 14,285 ft. 14 to 32-in. tile and branches, 21,476 ft. 6 to 12-in.; estimated cost $58,430.

Benson, Minn.—Until Oct. 3, by D. P. Carney, co. aud., for constructing County Ditch No. 15, in eight sections, to consist of 37,907 ft. 6 to 18-in. tile. Total cost of tile and laying $5,610. Engineer's estimate $5,989.

Breckenridge, Minn.—Reported desired until Sept. 29, by County Comrs., for constructing 7 miles of open ditch. A. M. Hopsman, engr., Moorhead, Minn.; P. E. Truax, co. aud.

St. James, Minn.—Until Oct. 6, by C. J. Jensen, co. aud. for constructing Judicial Ditch No. 15 in Watonwan County, to consist of main ditch, 12,000 ft. 10 to 18-in. tile, branches 3500 ft. 5, 6 and 8-in. tile. Engineer's estimate $5,678. Also separate bids for Judicial Ditch No. 14, main ditch 21,911 ft. 12 to 24-in. tile, branches 31,359 ft. 6 to 14-in. tile. Engineer's estimates $17,960.

Harlingen, Tex.—Until Oct. 9, for constructing locks and canals in Cameron County Irrigation Dist. No. 1, total of approximately 155,440 cu. yd. Address Bd. of Dir. Cameron Co., Irrigation Dist. No. 1, Harlingen.

Los Angeles, Cal.—Until Oct. 3, by Dominguez Estate Co., 807 Title Insurance Bldg., for constructing drainage and storm water canal, about 21,000 ft. long, maximum cut 18 ft. base, 10 ft. wide, slope 1 to 1, for conveying surface water from Nigger Slough to point near Watson Station on Pacific Electric Railways, Los Angeles-San Pedro Line, in all about 130,000 cu. yd. dry excav., 17,500 cu. yd. wet excav., concrete pipe, etc.

Laprairie, Que.—Reported desired until Sept. 26, by R. C. Desrochers, secy. dept. pub. wks., Ottawa, Ont., for constructing protection work, completing protection dike at Laprairie.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Boston, Mass. — Following are bids opened Sept. 9 by Bureau Yard & Docks, Navy Dept., Washington, D. C., for dredging about 10,000 yd. material at U. S. Navy Yard, Boston: Morris & Cummings Dredging Co., 17 State St., New York, 25.75 cts, per cu. yd.; Bay State Dredging & Contr. Co., 247 Atlantic Ave., Boston, 28 cts.; Boston Dredging Co., 40 Central St., Boston, 34.5 cts.

Following are bids opened Sept. 18 by Metropolitan Park Comn. for (a) 25,000 cu. yd. earth excavation and (b) building a 10-ft. x 5-ft. x 49-ft. culvert in Mystic Valley Parkway, Arlington, (c) total: J. H. Fannon, 27 Hinckley St., Somerville (a) 45 cts., (b) $1,700, (c) $12,950; Fred E. Ellis, Melrose (a) 47 cts., (b) $1,850, (c) $13,600; Coleman Bros., Chelsea (a) 60 cts., (b) $1,200, (c) $16,200.

★**New Orleans, La.**—Contract awarded by Board State Engineers, New Orleans Court Bldg., New Orleans (G. W. Lawes, secy.), for following levee work (bids opened Sept. 12): Fannie Ritchie to Scott Levee, Pointe Coupee Parish, D. B. Hearrin & Son, Baton Rouge, 200,000 cu. yd. at 24.7 cts. per cu. yd.; La Place Levee Parish of the St. John the Baptist, Hercules Co., Ltd., 822 Hibernian Bldg., New Orleans, 160,000 cu. yd. 18.65 cts. per cu. yd.

★**Clarksdale, Miss.**—Contract awarded by Yazoo Mississippi Delta Levee Bd. to Banister & Co., Marks, for about 3,000,000 yd. of levee work at 24 cts. per cu. yd.

★**Vicksburg, Miss.**—Following contracts have been awarded on bids opened Sept. 15 by Third Mississippi River Dist., P. O. Box 404, for constructing levees: Cottonwood New levee, Lower Yazoo Dist., below Greenville, Miss., Sect. 1, Stat. 8394 + 80..8417, 150,000 cu. yd., and Sect. 2, Sta. 8417—8436, 150,000 cu. yd., both to R. T. Clark & Co., Grace, Miss., at 26.4 cts. per cu. yd. and 28.9 cts. per cu. yd. respectively, total $39,600 and $43,350. Sect. IV, sta. 8450—8473 + 47, 150,000 cu. yd., Roach & Stansell, Memphis, 29.7 cts. per cu. yd., total $44,550. Section III (not awarded), only bidder W. T. & E. M. Lowrance & Co., Memphis, 34.9 cts., total $52,350.

Lowest bidder same time as above, on Hagaman Loop, Upper Tensas Levee Dist., in Louisiana, Sect. 1 Sta. 1559 + 65—1585, 264,000 cu. yd., and Sect. II, Sta. 1585—1610 + 05, 264,000 cu. yd., Roach & Stansell, Memphis, 32.4 cts. and 30.8 cts. per cu. yd. respectively, totals $35,536 and $81,312.

Memphis, Tenn.—Following bids opened Sept. 7 by Maj. M. J. McDonough, Corps Engrs., U. S. A., Memphis, and recommended for award, for levee work: Upper St. Francis Levee Dist., R. L. Lenard, Memphis, Sta. 13/1 to 13/20, 25,000 cu. yd.; Sta. 22/0 to 23/0, 90,000 cu. yd.; Sta. 23/0 to 24/0, 110,000 cu. yd., all at 26.95 cts. per cu. yd.; Lower St. Francis Levee Dist., Sta. 97/20 to 101/0, 200,000 cu. yd.; Sta. 157/10 to 160/0, 26 cts. per cu. yd.; to Roach, Stansell, Lawrance Bros. & Co., Memphis, Reelfoot Levee Dist., Sta. 2/37 to 4/36, 360,000 cu. yd., at 16 cts., and Lower St. Francis Levee Dist., Sta. 48/4 to 49/49, 400,000 cu. yd., at 18.5 cts. per cu. yd.

Other bids opened same time and place as above were rejected, the lowest bidders being: Upper St. Francis Levee Dist.: R. L. Lenard, Memphis, Sta. 20/16 to 21/0, 550,000 cu. yd., Sta. 21/0 to 22/0, 69,000 cu. yd., all at 26.95 cts.; L. T. Callahan, Fulton, Ky., Sta. 24/0 to 25/0, 76,000 cu. yd., and Sta. 25/0 to 26/15, 100,000 cu. yd., at 24.75 cts. per cu. yd. Lower St. Francis Levee: Rodgers Bros., Memphis, Sta. 142/0 to 143/20, 18 cts. per cu. yd., and White River Levee Dist., Sta. 30/28 to 31/18, 250,000 cu. yd., 27.51 cts.; White River Levee, Sta. 36/0 to 37/0, 150,000 cu. yd., Roach, Stansell, Lawrance Bros. & Co., Memphis, 28.21 cts.

★**Chapin, Mich.** — Contract awarded Woolman Constr. Co., Sandusky, for constructing Lambs Creek Drain in Brant, Brady and Chapin, Saginaw County, Fairfield Township (bids opened Sept. 13) by Emil Roethke, co. drain. comr., Saginaw.

★**Slayton, Minn.**—Contracts for constructing Judicial Ditches (bids opened Sept. 5) awarded by E. V. O'Brein, co. aud., as follows: No. 15, about 62,630 ft. 6 to 30-in. tile, Chris. Apelson, Clear Lake, $33,900, and No. 16, 30,100 ft. 6 to 20-in. tile, to Humes & Ford, Slayton, $8,000.

★**Windom, Minn.**—Contract for constructing ditches (bids opened Sept. 15) awarded by S. H. Brown, co. aud., as follows: Ditch No. 25, John Kobelegard, Westbrook, $8,257; No. 29, Jorgenson & Nelson, Ringsted, Ia., $9,470; No. 30, Michels & Sandelin, Bungham Lake, $20,050; No. 31, J. B. Camden, Westbrook, $17,870, and No. 54, Rudl & Wold, Windom, $24,000. S. H. Brown, co. aud.

★**Las Vegas, N. M.**—Contract awarded R. C. Storrie Co., San Francisco, for constructing irrigation project, costing $500,000. Main canal will be 18 miles long and work includes 2 concrete siphons, a number of steel flumes, and 30 miles of laterals.

★**Vancouver, B. C.**—Contract awarded Dominion Constr. Co., Vancouver, for dredging and filling in connection with Coal Harbor Causeway scheme for $16,962.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Rochester, N. Y.—Common Council reported considering flood protection work, which includes constructing super wall on top of retaining wall to be built by state around canal harbor, raising retaining walls an extra 3 or 4 feet; also replacing about 140 ft. of east end of Johnson and Seymour dam with concrete retaining wall, connecting present dam with barge canal sector dam. Edwin A. Fisher, engr., Rochester, estimates cost at $140,000.

Long Beach, Cal.—Election to be held Oct. 11 to vote $500,000 bonds for constructing pier extending into ocean from Pine and American Aves.; $50,000 for erecting hospital, and $300,000 for improving harbor, including dredging, deepening and improving channel, slips and water front and constructing new channel between Long Beach and San Pedro Harbor.

New York, N. Y.—Following are unit figures of bids opened Sept. 18 by Public Service Comn. for First Dist., 120 Broadway, for installation of tracks for portion of Culver Rapid Transit RR.: (a) Kaufman & Gorcey, 51 Chambers St., $103,680; (b) Ward & Tully, Tenth Ave., Brooklyn, $135,970; (c) Thomas Crimmins, 444 E. Sixty-ninth St., $151,813.

Item		(a)	(b)	(c)
1025A	3 timber bumping posts	$500.00	$400.00	$575.00
1026	40,000 lin. ft. hand rail complete	0.58	0.64	0.61
1027	500 M ft. plank walk complete	17.00	12.00	25.17
1028	14,000 anticreepers, ea	0.10	0.05	0.10
1053	54,000 lin. ft. (a) Type III track tang and curves over 2000 ft. rad	0.70	1.20	1.25
	1,800 lin. ft. (b) Type III track 2000 to 701 ft. rad. (curves)	1.00	1.50	1.90
	2,900 lin. ft. (c) Type III track curves under 701 ft. rad.	1.20	1.75	1.90
	14,500 lin. ft. (d) Type III track at and adjoining stations	0.95	1.20	1.40
	850 lin. ft. (e) Type III track on sup. tang and curves under 2000 ft. rad	1.00	1.20	1.40
1058	1,100 lin. ft. (a) Type VI track tang and curves over 2000 ft. rad	0.95	1.00	1.20
	100 lin. ft. (b) Type VI track curves 2000 to 701 ft. rad.	1.25	1.25	1.80
	1,100 lin. ft. (c) Type VI track curves under 701 ft. rad.	1.30	1.50	1.75
2188A	1 special portion 188, ea	1,400.00	1,600.00	1,890.00
2193A	1 special portion 193, ea	1,400.00	1,100.00	1,616.00
2194A	1 special portion 194, ea	2,225.00	1,900.00	2,250.00
2195A	1 special portion 195, ea	950.00	500.00	1,092.00
2196A	1 special portion 196, ea	1,400.00	1,000.00	1,517.00
2197A	1 special portion 197, ea	1,400.00	2,500.00	1,993.00

Monticello, Utah.—F. I. Jones & Sons, Monticello, submitted to State Engineer plans for a reservoir dam 225 ft. high, to be constructed in East Canyon, near Monticello.

BIDS DESIRED.

Long Branch, N. J.—Until Oct. 3, by A. D. Sherman, city clk., for constructing concrete jetty on beach at West End, Long Branch, advertised in this issue.

Norfolk, Va.—Until Oct. 21, by Bureau Supplies and Accounts, Navy Dept., Washington, D. C., for constructing a concrete drydock at the navy yard, Norfolk.

Huntington, W. Va.—Until Oct. 12, by County Court (R. S. Douthat, clk.) for constructing concrete substructure for bridge over Four Pole Creek. Oliver & Maupin Eng. Co., Huntington, engrs.

Upper Sandusky, Ohio.—Until Sept. 28, by Jay Marguerat, co. aud., for furnishing material and constructing concrete abutment for Hurd Bridge, over Tymoahtee Creek in Crawford Township.

Chicago, Ill.—Until Oct. 17, by U. S. Engineer, 508 Federal Bldg., for constructing rubble mound breakwater at Chicago Harbor, Ill., advertised in this issue.

Rock Island, Ill.—Until Oct. 18 by U. S. Engineer, P. O. Bldg., for construction and repair to dams and shore protection, advertised in this issue.

Houston Tex.—Until Sept. 29, by E. B. Bonney, city secy., for constructing wharves Nos. 2 and 3; estimated cost, $185,000. E. E. Sands, city engr.

San Bernardino, Cal.—Until Oct. 9, by Bd. Superv. (L. R. Patty, clk.) for constructing pile and timber bulkhead along 1.6 mile of Santa Ana River near Colton. J. A. Sourwine, co. engr.

PRICES AND LETTINGS.

★Indicates award of contract.

★Washington, D. C.—Contract for erecting terrace retaining wall and masonry approaches to Lincoln Memorial awarded Geo. A. Fuller Co., Munsey Bldg., at $309,-500.

★Chicago, Ill.—Following are three bids opened Sept. 14 by Col. C. Riche, corps engrs., U. S. A., Chicago, for south pier construction, dredging, etc., in Chicago Harbor: Fitz Simons & Connell Dredge & Dock Co., 10 La Salle St., $26,335 (recommended for award); Great Lakes Dredge & Dock Co., 104 S. Michigan Ave., $33,473; Byrne Bros. Dredging & Eng. Co., 208 S. La Salle St., $39,779.

★Redfield, S. D.—Contract awarded H. F. Stotte, Redfield, for foundation for School for Feeble Minded. Bids opened at same time for tunnel rejected. J. K. Kutnewsky, supt.

★Portland, Ore.—Contract awarded Columbia Contract Co., Portland, for constructing stone jetty, to cost $650,000.

★Hailey, Idaho.—Contract awarded Maney Bros. & Co., Boise, for constructing for Blaine County Irrigation Co., high dam on Dry Creek, Little Lock River, Custer County.

TUNNELS AND SUBWAYS

PROPOSED WORK.

Cleveland, Ohio.—City Council considering authorizing an election in November on issuing bonds for extension of Superior Ave., N. W., high level bridge subway approach from W. Sixth St. to Public Sq., underground terminal.

MISCELLANEOUS

PROPOSED WORK.

Incinerator Plant—Newark, N. J.—M. R. Sherrerd, ch. engr., Bd. Street & Water Comrs., directed by Bd. Pub. Wks. to prepare plans for incinerator plant.

Conduits—New Brunswick, N. J.—Pennsylvania RR. (Alex C. Shand, ch. engr., Philadelphia) intends placing all wires on New York division in conduits under ground.

Park Improvement—West New York, N. J.—Town Council will extend and lay out an addition to Playground Park; cost, $30,000. Address Town Clk.

Hydro - Electric Development.—Montgomery, Ill.—H. A. Strauss, engr., Harris Trust Bldg., Chicago, retained by Montgomery Hydro-Electric Co. in connection with proposed hydro-electric development of Fox River, at Montgomery.

Transmission Line — Cedar Rapids, Iowa.—The Iowa Railway & Light Co. will erect transmission line from Iowa City to Iowa Junction.

BIDS DESIRED.

Stokers for Boilers—Hudson, N. Y.—Until Sept. 26, by Mrs. Annie Windsor Allen, pres. bd. mgrs. N. Y. State Training School for Girls, for heating work, stokers for boilers, advertised in this issue.

Hydroelectric Equipment — Yosemite, Cal.—Until Oct. 12 by Dept. Interior, Washington, D. C., for hydroelectric equipment for Yosemite National Park, advertised in this issue.

PRICES AND LETTINGS.

★Indicates award of contract.

★Cement — Boston, Mass. — Contract awarded J. P. O'Connell Co., 174 Freeport St., Dorchester, at $2.20 per bbl., for 6000 bbls. Portland cement; total $13,200.

★Cement—Memphis, Tenn.—Contracts awarded John A. Denner Sons Co., Memphis, for 1000 sacks of Portland cement at 36.5 cts. per sack, and Union Sand & Material Co., Memphis, for 1000 sacks at 41.5 cts. per sack. In all about 50,000 sacks to be furnished (bids opened Sept. 7 by U. S. Engineer, P. O. Box 1027, Memphis).

Proposals

For Proposals Advertised See Pages 45, 46 and 47.

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.		See Eng. Record.
Sep. 25.	Bonds, Riverton, Wyo. Adv. Sep. 9.	Sep. 9
Sep. 25.	Watervliet, N. Y. Adv. Sep. 16.	Sep. 16
Sep. 26.	New York, N. Y.	Sep. 16
Sep. 26.	Ottawa, Ohio.	Sep. 16
Sep. 26.	Emmetsburg, Iowa	Sep. 23
Sep. 26.	Kansas City, Mo.	Sep. 23
Sep. 26.	New Brunswick, N. J.	Sep. 23
Sep. 27.	Boston, Mass.	Sep. 23
Sep. 27.	Moncton, N. B.	Sep. 23
Sep. 28.	Cleveland, Ohio	Sep. 23
Sep. 28.	Garden City, Kan.	Sep. 23
Sep. 28.	Beaumont, Tex.	Sep. 23
Sep. 29.	Piermont, N. Y. Adv. Sep. 23.	Sep. 23
Oct. 1.	Cuyahoga Falls, Ohio.	Sep. 2
Oct. 1.	Quincy, Ill.	Sep. 23
Oct. 2.	Cohoes, N. Y. Adv. Sep. 23.	Sep. 23
Oct. 2.	Zanesville, Ohio Adv. Sep. 23.	Sep. 23
Oct. 2.	Norwood, Ohio	Sep. 23
Oct. 3.	Port Clinton, Ohio.	Sep. 2
Oct. 3.	Philadelphia, Pa.	Sep. 23
Oct. 3.	West Hoboken, N. J.	Sep. 23
Oct. 3.	Toronto, Ont.	Sep. 23
Oct. 4.	Bonds, Dublin, Ga. Adv. Sep. 9, 16.	Sep. 9
Oct. 4.	Jacksonville, Fla.	Sep. 16
Oct. 5.	San Antonio, Tex.	Sep. 23
Oct. 9.	East Orange, N. J. Adv. Sep. 16.	Sep. 16
Oct. 10.	Port Clinton, Ohio.	Sep. 16
Oct. 10.	Lebanon, Ohio	Sep. 16
Oct. 10.	Daytona, Fla.	Sep. 23
Oct. 11.	Bellwood, Pa. Adv. Sep. 16.	Sep. 16
Oct. 11.	Boston, Mass.	Sep. 23
Oct. 11.	Trenton, Mo.	Sep. 23
Oct. 13.	Kenyon, Minn.	Sep. 23
Oct. 15.	Hermosa Beach, Cal.	Aug. 26
Oct. 16.	Cleveland Heights (P. O. Warrensville), Ohio.	Sep. 16
Oct. 16.	Newark, Ohio	Sep. 23
Oct. 23.	Havana, Fla.	Sep. 16
——	Franchise, Key West, Fla. Adv. Sep. 2, 9.	Sep. 2

STRUCTURAL STEEL WORK

Sep. 26.	Corning, Ark.	Sep. 9
Sep. 27.	Peoria, Ill.	Sep. 23
Sep. 28.	Spokane, Wash.	Sep. 16
Sep. 29.	Neodesha, Kan.	Sep. 9
Sep. 29.	Buffville, Kan.	Sep. 23
Oct. 1.	Rolfe, Iowa.	Sep. 16
Oct. 2.	Benton Harbor, Mich. Adv. Sep. 16.	Sep. 16
Oct. 2.	Fort Lauderdale, Fla.	Sep. 16
Oct. 2.	Toronto, Ont.	Sep. 23
Oct. 2.	Illinois	Sep. 23
Oct. 5.	Gastonia, N. C.	Sep. 16
Oct. 11.	New Martinsville, W. Va. Adv. Sep. 23.	Sep. 23
Oct. 17.	New Martinsville, W. Va. Adv. Sep. 23.	Sep. 23

REINFORCED CONCRETE.

Sep. 27.	Trenton, N. J.	Sep. 23
Sep. 28.	Santa Barbara, Cal.	Sep. 16
Sep. 28.	Kansas City, Mo.	Sep. 16
Sep. 30.	Anderson, Ind.	Sep. 23
Sep. 30.	Luverne, Minn.	Sep. 30
Sep. 30.	Sturgeon, Pa.	Sep. 23
Oct. 2.	Santa Barbara, Cal.	Sep. 16
Oct. 2.	Brookville, Ind.	Sep. 16
Oct. 3.	Titonka, Iowa	Sep. 9
Oct. 3.	Little River, Ala.	Sep. 9
Oct. 3.	Monroeville, La.	Sep. 16
Oct. 3.	Bay Minette, Ala.	Sep. 16
Oct. 3.	Greensburg, Pa.	Sep. 23
Oct. 5.	El Reno, Okla.	Sep. 23
Oct. 7.	Princeton, Minn.	Sep. 9
Oct. 7.	Dana, W. Va.	Sep. 16
Oct. 7.	Hamilton, Ohio	Sep. 23
Oct. 10.	Circleville, Ohio.	Sep. 16
Oct. 18.	Arcadia, Fla.	Sep. 16
Dec. 6.	Portland, Ore.	Sep. 23

ROADS AND PAVING.

Sep. 25.	San Antonio, Tex. Adv. Sep. 9, 16.	Sep. 9
Sep. 26.	New Orleans, La.	Aug. 26
Sep. 26.	Maryland. Adv. Sep. 16, 23.	Sep. 16
Sep. 26.	Ottawa, Ohio.	Sep. 16
Sep. 26.	Ridgefield Park, N. J. Adv. Sep. 16.	Sep. 16
Sep. 26.	Belmar, N. J.	Sep. 16
Sep. 26.	Kansas City, Mo.	Sep. 23
Sep. 26.	Tuscon, Ariz.	Sep. 23
Sep. 26.	Hartford, Conn.	Sep. 23
Sep. 26.	Linden, N. J.	Sep. 23
Sep. 26.	Seattle, Wash.	Sep. 23
Sep. 26.	Elizabeth, N. J.	Sep. 23
Sep. 26.	Maryland Adv. Sep. 9.	Sep. 9
Sep. 26.	Montclair, N. J.	Sep. 23
Sep. 26.	New York, N. Y.	Sep. 23
Sep. 27.	Baltimore, Md.	Sep. 16
Sep. 27.	Louisville, Ky.	Sep. 23
Sep. 27.	Jacksonville, Ill.	Sep. 23
Sep. 27.	Takoma Park, Md.	Sep. 23
Sep. 27.	Indianapolis, Ind.	Sep. 23
Sep. 28.	Newark, N. J.	Sep. 16
Sep. 28.	High Point, N. C.	Sep. 16
Sep. 28.	Ohio	Sep. 23
Sep. 28.	New York, N. Y.	Sep. 23
Sep. 28.	Nevada, Iowa	Sep. 23
Sep. 28.	Philadelphia, Pa.	Sep. 23
Sep. 28.	Anaheim, Cal.	Sep. 23
Sep. 28.	Santa Barbara, Cal.	Sep. 23
Sep. 29.	New Orleans, La.	Aug. 26
Sep. 29.	Indiana	Sep. 9
Sep. 29.	Hoboken, N. J.	Sep. 23
Sep. 29.	Brooklyn, N. Y.	Sep. 23
Oct. 2.	Jacksonville, Fla.	Sep. 16
Oct. 2.	Grenada, Miss.	Sep. 16
Oct. 2.	Hanford, Cal.	Sep. 23
Oct. 2.	Cincinnati, Ohio	Sep. 23
Oct. 2.	Greenville, Miss.	Sep. 23
Oct. 2.	Los Angeles, Cal.	Sep. 23
Oct. 3.	Bakersfield, Cal.	Aug. 26
Oct. 3.	Indiana	Sep. 16
Oct. 3.	Montclair, N. J. Adv. Sep. 23.	Sep. 23
Oct. 3.	Indiana	Sep. 23
Oct. 4.	Indiana	Sep. 16
Oct. 4.	Columbus, Kan. Adv. Sep. 23.	Sep. 23
Oct. 4.	Santa Ana, Cal.	Sep. 23
Oct. 5.	Indiana	Sep. 16
Oct. 5.	Indianapolis, Ind.	Sep. 23
Oct. 9.	Sebring, Ohio	Sep. 16
Oct. 9.	Washington	Sep. 23
Oct. 10.	Maryland Adv. Sep. 23.	Sep. 23
Oct. 12.	Bedford, Ohio	Sep. 23
Oct. 13.	Lasalle, Que.	Sep. 16
Oct. 14.	Indiana	Sep. 23
Oct. 17.	Woodbury, N. J.	Sep. 23
Oct. 25.	Indiana	Sep. 16

RAILWAYS

Sep. 28.	New York, N. Y.	Sep. 16
Dec. 6.	Portland, Ore.	Sep. 23

BUILDINGS.
Public and Private.

Sep. 26.	Jacksontown, Ohio	Sep. 9
Sep. 26.	Detroit, Mich.	Sep. 16
Sep. 26.	Bucyrus, Ohio.	Sep. 16
Sep. 26.	Seneca, Kan.	Sep. 16
Sep. 27.	New York, N. Y.	Sep. 23
Sep. 28.	Springfield, Mass.	Sep. 9
Sep. 28.	Okmulgee, Okla.	Sep. 16
Sep. 28.	Brookline, Mass.	Sep. 23
Sep. 28.	Sullivan, Ind.	Sep. 23
Sep. 29.	Okmulgee, Okla.	Sep. 9
Sep. 30.	Pueblo, Col.	Sep. 16
Oct. 1.	Anoka, Minn.	Sep. 16
Oct. 1.	Miami, Ariz.	Sep. 23
Oct. 2.	Willows, Cal. Adv. Aug. 26, Sept. 2.	Aug. 26
Oct. 2.	Mason City, Iowa	Sep. 23
Oct. 2.	Toronto, Ont.	Sep. 23
Oct. 2.	Vinton, Iowa	Sep. 23
Oct. 2.	Los Angeles, Cal.	Sep. 23
Oct. 2.	New York, N. Y.	Sep. 23
Oct. 2.	Ellis, Kan.	Sep. 23
Oct. 3.	Huntington, W. Va.	Sep. 2
Oct. 4.	Leeds, Iowa	Sep. 23
Oct. 5.	Berlin, N. H.	Sep. 2
Oct. 5.	Auburn, Ind.	Sep. 23
Oct. 6.	Skohegan, Me.	Sep. 2
Oct. 6.	New York, N. Y.	Sep. 23
Oct. 10.	Sonyea, N. Y. Adv. Sep. 23.	Sep. 23
Oct. 11.	Ottawa, Kan.	Sep. 16
Oct. 11.	Pleasant City, Ohio.	Sep. 16
Oct. 12.	Buckhannon, W. Va.	Sep. 9
Oct. 12.	San Bernardino, Cal.	Sep. 23
Oct. 16.	Dickinson, N. D.	Sep. 9
Oct. 17.	New Orleans, La.	Sep. 2
Oct. 18.	Wilmington, N. C.	Sep. 23
Oct. 18.	Waterloo, Iowa	Sep. 23
Oct. 19.	Du Bois, Pa. Adv. Sep. 16, 23.	Sep. 16
Oct. 23.	Boise, Idaho	Sep. 23
Oct. 30.	Burlington, N. C.	Sep. 23
Jan. 1.	Webster, S. D.	Sep. 16
Nov. 13.	Birmingham, Ala.	Sep. 23

FOUNDATIONS, PIERS AND DAMS.

Sep. 26.	Chicago, Ill. Adv. Sep. 2 to 23.	Sep. 2
Sep. 26.	Fremont, Neb	Sep. 9
Sep. 28.	Nashville, Tenn. Adv. Aug. 19, Sep. 2, 16.	Aug. 19
Sep. 28.	Upper Sandusky, Ohio.	Sep. 23
Sep. 29.	Port Stanley, Ont.	Sep. 16
Sep. 29.	Tompkinsville, N. Y.	Sep. 16
Sep. 29.	St. Louis, Mo.	Sep. 16
Sep. 29.	Houston, Tex.	Sep. 23
Oct. 3.	Long Branch, N. J. Adv. Sep. 23.	Sep. 23
Oct. 9.	San Bernardino, Cal.	Sep. 23
Oct. 12.	Huntington, W. Va.	Sep. 23
Oct. 17.	Chicago, Ill. Adv. Sep. 23.	Sep. 23
Oct. 18.	Rock Island, Ill. Adv. Sep. 23.	Sep. 23
Oct. 21.	Norfolk, Va.	Sep. 23

EXCAVATION, DREDGING AND DRAINAGE.

Sep. 26.	Laprairie, Que.	Sep. 23
Sep. 27.	Malta, Mont.	Sep. 2
Sep. 28.	Fort Laramie, Wyo. Adv. Aug. 26.	Aug. 26
Sep. 29.	Breckenridge, Minn.	Sep. 23
Sep. 29.	New Orleans, La.	Sep. 23
Sep. 29.	Natchez, Miss.	Sep. 23
Sep. 29.	Nevada, Iowa	Sep. 23
Sep. 30.	Owatonna, Minn.	Sep. 16
Oct. 2.	Brooklyn, N. Y.	Sep. 23
Oct. 3.	Los Angeles Cal.	Sep. 23
Oct. 3.	Albany, N. Y.	Sep. 16
Oct. 3.	Benson, Minn.	Sep. 23
Oct. 6.	St. James, Minn.	Sep. 23
Oct. 7.	Charleston, S. C.	Sep. 16
Oct. 9.	Harlingen, Tex.	Sep. 23
Oct. 10.	St. Ignatius, Mont. Adv. Sep. 9.	Sep. 9
Oct. 10.	Albany, N. Y. Adv. Sep. 16, 23.	Sep. 16

MISCELLANEOUS.

Sep. 26.	Stokers for Boilers, Hudson, N. Y. Adv. Sep. 23.	Sep. 23
Sep. 28.	Electric fixtures, Albany, N. Y. Adv. Sep. 9 to 23.	Sep. 9
Sep. 28.	Book Shelving, etc., Albany, N. Y. Adv. Sep. 16, 23.	Sep. 16
Sep. 29.	Elevators, New London, Conn. Adv. Sep. 16, 23.	Sep. 16
Sep. 28.	Coal, New York, N. Y. Adv. Sep. 16, 23.	Sep. 16
Oct. 2.	Wreck, Newport, R. I. Adv. Sep. 2 to 23.	Sep. 2
Oct. 2.	Iron Castings, Louisville, Ky. Adv. Sep. 9 to 23.	Sep. 9
Oct. 2.	Dragline Excavator, Denver, Col. Adv. Sep. 16.	Sep. 16
Oct. 4.	Elevator, Washington, D. C.	Aug. 26
Oct. 4.	Stokers, Fargo, N. D. Adv. Sep. 9, 16.	Sep. 9
Oct. 9.	Metal work for gate operating machinery, Louisville, Ky. Adv. Sep. 16, 23.	Sep. 16
Oct. 12.	Hydroelectric Equipment, Yosemite, Cal. Adv. Sep. 23.	Sep. 23

August Exports Pass Half Billion Dollar Mark

Economic Position of Country Largely Depends on Exports, and Movements Looking to Retention of Heavy Foreign Trade After the War Are of Extreme Significance to Engineers and Contractors Dependent on Construction Work

AMERICAN exports in August reached a new world's record total of $510,000,000. The significance of foreign trade to the contractor will not be overlooked by those who realize the dependence of construction work on general business activity, in view of the tremendous effect this trade is having on our domestic commerce. Although apparent enough to economists, it will be well to restate this relation, especially as one of the national political parties is widely circulating campaign literature which points out that our foreign trade is but a small part of our total business and makes the dangerous assertion that we could dispense with the former without affecting the latter.

At the opening of the war confidence was lacking, and the large, sheep-like majority were afraid to buy freely, even at low prices. Europe at this point came into our markets through necessity, taking off the hands of our merchants, manufacturers and farmers the surplus of goods not then salable at home. Then the majority of our own business men, waking up to the fact that the reserve producing capacity of the country was rapidly being mortgaged before their own future wants were contracted for, stepped in and bought heavily. Competition for the products of our mines, farms and factories between home consumers and foreign buyers has raised prices, made profitable new construction for manufacturing, transportation and other purposes, stimulated business transactions and brought us to the present pitch of activity. Remove the foreign demand now engaging our surplus producing capacity and the business man at home will be less eager to buy. He will know that, whatever his competitors do, this surplus capacity can be drawn upon to fill his own wants at any time. He will wait for the inevitable drop in prices. The great demand new existing for almost everything would vanish in a manner surprising to the authors of the campaign literature mentioned. Nobody would want to build, because there would be more construction already finished than could be utilized.

Moreover, the trade balance of exports over imports has had an effect on our business scarcely allowed for even by close students of conditions. It has forced Europe to pay us large sums, to raise which foreign-held American securities had to be converted in this market. Such transactions would have been impossible without great loss to European holders unless our markets had been held to high levels. For this purpose, even more than to pay direct debts, the world has poured its gold—$410,000,000 of it within the last twelvemonth—into our lap. Yes, the American had to be provided with money that he might be able to speculate with it—to support exchange, stock transactions, foreign credits, the whole fabric on which Europe's purchases of essential supplies has depended. But this gold has increased our supply of the medium of trade. Never before the war had so much as $36 per capita been in circulation in the United States. Now we are circulating a sum of money which represents almost $39.60 per capita. No wonder the average American is buying in unheard of volume and at top prices. His resources are 13 per cent greater than in 1914. Let our exports cease, let this balance of trade fall off, let this gold flow back to its sources, and the country would be robbed of the power to support its domestic business at present levels. Prices and sales, freight movements and production would drop back to the old levels and react below them. The demand for new construction would cease. Public bonds would no longer find a profitable market. The contractor would face a serious lack of work.

It is encouraging to note, in view of these considerations, that men like James A. Farrell, president of the U. S. Steel Corporation and chairman of the National Foreign Trade Council, believe that we can hold our foreign trade after the war. At a recent meeting of this council in New York Mr. Farrell and other gentlemen of commercial importance expressed the hope that, with proper and farsighted assistance at Washington, the business men of the country will be able to adjust our foreign trade relations so as to keep the business we have won. A very fair share of this increase is with neutral countries—for example, the 65 per cent increase last year in our South American trade. There are also thought to be good prospects of our being able to hold Europe as a large customer after peace is declared. The contractor therefore will do well to watch the promise and performance of the political party that is returned victor at the coming national election and the amount of serious consideration that is given to these problems at Washington.

Waterworks and Sewers

The following work under this heading on which bids have been opened and contracts awarded is noted in this issue:

	Kind	Cost
Bridgeport, Conn	Sewer	$398,000
Columbus, Ohio	Concrete sewer	54,000
Ironton, Ohio	Pumping station	68,000
Kenosha, Wis.	Sewers	64,000
Shreveport, La.	Filter plant	281,000
Los Angeles, Cal	Steel pipe	118,000

Bids are desired for constructing sewers in Plainfield, N. J., and for considerable sewer construction in connection with flood-abatement work at Albany, N. Y. Plans are being prepared at Philadelphia for the first of three units of the city's proposed $22,000,000 sewage-disposal system. Plans are being prepared at Indianapolis for a large-diameter sewer. It is reported that the Santa Fe Railway will build large reservoirs and pumping plants at Brownwood and Sweetwater, Tex.

Miscellaneous Headings

A contract has been awarded at $810,000 for the section of subway on which bids were opened Sept. 13 in New York City. A reinforced-concrete building contracted for at Philadelphia will cost $280,000. It is reported from Portland, Ore., that a $200,000 contract has been awarded for constructing a branch railroad. Contracts amounting to $665,000 have been awarded at Los Angeles for furnishing steel pipe for irrigation purposes. Bids are desired at Tallahassee, Fla., for 1,600,000 yd. of drainage excavation, and a drainage contract involving 1,100,000 yd. will be let Oct. 17 at Olivia, Minn. Bids will be opened Dec. 6 at Portland, Ore., for eliminating nine grade crossings.

The construction of reinforced-concrete power plants to cost $425,000 is proposed at East Orange, N. J. Plans have been submitted for waterfront terminal schemes at Bayonne, N. J., costing from $3,000,000 to $8,300,000. The special board of engineers appointed at Washington to investigate the $10,000,000 water supply and power development proposed at Great Falls on the Potomac River has reported favorably on the project. It is reported that a large power dam will be built at Grand Rapids, Mich. Another ore dock planned at Ashland, Wis., will cost $1,500,000. Steps are being taken to build the large diversion tunnel for Turkey Creek proposed at Rosedale, Kansas City. A company has been incorporated to build 200 miles of railroad near Belle Fourche, S. D.

Buildings

Building and industrial plant construction noted in this issue is summarized in the following table:

	Kind	Cost
Bids opened, contracts awarded:		
Jersey City, N. J.	High school	$273,000
Bloomfield, N. J.	Manufacturing plant	750,000
Cleveland, Ohio	Mercantile building	400,000
Cleveland, Ohio	School	250,000
Seattle, Wash.	High school	196,000
Berkeley, Cal.	University building	168,000
Merritton, Ont.	Paper mill	200,000
Bids desired:		
Hartford, Conn.	Y. W. C. A. building	210,000
Proposed work:		
Waterbury, Conn.	Rolling mill	600,000
Bridgeport, Conn.	Business block	200,000
New York, N. Y.	Residence	200,000
Newark, N. J.	Memorial building	1,500,000
New Castle, Pa.	Steel car plant	300,000
Cleveland, Ohio	Office building	500,000
Cleveland, Ohio	Ice plant	1,000,000
St. Louis, Mo.	School	200,000
Omaha, Neb.	Athletic club	400,000

The following table includes important road and paving construction noted in this issue:

Roads and Paving

Contracts awarded:	Kind	Cost
Pittsburgh, Pa.	Highway	$61,000
Lawrenceburg, Tenn.	Macadam	136,000
Duluth, Minn.	Paving	419,000
Bids desired:		
Long Island City, N. Y.	Asphalt	*88,500
Wellsburg, W. Va.	Highways	80,000
Texarkana, Ark.	Paving	.....
Proposed work:		
Napierville, Ill.	Concrete	104,000
Clarksville, Ark.	Macadam	130,000
Camden, Ark.	Highway	92,000
Arkansas	Highways	230,000
Seattle, Wash.	Brick	100,000
Ottawa, Ont.	Paving	70,000
No. Wilkesboro, N. C.	Road bonds voted	250,000
Savannah, Tenn.	Bonds sold	100,000
Panama City, Fla.	Bonds voted	375,000
Corsicana, Tex.	Bonds approved	280,000

*Security required.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Lincoln Park, N. J.—Lincoln Park Water Co. incorporated to construct waterworks, capital $125,000. F. N. Johnson, Lincoln Park, said to be interested.

Linden, N. J.—Township Committee considering issuing bonds for constructing trunk sewer in St. George and Greater Elizabeth sections.

Philadelphia, Pa.—Plans being prepared for sewage disposal treatment plant to be constructed at Richmond and Lewis Sts. and Delaware Ave. This is one of three units of city's proposed $22,000,000 sewage disposal system. Address Director Dept. Pub. Wks.

Pittsburgh, Pa.—Committee Public Wks. voted in favor of constructing sewers in Flora St., Klein and Edwin Aves.; cost $10,000. Robt. Swan, dir. pub. wks.

Steelton, Pa.—Pennsylvania RR. Co., Bethlehem Steel Co. and borough voted to construct storm sewer system to drain part of borough; concrete and brick construction. Cost, $75,000; each to pay one-third of cost.

Waynesboro, Pa.—Citizens will vote Nov. 7 on issue of $28,000 bonds for sewers. Address Borough Clerk.

Wilkes-Barre, Pa.—Alex. Potter, 50 Church St., New York, engaged by city to report on disposal of sewage of city and advisability of city joining with Hanover Township and other communities in construction of joint sewage disposal plant.

Wilkes-Barre, Pa.—City Commission engaged Alex. Potter, 50 Church St., New York, to prepare plans for sewage disposal plant.

Norfolk, Va.—City will spend about $21,192 for installing water mains in Plume, Church, Yarmouth, Twenty-eighth and other streets. Address T. B. Dornin, engr. water dept.

Tarboro, N. C.—City Commissioners voted to issue $25,000 bonds for extending sewerage system.

Camden, S. C.—Citizens voted $25,000 bonds for extending and completing waterworks and electric light plant. Address City Clerk.

Damascus, Ga.—Citizens Sept. 15 voted $15,000 waterworks and electric light bonds. Address City Clerk.

Crystal Springs, Miss.—X. A. Kramer, Magnolia, is engineer for proposed sanitary sewerage system; cost $25,000.

Birmingham, Ala.—All bids recently opened for lowering 9000 ft. sanitary sewer on Village Creek branch of Jefferson County trunk sewer depth 4 ft. between Woodlawn and East Lake rejected by Bd. Revenue. New bids to be received. L. H. Salter, co. engr.

Rogersville, Tenn.—Mayor and Aldermen voted in favor of $25,000 bond issue for constructing water works.

Louisville, Ky.—Commissioners adopted plans and specifications for north side storm sewer, cost about $25,000. Address City Clk.

Akron, Ohio—City Council considering installing water meters, cost about $40,000.

Alliance, Ohio.—City Council considering spending $40,000 for completing sewage disposal plant.

Cincinnati, Ohio—City Council voted to construct sewers on Verne, Liston and Schoedlinger Aves. and Mason St.

Elyria, Ohio.—City Council passed ordinances providing for constructing sewers in West, Middle Aves., Oberlin Rd., Maple, Sixteenth, Seventeenth Sts.

Cleveland, Ohio.—Reported contracts will soon be let for repairs to clear water basin of Division Ave. filtration plant; cost $100,000. Mr. Dusinberre, water comr., will probably give further information.

Maumee, Ohio.—City sold $48,480 sewer and street improvement bonds. Address City Clerk.

West Park, Ohio.—All bids opened Aug. 31 for furnishing and laying water mains rejected, being in excess of estimated cost. Lauder Engineering Co., engrs., American Trust Bldg., Cleveland. Frank R. Lauder, Village engr.

Indianapolis, Ind.—Plans being prepared for Thirtieth St. sewer to be 3 to 6 ft. diameter, 1½ miles long. Address City Engr.

Burlington, Ia.—Contract will be let about Oct. 19 for constructing 4 miles sewers, about 700 ft. to be 6 ft. reinforced concrete arch, segment blocks or reinforced concrete pipe, remainder to be vitrified or concrete, 10 to 36-in. C. E. Waterhouse, city engr.

Corning, Iowa—Citizens voted $30,000 bonds for constructing waterworks. Capacity of reservoir 39,000,000 gal. Address City Clk.

Jetmore, Kan.—Bonds for $10,000 voted for purchase of new engine and other improvements to water and light plants. Address City Clerk.

McPherson, Kan.—Plans being considered for extensions to waterworks and electric light plant. Address City Clerk.

Grand Forks, N. D.—Election will probably be held to vote $25,000 bonds for improving waterworks. Address City Clerk.

Hitchcock, S. D.—Contract about to be let for constructing waterworks and drainage system. Address City Clerk.

Higginsville, Mo.—Burns & McDonald, Kansas City, are engineers for proposed sewer system. Probable cost, $50,000.

Cisco, Tex.—Citizens voted to extend sewerage system and construct disposal plant and crematory. Address City Clk.

Dallas, Tex.—In connection with construction of municipal sewage disposal plant work is about to begin on cementing from inside joints of 36-in. concrete force mains from Cadiz St. to disposal plant, 3 miles distant. Address City Engineer.

Paris, Tex.—Attorney General at Austin approved issue of $10,000 bonds for sewers. Address City Clerk.

Port Arthur, Tex.—City Engineer estimates cost of extensions to sewer system in territory between Railroad Ave. and Stilwell Boule. and lying south of Thomas Boule. between Stilwell Boule. and Vandervoort Ave. lying south of Tenth St., at $92,633.

Vernon, Tex.—Attorney General at Austin approved $15,000 water and sewer bond issue. Address City Clerk.

Woodward, Okla.—Citizens voted $12,500 bonds for constructing waterworks. Address City Clerk.

Seattle, Wash.—Contract about to be let for installing water mains in Rainier Ave. L. B. Youngs, supt. waterworks.

Estimated cost of installing sewers and water mains in Terry and Borden Aves. $14,417. C. B. Bagley, secy. bd. pub. wks.

Spokane, Wash.—City Council contemplates replacing water dept. 2000 wooden gate valve boxes with either concrete slab boxes or iron valves.

Tolt, Wash.—Contract will be let about Oct. 5 for constructing gravity water system; cost about $15,000. G. N. Miller & Son, 531 Burke Bldg., Seattle, engrs.

John Day, Ore.—City Council contemplates constructing water system; cost $10,000.

Long Beach, Cal.—Storm drainage system requiring 11,266 ft. 48-in. pipe and costing $96,000 is under consideration. Hearing will be held Oct. 2. R. V. Pearsall, engr., 329 First Natl. Bank Bldg.

Los Angeles, Cal.—Citizens of Bairdstown section of city voted $200,000 bonds for supply mains and enlarging and improving distributing system to carry water from Los Angeles aqueduct. Main will probably be of steel pipe. Wm. Mulholland, ch. engr. bd. pub. service comn., Knickerbocker Bldg.

Citizens of Hollywood Water Dist. will vote Oct. 18 on issue of $1,020,000 bonds for purchasing present waterworks and enlarging and improving distributing system. Wm. Mulholland, ch. engr. bd. pub. service comn.

Ogden, Utah—City Council voted to construct storm sewer in Madison Ave. from Twenty-seventh St. to Ogden River, cost about $25,000.

Newton, Utah.—Citizens voted $12,500 bonds for constructing water system. Address City Clerk.

Pocatello, Idaho—Citizens voted $300,000 bonds for improving waterworks. E. S. Anderson, engr., Pocatello; Edgar C. Smith, supt.

Sherbrooke, Que.—Waterworks Committee (E. C. Gatien, secy.) plans to install vertical plunger pump, 4,000,000-gal. capacity.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

BIDS DESIRED.

Fall River, Mass.—Until Oct. 3 by Reservoir Comn. for making 1500 lin. ft. wash drill borings and 150 lin. ft. core drill borings in vicinity of Mill Brook at possible dam and pipe line sites in city of Fall River and town of Freetown. H. K. Barrows, engr., 6 Beacon St., Boston.

New York, N. Y.—Until Oct. 9 (readvertisement), by Marcus M. Marks, borough president, for furnishing material and constructing relief sewer and appurtenances in West Forty-sixth St. from Hudson River to Seventh Ave. Security $100,000.

Olean, N. Y.—Until Oct. 11 by W. W. Wotherspoon, state supt. pub. wks., Albany, for Contract No. 2 of Olean flood abatement work, constructing sewers, furnishing, erecting, testing and placing in operation pumping plants along Allegany River and Olean Creek, advertised in this issue.

Plainfield, N. J.—Until Oct. 9 by John J. Carroll, city clk., for constructing storm sewer appurtenances, advertised in this issue. And. J. Gavett, city surv.

Red Bank, N. J.—Until Oct. 2, by A. C. Harrison, Boro. clk., for constructing vitr. pipe sewers in Locust Ave., Leighton, Herbert, Leonard and other streets.

Ridgewood, N. J.—Until Oct. 10 by Bd. Comrs. for sanitary sewers in Lincoln and West End Aves., Grand View Pl. and McKinley Pl. Fred. W. Simonds, engr.

Pittsburgh, Pa. — See "Paving and Roads."

Front Royal, Va.—Until Oct. 30, by Constructing Q.M., for slow sand water filter pipe line advertised in this issue.

Norfolk, Va.—Until Oct. 12, by Board Control, for constructing sewers and water mains, advertised in this issue. H. H. Taylor, Jr., city engr.

High Point, N. C.—Until Oct. 3, by Mayor W. P. Pickett and City Council, for constructing battery of four Imhoff tanks and sludge bed complete with appurtenances. Anderson & Christie, Inc., engrs., Charlotte.

Tarboro, N. C.—Until Oct. 17, by Mayor T. P. Keech and Town Comrs., for constructing about 5 miles of 8 to 12-in. sewers. Wm. M. Piatt, engr., Durham.

Jacksonville, Fla.—Until Oct. 4, by Bd. Bond Trustees, for furnishing c.-i. coated water pipe and gate valves to consist of about 5 tons Class B fittings, tees, valves, etc.

West Palm Beach, Fla.—Until Oct. 5, by A. M. Lopez, city clk., for constructing 2654 ft. 18 and 24-in. vitr. pipe sewer.

Rogersville, Tenn. — Reported desired until Oct. 10, by W. B. Hall, Jr., Rogersville, for constructing waterworks; concrete reservoir about 100,000 gals. capacity.

Louisville, Ky.—Until Oct. 16, by Bd. Waterworks (W. O. Head, pres.), for constructing new pumping station on the Ohio River.

Alliance, Ohio.—Until Oct. 5 by City Clerk for 1000 disc meters ranging in size from ⅝ to 1 in., and until Oct. 6 for one 6,000,000-gal. cross compound pumping engine and one motor-driven triplex Booster pump. Chester & Fleming, hydraulic and sanitary engrs., Pittsburgh, Pa.

Cincinnati, Ohio.—Until Oct. 3, by Chas. F. Hornberger, dir. pub service, for constructing relief sewers in Mitchell, Clinton Springs Ave. and Reading Road (Avondale relief sewers Contract No. 6).

Until Oct. 4, by Chas. F. Hornberger, dir. pub. serv., for constructing trunk sewers under Avondale Relief Sewers Contract No. 5, cost $66,020. Frank S. Krug, city engr.

Until Oct. 4, by Edw. P. Durr, dir. pub. service, for sewers in Rockwell, Forest, Glenwood and Washington Aves. (Avondale Relief Sewer Contract No. 5).

Columbus, Ohio.—Reported desired until Oct. 3, by G. A. Borden, dir. pub. serv., for constructing sewer in Chase Ave.

Tiffin, Ohio.—Until Oct. 3, by Wm. Heller, dir. pub. service, for constructing combined storm and sanitary sewer, egg shape, vitr. brick, segment block or reinforced concrete, and vitr. sewer pipe, advertised in this issue.

Youngstown, Ohio.—Reported desired until Oct. 9, for extending water system. J. P. Edwards, city aud.

Granite City, Ill.—By Jobst Walbridge, Granite City, for 8000 to 15,000 ft. 3 to 6-ft. concrete sewer, advertised in this issue.

Chilton, Wis.—Until Oct. 11, by J. Pfeffer, city clk., for constructing artesian well and 100,000 gal. concrete reservoir, mains, hydrants, pumping station, etc. Bonds for $45,000 recently voted.

Anthon, Iowa.—Reported desired until Oct. 3 (readvertisement), by Town Clerk, for constructing sanitary sewer and disposal works, to consist of 13,585 ft. 8 and 10-in. pipe, two filter beds, syphons, etc.

Logan, Ia.—Until about Oct. 9, for constructing sewers. Probable cost, $20,000. Bruce & Standeven, engrs., Omaha.

Waseca, Minn.—Until Oct. 3, for excavating trenches and laying 4900 to 5000 ft. 4-in. water mains and installing mains, valves, hydrants, etc. Address City Clk.

West St. Paul (P. O. St. Paul), Minn.—Until Oct. 10 by Frank Youngerbauer, city clk., for constructing waterworks to consist of street service mains, Div. No. 1, furnishing and laying Class B c. i. bell and spigot water main, about 28,900 ft. 6 in. and 12 in., with valves, hydrants, etc.; Div. No. 2, 3600 ft. 12 in. on Annapolis St., and Div. No. 3, furnishing and delivering f.o.b. quantity of meters. J. F. Druar, engr., 312 Commercial Bldg., St. Paul.

Stanton, Neb.—Reported desired until Oct. 9 for constructing sewers in Dist. No. 3. W. T. McFarland, city clk.

Kansas City, Mo.—Until Oct. 4, by W. C. Weaver, purchasing agent, for furnishing the Water Dept. of Kansas City with 5000 water meters, size ⅝ in.

Slater, Mo.—Until Oct. 5, by City Clerk, for furnishing material and constructing about 3½ miles sewers. W. B. Rollins & Co., engrs., 439 Midland Bldg., Kansas City.

Pocahontas, Ark.—Until Oct. 4, by Comrs. Water Improv. Dist. No. 1, at office of Ben. A. Brown, secy., for furnishing material and constructing waterworks, consisting of 38 x 12 ft. reinforced concrete reservoir, 75,000-gal. steel tank on steel tower, 250,000-gal. concrete gravity filter, 9540 ft. 6 to 10-in. pipe, 500 g.p.m. centrifugal pump, gate valves, etc. J. B. McCrary Co., engrs., Atlanta, Ga.

Hamlin, Tex.—See "Foundation Piers and Dams."

Sweetwater, Tex.—Until Oct. 4 for constructing sewage disposal plant; cost $15,000. John A. Focht, city engr.

Hermosa Beach, Cal.—Until Oct. 17, for constructing sewage disposal and sewage treatment plant, to consist of air compressors, electric motors, vitr. sewer pipe, etc. Engineer's estimate $27,000. C. R. Sumner, city engr.

Toronto, Ont.—Until Oct. 3, by T. L. Church, chmn. bd. control, for c. i. pipes, c. i. specials and valves.

PRICES AND LETTINGS.

★Indicates award of contract.

★Bridgeport, Conn.—Contract for constructing about 9400 ft. 60, 66 and 72 ft. sewer in Railroad and Bostwick Aves. awarded to E. Devoe Tompkins Co., 17 E. Thirty-eighth St., New York, at $398,000 if reinforced concrete is used, or $403,000 if lock joint pipe is required.

★New Haven, Conn.—Contract for constructing Blake St. sewer awarded Thos. F. Maher, New Haven, at $9,499, and section of sewer system in Westville to Dwyer & Mannix, 335 Dixwell Ave., at $20,085. H. J. Kellogg, asst. city engr.

★Elmira, N. Y.—Contract for relining interior walls of high pressure reservoir on West Hill awarded by Water Bd. to Reid-Waples Co., Philadelphia, at $5,600.

★Bogota, N. J.—Contract awarded R. F. Kelly, Oswego, for constructing sewers (bids opened Sept. 15), at $20,917. Clyde Potts, engr., 30 Church St., New York.

★Tarentum, Pa.—Following bids opened Sept. 21 by Water & Electric Com. for concrete coagulating basin at municipal water plant: Griffith Concrete & Constr. Co., Pittsburgh, $2,079; Pittsburgh Sanitary Constr. Co., Pittsburgh, $3,34$, and J. G. Bythe, Tarentum, $1,990.

★Columbia, S. C.—Contracts for laying 23 miles vitr. sewer pipe awarded to Dysard Constr. Co., Atlanta, Ga., at $33,165 and for about 6 miles c.i. water pipe with specials to Thornwell, McMasters & Co., Columbia, at $5,147 (bids opened by City Council Sept. 19). T. Keith Legare, city engr.

Birmingham, Ala. — See "Proposed Work."

★Tuscaloosa, Ala.—Contract for constructing storm sewer in southern part of Tuscaloosa awarded by City Com. to Mat Maxwell, Tuscaloosa, at $10,532.

★Shreveport, La.—Contracts Sept. 18 awarded as follows (bids Sept. 5 by City Council): Combination pumping station and filtration softening plant to McKenzie Constr. Co., Webb City, Mo., at $83,905; two sedimentation basins and clear water reservoir, Smith Bros. & Turner, Marshall, Tex., at $84,852; laying of pipe, Moore, McCain & Hearne, at $11,317; pumps, De Laval Steam Turbine Co., Trenton, N. J., $66,000, and filters to Pittsburgh Filter Co., Pittsburgh, at $39,900.

★Cincinnati, O.—Contract for furnishing pipe for high pressure water service in district bounded by Central Ave., 4th and 8th Sts., awarded by Bd. of Control to U. S. Cast Iron Pipe & Foundry Co., Addyston, at $32,650.

★Columbus, Ohio—Contract for constructing Fourth Ave. section of Third Ave. storm and sanitary sewer of reinforced concrete and vitr. pipe awarded by Director Bd. Pub. Service to O'Donnell & Thornberry, Columbus, at $54,790.

★Glasford, Ill.—Contract for constructing water distributing system (bids opened Sept. 20), awarded to Monie & Dunbar, St. Louis, Mo., at $11,141. D. A. Howard, city clk.

Kenosha, Wis.—Following bids opened by Street Assessment Com. for constructing sewers on Salem, First, Second, Fourth, Park Aves., Edwards, Willow, Bronson, N. Pleasant Sts.: Frandsen & P. B. Johnson, Racine, $64,316; J. D. Hanley, Portland, Ore., $69,784; Thornton Bros., St. Paul, $73,495, and Wisconsin Tunnel & Constr. Co., Milwaukee, $77,845.

★Seattle, Wash.—Election will be held in November to vote on $3,000,000 bond issue for construction of third pipe line and acquisition of lands surrounding Swan Lake, to create impounding reservoir for Seattle's water system. Address City Clerk.

★Tacoma, Wash.—Contract for laying 16 in. water main on J St., between Fifty-fourth and Sixty Fourth Sts., awarded by city to J. J. Monahan, Tacoma, at $5,113.

Portland, Ore.—Otterson Auto Eductor Co., 1312 L. C. Smith Bldg., Seattle, on Sept. 14, submitted bid at $6,387 for mechanical device for cleaning sewer inlets. J. R. Wood, purchasing agent.

★Burbank, Cal.—Contract for furnishing 6,800 ft. 4-in. w. i. screw pipe, awarded to Smith-Booth-Usher Co., Los Angeles, at $40.67 per 100 ft. (bids opened Sept. 19). E. M. Peyton, city clerk.

★Los Angeles, Cal.—Contracts awarded by Bd. Supervs. as follows for furnishing riveted steel pipe for irrigation system in San Fernando Valley: U. S. Steel Products Co., Jackson St. and Central Ave., at $279,043; Lacy Mfg. Co., Main and Date Sts., $246,883; Llewellyn Iron Wks., Main and Redondo Sts., $139,505. Wm. Mulholland, ch. engr., Knickerbocker Bldg.

★Contracts awarded by Bd. Supervisors as follows for furnishing riveted steel water pipe for Municipal Improvement Dist. No. 2, San Fernando Valley: 8412 ft. 14-in. pipe and fittings to Los Angeles Mfg. Co., 2500 Leonard St., $10,123, and to U. S. Metal Products Co., Pittsburgh, for 61,398 ft. 12-in. at $59,530, and 92,666 ft. 8-in. at $48,271.

★Following bids opened by Bd. Pub. Service for furnishing riveted steel pipe for Western Ave. main; Baker Irion Wks. Co., Main & Ord Sts., $94,228 (awarded contract) Lacey Mfg. Co., $95,382, Llewellyn Iron Wks., $96,390 and Western Pipe & Steel Co., $96,963. (Bidders all of Los Angeles.)

★Aylmer, Que.—Contracts for constructing filtration plant awarded as follows: Equipment, to New York Continental Jewell Filtration Co., 10 Cathcart St., Montreal, $25,000, and for construction to R. T. Smith, Westmount, at $36,000.

★Hull, Que.—Contract for laying water mains awarded to Wilfrid Herbert, Wall St., at $35,000.

STRUCTURAL STEEL WORK

PROPOSED WORK.

Providence, R. I.—Darrow Mann Co., Boston, will construct steel coal pocket, 235 x 38 x 30 ft.

Buffalo, N. Y.—Until Oct. 17 by Comnr. Public Wks., for construction, renewal and protection of viaducts on several streets advertised in this issue.

Harrisburg, Pa.—Board of Viewers appointed by Dauphin County Court will report on advisability of constructing new bridge across Paxton Creek, a mile north of Progress. Harry Gough, county comptr.

Jacksonville, Fla.—Election soon to be held to vote $750,000 bonds for constructing bridge across St. John's River. Harrington, Howard & Ash, engrs., Kansas City, Mo.

Hartwell, Ga.—A. N. Alford, Hartwell, plans constructing steel bridge over Savannah River between Hartwell and Anderson, S. C.; cost $50,000.

Council Bluffs, Iowa.—All bids opened Sept. 15 by Board of Supervisors for constructing highway bridge at Macedonia rejected. H. M. Howard, co. engr.

Gering, Neb.—Election Oct. 10 to vote $65,000 bonds for reconstructing six bridges over Platte River in Scottsbluff County.

Walla Walla, Wash.—Election Nov. 7 to vote $25,000 bonds for constructing bridge across Snake River between Walla Walla and Franklin Counties; cost $50,000. Charles E. Fowler, engr., Central Bldg., Seattle.

BIDS DESIRED.

Jersey City, N. J.—Until Oct. 10, by City Commissioners, for repairing Thirteenth St. viaduct; probable cost about $32,000. M. I. Fagen, city clk.

Calhoun, Ga.—Until Oct. 11, by Bd. Comrs. Roads and Revenues (W. L. Swain, chmn.), for furnishing material and constructing bridge over Coosawattee River, near Reel's Ferry, to consist of one steel span, 140 ft. long, two reinforced concrete piers, each 45 ft. high, two trestle approaches, one 200 ft. long and one 100 ft. long, with 12-ft. roadway; cost $5,000.

Clearwater, Fla.—Until Oct. 3, by Bd. Co. Comrs. (C. W. Wiecking, clk.), for constructing Anchlote River Bridge, including the erection and construction of Scherzer rolling lift, 16-ft. clear roadway, 57-ft. span center to center bearings, two reinforced concrete approaches of two twin spans, each 16-ft. clear roadway, and 43-ft. clear span. Bids desired on bridge complete and separately on approach spans and on lift spans, contracts may be awarded for bridge only, or on approaches and lift separately. J. B. McCrary, engrs., Atlanta, Ga.

Batesville, Miss.—Until Oct. 9, by Bd. Co. Supervs. (M. W. Roberson, clk.), for constructing steel approaches and steel stringers and floor on main span of iron bridge across Tallahatchie River at Old Panola.

Chickasha, Okla.—Reported desired until Oct. 3, by F. P. Bradley, co. clk., for constructing 60-ft. steel bridge, three 40-ft. steel bridges, and one 70-ft. steel bridge with concrete substructure.

San Diego, Cal.—Reported desired until Oct. 4, by County Superv. (J. T. Butler, Clk.), for constructing six bridges. Estimated cost $25,000.

Ogden, Utah.—Report desired until Oct. 10 by City Engineer for constructing reinforced concrete bridge.

PRICES AND LETTINGS.

★Indicates award of contract.

★Cocoa, Fla.—Contract for constructing steel bridge across Indian River between Cocoa and Merritt Island awarded as follows: Engine and two steel draw, 55 ft. openings, to Converse Bridge Co., Chattanooga; timber piles and concrete work to C. T. Dawkins, Jacksonville. C. M. Rogers, engr., Daytona.

★Ft. Lauderdale, Fla.—Contract awarded by Co. Comrs. to Champion Bridge Co., Wilmington, Ohio., at $6,450 for constructing steel highway drawbridge across New River Sound connecting Fort Lauderdale and Ocean Beach, and for timber trestle at same location to Newland & Olssen, Fort Lauderdale, at $4,828 (bids open Sept. 18); A. C. Davis, Engr., Fort Lauderdale.

★Sioux Falls, S. D.—Contract awarded by County Comrs. to Western Bridge & Constr. Co., Omaha, for constructing three 60-ft. span bridges and two 80-ft. span bridges. Harry H. Howe, Co. audr. (Bids opened Sept. 5.)

REINFORCED CONCRETE

PROPOSED WORK.

Brooklyn, N. Y.—R. Irving Dodge, 233 Bway., New York, is architect for 6-story reinforced concrete machine shop to be erected for Adriance Machine Works, Inc., 254 Van Brunt St.

Bayonne, N. J. — See "Foundations, Piers and Dams."

East Orange, N. J.—Sprague Electric Co., East Orange, intends erecting reinforced concrete addition to cost $425,000.

Pottstown, Pa. — Pennsylvania RR. (Alex. C. Shand, ch. engr., Philadelphia) will construct 6-span reinforced concrete slab bridge across Manatawny Creek.

Ellicott City, Md.—Contract soon to be let for erecting 6-story, reinforced concrete mill and elevator on banks of Patapsco River at Ellicott City, for C. A. Gambrill Mfg. Co., 104 Commerce St., Baltimore.

Cleveland, Ohio.—Plans being prepared by Osborn Eng. Co., 720 Engineers' Bldg., for plant which the Ohio Blower Co., 5125 Perkins Ave., proposes erecting on Detroit Ave. and W. Ninety-first St.; first unit to be 4 stories, 60 x 200 ft., brick and concrete; cost about $75,000.

Independence, Iowa.—Contract will be let about Nov. 1 for Main St. bridge over Wapsipinicon River, to consist of three 80-ft. concrete arches, 40-ft. roadway, two 6-ft. sidewalks. R. W. Gerahart, co. engr.

Seattle, Wash.—Contract soon to be let by Bebb & Gould, archts., Denny Blk., for erecting 1 and 2-story brick and concrete bakery for Davidson Bakery Co., at Thirteenth Ave. and E. Columbia St.; cost about $99,500.

Vallejo, Cal.—Reported Sperry Flour Mill Co., Vallejo, will erect $150,000 reinforced concrete warehouse to replace building destroyed by fire.

BIDS DESIRED.

Warwick, R. I.—Until Oct. 4 by State Board Public Works (John F. Richmond, chmn.), Providence, for replacing two state bridges in Warwick, No. 18, known as Naragansetts River Bridge, in North Kingstown, and No. 138, known as Apponaug Mill Bridge, to consist of removing present structures and erecting single span reinforced concrete slabs.

Mauch Chunk, Pa.—Until Oct. 6, by Bd. Co. Comrs. (Thos. B. Craig, Chmn.), for furnishing material and constructing a 54-ft. span, 16-ft. roadway, reinforced concrete arch bridge on Big Creek, near Trachsville, Towamensing Township.

Parnassus, Pa.—Until Oct. 3 by J. S. Sell, co. compt., Greensburg, for constructing concrete arch bridge 25 ft. long and 34 ft. wide in Parnassus Borough over Puckety Creek. G. R. Potts, co. road engr., Greensburg.

Rogersville, Tenn.—See "Waterworks and Sewerage Systems."

Portsmouth, Ohio.—Until Oct. 3, by County Comrs., Portsmouth, for constructing concrete bridge at Harrisonville Ave., village of New Boston. S. D. Eckhart, co. aud.

Rolfe, Iowa.—Until Oct. 24, by Jas. Bruce, secy. bd. educ., for erecting two-story, 68 x 153 ft. fireproof reinforced concrete school; also septic tank for sewage disposal, etc.; probable cost $70,000.

Pocahontas, Ark. — See "Waterworks and Sewerage Systems."

Fort Worth, Tex.—Until about Oct. 10, for Allen Ave. viaduct, 1100 ft. long, 32 ft. wide, of reinforced concrete. Address City Clerk.

Hamlin, Tex.—See "Foundation Piers and Dams."

Bakersfield, Cal.—Reported desired until Oct. 4, by Bd. Supervs. (F. E. Smith, clk.), for erecting concrete jail at Mojave and Randsburg. O. L. Clarke, archt., Bakersfield.

Upland, Cal.—Reported desired until Oct. 16, by Chas. P. Fuller, city clk., for constructing open box culvert 1170 ft. long in Nineteenth St. side walls of reinforced concrete, top of reinforced concrete and bottom 10 in. thick of stone laid in asphaltum.

Ventura, Cal.—Until Oct. 14, by Bd. Superv. (J. B. McCloskey, clk.), for constructing concrete pile trestle bridge 120 ft. long, with earth fill, culverts, etc., across San Antonio Creek at Ojai Ave.

PRICES AND LETTINGS.

★Indicates award of contract.

★Arlington Mass.—Following are four lowest bids opened Sept. 18 by Metropolitan Park Comn., Boston (John R. Rablin, engr.) for grading, filling and constructing reinforced concrete culvert for Mystic Valley Parkway Extension, Arlington; Jas. H. Fannon, Somerville, $12,950 (awarded contract); Fred. E. Elles, Melrose, $13,600; Coleman Bros., Chelsea, $16,200; John P. Cavanaugh Co., South Boston, $17,750.

★Coatesville, Pa.—Contract reported awarded Bennet & Randal, Lebanon, to construct four-span single-track deck bridge over west branch of Brandywine Creek for Philadelphia & Reading RR.

★Philadelphia, Pa.—Contract awarded Wm. Steele & Sons Co., 1600 Arch St., for erecting 6-story, concrete and brick factory for Wm. R. Warner; cost $280,000.

★Covington, Ky. — Contract awarded McDermott-Maxon Co., 34 W. 6th St., Cincinnati, O., for concrete work required in $100,000 building to be erected for German Mutual Life Insurance Co.

★Cincinnati, Ohio.—Contract awarded by City Bd. Control to Chas. F. Runck, Jr., 1418 First Natl. Bank Bldg., at $11,00, for concrete steps and wall at Third St. playground.

★Contracts awarded by County Comrs. to Arpp-Simpson Co., Middletown, for constructing concrete steel bridges over Four Mile Creek in Milford Township and over Seven Mile Creek in Somerville, at $8,972 and $14,886 respectively.

★Cleveland, Ohio.—Contract awarded Crowell-Lundoff-Little Co., 1951 E. Fifty-seventh St., for erecting brick and concrete building for Chandler Motor Car Co., St. Clair Ave. and E. 131st St., cost about $175,000. Ernest McGeorge, engr. and archt., 854 Leader-News Bldg.

★Masters & Mullen Constr. Co., 601 Electric Bldg., secured contract to erect two brick and concrete buildings for Peerless Motor Car Co., Quincy Ave. and E. Ninety-third St.; estimated cost $125,000. Ernest McGeorge, engr. and archt., 854 Leader-News Bldg.

★Leavenworth, Kan.—Contract awarded by County Comrs. to John Coldren, Lansing, at $13,015, for constructing 16 concrete bridges.

★Topeka, Kan.—Contract awarded by County Comrs. to Allen & Fulton, Topeka, at $10,141, for constructing Waveland bridge, 90-ft. span, concrete structure, over Wakarusa River.

★San Diego, Cal.—Contract awarded R. P. Shields & Son, American National Bank Bldg., for erecting 11-story reinforced concrete addition to office building at 520 Bway., for Fidelity Constr. Co.; cost about $150,000.

★Merritton, Ont. — Contract awarded Purdy, Henderson & Co., 1608 Danforth Ave., Toronto, for erecting brick and concrete addition to Lincoln Paper Mills; cost $200,000.

★Toronto, Ont. — Contract awarded Wells Bros., 96 Gould St., for erecting reinforced concrete factory for Robt. Simpson Co.; cost $100,000.

ROADS AND PAVING

PROPOSED WORK.

Caldwell, N. J.—Bd. Freeholders, Newark, will pave Bloomfield Ave. from Montclair-Verona line to West Caldwell with granite block. F. A. Reimer, co. engr., Newark.

Newark, N. J.—City passed ordinance for paving Mapes Ave. from Bergen St. westerly with asphalt pavement on 6-in. concrete foundation. Address City Clerk.

Newton, N. J.—Election to be held to vote on paving Spring St. from Madison St. to courthouse with concrete; cost $12,000.

Trenton, N. J.—City Commission plans paving Conover St. with vitrified brick on concrete foundation. Leon D. Hirsch, city clk.

Natrona, Pa.—Town Council will pave Pine and Center Sts. and Hickory Alley with brick on sand and gravel foundation and stone curb and gutter. C. E. Miller, engr., 5135 Jenkins Arcade Bldg., Pittsburgh; Clarence E. Braun, town clk.

Pittsburgh, Pa.—City Council passed ordinances authorizing grading, paving and curbing portions of Wenzel Way and Westfield St. at $30,000 and $28,000 respectively.

Pittsburgh Speedway Asso. (J. B. Callahan, pres.) will construct speedway for automobile and motor cycye racing; cost, $1,000,000.

Williamsport, Pa.—City Council passed ordinance issuing $60,000 bonds for resurfacing W. Third and Fourth Sts. and construct storm water sewers. Address City Clerk.

Baltimore, Md.—Board of Awards approved construction of 1.7 miles of tarbound macadam road at Loch Raven and will construct Dulaney Valley and Levert Air Turnpike.

Moundsville, W. Va.—Grant, Tomlinson and Ash Aves. are to be paved with vitr. block and cement curb, cost $10,000. Alex Purdy, city engr.

North Wilkesboro, N. C.—Citizens voted $250,000 road bonds. Address County Clerk.

Ormond, Fla.—Citizens voted $35,000 bonds for widening, hardsurfacing and paving certain streets and for constructing public wharf.

Panama City, Fla. — Citizens voted $375,000 highway bonds. W. H. Marshall, clk. circuit court.

Birmingham, Ala. — City Commission will pave portion of Eleventh Ave.; cost $10,600. C. B. Lloyd, city clk.

Vernon, Ala.—Contract will be let about Oct. 9 by County Comrs. for constructing road from Vernon to Mississippi line and completing unfinished part of Henson Springs Rd. from Sulligent to Marion County line. For further information address R. L. Bradley, judge of probate.

Coffeeville, Miss.—Bd. of Supervs. voted to issue $100,000 road bonds.

Water Valley, Miss.—Citizens Yalobusha Co. will vote on issue of $100,000 bonds for road improvements. Address Co. Clk.

Hamlet, Tenn.—Town Comrs. will issue $50,000 street improvement bonds. Address Town Clk.

Savannah, Tenn.—County Comrs. sold $100,000 road bonds.

Tennessee.—Election to be held to vote road bonds in following counties: Hickman County, $225,000; Bedford County, $350,000; Lincoln County, $450,000, and McMinn County, $350,000. J. J. Murray, secy. state highway dept., Nashville, may be able to give information.

Hickman, Ky.—City Council plans issuing $20,000 or $25,000 bonds for street improvements and drainage. Address City Clerk.

Kentucky.—Considerable road improvements contemplated in this State. Address R. Wiley, comr. pub. rds., Frankfort.

Owensboro, Ky.—All bids opened recently by County Comrs. for constructing roads rejected.

Conneaut, Ohio.—Contract will be let this fall, for paving with brick about 25,000 sq. yd. on Liberty, Mill and other streets. Address City Clk.

Defiance, Ohio.—City Council plans paving portions of Juliet, Third, First and Jackson Sts.; cost $64,397. Address City Clerk.

Tiffin, Ohio.—All bids opened Sept. 20 by Wm. Heller, dir. pub. service, for paving N. Washington and St. Clair Sts. rejected.

St. Paul, Minn.—City Council will pave Holly Ave. from Dale to Victoria St.; cost $24,750.

Omaha, Neb.—County Comrs. plan paving 2 miles of W. Center St. with brick; cost $23,700.

Camden, Ark.—Hugh Carter, state highway engr., Little Rock, has completed plans for constructing 25 miles of road out of Camden; cost $92,500.

Clarksville, Ark.—County Comrs. plan constructing about 31 miles of macadam road from Coal Hill through Clarksville to Sebastian county line; cost $130,000.

Osceola, Ark.—County Comrs. will construct 27 miles of concrete road from Osceola to Blytheville. Address County Judge.

Corsicana, Tex.—Attorney-General approved $180,000 road bond issue for Rd. Dist. No. 4 and $100,000 for Rd. Dist. No. 5. Address clerk of the district.

Dallas, Tex.—County Comrs. plan issuing $2,000,000 bonds for construction and improvement of permanent roads. Address J. T. Miller, co. comr., Dallas.

Denton, Tex.—George D. Marshall, federal highway engr., is surveying county for purpose of recommending a system of roads for which an election will soon be held to vote $800,000 bonds. Address County Clerk.

Mt. Pleasant, Tex.—All bids opened Sept. 18 for street paving rejected. Addresss City Clerk.

Quitman, Tex.—Election soon to be held to vote $150,000 bonds for surfacing highway from Mineola to Hawkins. Address County Clerk.

Sherman, Tex.—Attorney-General approved $10,000 bond issue for constructing roads in Grayson County Road Dist. No. 3. Address clerk of the district.

Vernon, Tex.—Attorney General at Austin approved $10,000 paving bond issue. Address City Clerk.

Pueblo, Colo.—City Council will create new paving district. Bitulithic surfacing will be used. John Jackson, city clk., and D. P. Gaymon, city engr.

Colfax, Wash.—John M. McCaw, co. engr., preparing plans for extending Highway No. 10 one mile south from Pullman. A. R. Metz., co. audit.

Seattle, Wash.—A. H. Dimock, city engr., filed estimate with Bd. Pub. Wks. on cost of grading, draining, etc., E. Seventy-first St.; cost, $15,247.

Plans and specifications filed with Bd. Pub. Wks. for paving Roy St., at $10,500, and Fifth St., $100,000.

City Council postponed until next year extension of Western Ave. from Eagle St. to Elliott Ave.; cost $111,474.

A. H. Dimock, city engr., estimates cost of paving with brick blocks on five Aves. and other Sts. at $100,000.

H. L. McGillis, engr., will prepare survey for 2-mile extension of Lake Washington Boule.

Washington. — State Highway Dept., Olympia, taking steps to construct State Rd. No. 10, between Chelan and Okanogan County line, about 8 miles. Appropriation, $20,000.

San Diego, Cal.—George Cromwell, city engr., preparing plans for 1 mile concrete paving on Biological Grade Rd.

San Jacinto, Cal.—Election will probably be held to vote $30,000 bonds for paving streets. Address City Engr.

Ogden, Utah.—City Engineer will prepare plans for paving about a mile of Washington Ave. Address City Clerk.

Tooele, Utah.—Lincoln Highway Assoc. plans constructing this winter or early next year 20 miles concrete roadway in Tooele County, between Granite Mt. and Reeding Springs at mouth of Overland Canyon. A. N. Johnson, engr., Portland Cement Co., Chicago, may be able to give information.

Ottawa, Ont.—Contract will soon be let by Pub. Wks. Dept. for paving; cost $70,000. R. C. Desrochers, secy. bd.

BIDS DESIRED.

Boston, Mass.—Until Oct. 5, by Boston Transit Comn. (B. Leighton Beal, secy.), for furnishing and laying about 12,000 sq. yd. granite block pavement on Dorchester Ave.

Long Island City, L. I., N. Y.—Until Oct. 5, by Maurice E. Connolly, Pres. Queens Boro., for sidewalks, curbing, etc. on Worthington Ave., Custer St. Rockaway Boule. and other streets, and paving on portions of Hunterspoint, Cypress, Fairview Aves. and others street, in all about 70,100 sq. ft. cement sidewalks, 20,315 sq. yd. sheet asphalt, 4900 sq. yd. bituminous macadam, 4800 sy. yd. wood block, etc. Total security $88,550.

New York, N. Y.—Until Oct. 2, by Marcus M. Marks, Pres. Manhattan Boro., for repaving on concrete foundation portions roadway in Central Park Transverse Road No. 2, in all about 36,000 sq. ft. concrete sidewalks, 9600 sq. yd. granite block pavement, together with curbing, etc. Security $12,000.

Belvidere, N. J.—Until Oct. 10, by Com. of Bd. Freeholders (Morris L. Faust, clk.) for constructing 4.124 miles of bituminous macadam road known as Hope Bridgeville Rd. Sect. No. 1. F. W. Salmon, co. engr., Netcong.

Florence, N. J.—Until Oct. 6 by Town Clk for curb and sidewalks on all streets; cost, $60,000. Jas. Logan, engr., Mt. Holly.

Hammonton, N. J.—Until Oct. 11 by W. R. Seely, town clk., for 15,911 sq. yds. reinforced concrete pavement on Bellevue Ave. J. C. Remington, engr., Camden.

Newark, N. J.—Until Oct. 19, by Morris Sherrerd, ch. engr. bd. st. & water comrs., for paving portions of Salem St., Porter Place, Chester Ave. with bitulithic on 6-in. concrete foundation.

Pittsburgh, Pa.—Until Oct. 3, by City Controller, for grading, curbing and paving Rialto, Eureka and Butler Sts. and Secane Ave. and other streets, constructing sewers in Bartlett, Perrott and Defoe Sts., reconstructing retaining wall on Mountford Ave., etc. Robt. Swan, dept. pub. wks.

Maryland.—Until Oct. 10, by State Road Comn., 601 Garrett Bldg., Baltimore, for paving portions of Pennsylvania Ave and Hilton St. with sheet asphalt.

Washington, D. C.—Until Oct. 10, by Comrs. D. C., Rm. 509 Dist. Bldg., for grading and improving streets, roads and avenues in the Dist. of Columbia, advertised in this issue.

Wellsburg, W. Va.—Until Oct. 20, by C. A. Eicheilberger, co. engr., for constructing about 10.5 miles of road as follows: Road No. 9, Bethany Pike, 6.8 miles; Road No. 1, Sect. 2, 3.1 miles; Road No. 1, Sect. 1, Road Sect. 1, from 22d to 27th Sts. Bonds for $80,000 for this work voted June 20.

Monroe, N. C.—Until Oct. 5, by Bd. of Aldermen, for paving certain streets, in all about 7550 sq. yd. sheet asphalt or asphaltic concrete, 4 in. concrete base, together with curbing, drains, manholes, etc. J. B. McCrary Co., engrs., Third National Bank Bldg., Atlanta, Ga.

Alexandria, La.—Until Oct. 6, by Comrs. Rapides Road Dist. No. 6, Alexandria, for constructing about 17 miles of gravel roads, including culverts, etc. Ira W. Sylvester, engr., Alexandria.

Columbus, Miss.—Until Oct. 11, by Highway Comn. of Superv. Dist. No. 1, for grading and paving with rock 30 miles of road; also for constructing about 100 bridges.

Holly Springs, Miss.—Until Oct. 5, by Comrs. Marianna Road Dist., for about 14 miles clay road with bridges and culverts. Walter G. Kirkpatrick, engr., 704 Farley Bldg., Birmingham, Ala.

Houston, Miss.—Until Oct. 6, by Co. Comrs. (J. R. Williams, chmn.) for constructing about 8 miles of gravel road in Beat No. 1. M. D. Smith, highway engr., Kosciusko.

Jackson, Miss.—Until Oct. 4, by Bd. Co. Supervs. (W. W. Downing, clk.), for recrowning, reshaping and surfacing Jackson and Clinton Road.

Hopkinsville, Ky.—Until Oct. 3, by Co. Road Comr., for resurfacing about 12 miles of Greenville Road, 9 miles of Julien Road, and 9 miles of new macadam on Gracey Road. J. L. Harris, clk co. court. Engineer's estimate about $45,000. Bond issue of $400,000 recently authorized.

Defiance, Ohio.—Until Oct. 3 by County Comrs. (Roger Daoust, clk.) for improving, grading and macadamizing with waterbound macadam Evansport Road, Sect. A, 8602 ft. long, and Sect. B, 3700 lin. ft. in Tiffin Township. Total cost, $26,145.

Indiana—By County Comnrs. for constructing roads as follows:

Until Oct. 4:

Columbia City, for constructing gravel road in Cleveland Township. Thos. A. McLaughlin, co. aud.

Huntington, two roads in Union Township. Ovid E. Eviston, co. aud.

Shelbyville, gravel road 13,695 ft. in Hanover Township. Frank W. Fagel, co. aud.

Until Oct. 5:

Laporte, roads in Lincoln, Clinton and Prairie Townships. F. A. Hausheer, co. aud.

Until Oct. 6:

Indianapolis, grading graveling or macadamizing road in Franklin Township. Leo K. Fesler, co. aud.

Houghton Lake, Mich.—Until Oct. 14, by J. H. Ostrander, Roscommon, township clk., at Town Hall, Houghton Lake, for constructing 3 miles State Reward Trunk Line Road.

Illinois.—Until Oct. 4, by State Highway Comn., Springfield, for constructing following roads:

Chicago Heights, Cook County, Sect. O, length 7981.5 ft., bituminous concrete. Engineer's estimate $30,327.

Virden, Macoupin County, Sect. F, length 31,987 ft. oiled earth. Engineer's estimate $15,057.

Staunton, Macoupin County, Sect. G, 20,244 ft. oiled earth. Engineer's estimate $7,484.

Luverne, Minn.—Reported desired until Oct. 3 by Olaf Skyburg, co. aud., for 20 miles gravel roads, 2, 4 and 5.

Garnett, Kan.—Until Oct. 5, by F. S. Mitchell, city clk., for furnishing material, paving, curbing, etc., on Seventh St. Bids desired on vitr. brick, asphaltic concrete, tarvia, and two-course pavement. Black & Veatch, engrs., Inter-State Bldg., Kansas City, Mo.

Grand Island, Neb.—Reported desired until Oct. 18, by H. E. Clifford, city clk., for paving in Dist. 20, in all about 20,635 yd., together with curb, etc. Alternate bids on vertical fiber brick, sheet asphalt, asphaltic concrete.

Omaha Neb.—Until Oct. 17 by Frank Dewey co. clk., for paving with brick Center St. Road.

Until Oct. 3, by T. J. O'Connor, city clk., for paving portions of Twenty-sixth, Francis, Eleventh and other streets.

Kansas City, Mo.—Until Oct. 3 by Bd. Pub. Wks. (W. H. Benham, Secy.) for furnishing material and paving with Portland cement portions of Fifty-fifth, Ninth, Twelfth and other streets, and with asphalt on Sixteenth St.

Until Oct. 4, by Bd. Park Comrs. (T. C. Harrington, clk.) for furnishing material and paving with bituminous macadam portions of parkway along Sixty-third St.

Taxarkana, Ark.—Until Oct. 30, by Bd. Paving Improv. Dist. No. 20, for paving, including curbing, etc., streets in said district with asphaltic concrete, asphaltic macadam, vertical fiber brick, Portland cement concrete and gravel pavement, advertised in this issue. E. F. Petersen, engr., State Natl. Bank Bldg.

California.—Until Oct. 9, by California Highway Commission, 515 Forum Bldg., Sacramento (Chas. D. Blaney, chmn.), for Sonoma County, road from Cotai to Petaluma, about 3.6 miles, graded, in all about 39,000 cu. yd. excav. without classification, corrugated metal pipe, etc.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Connecticut.**—Contracts awarded by Charles J. Bennett, state highway comr., Hartford, for state road work as follows:

Town of Torrington, 10,120 lin. ft. reinforced concrete on Torrington-Winsted Rd. to Mascetti & Holley, 72 Main St., Torrington, $44,000.

Town of Waterford, reinforced concrete road and approaches to Fred D. Miller, R. F. D. Norwich, $1,600.

Following bids opened by Charles J. Bennett, state highway comr., Hartford, for constructing two sections of plain or Warrenite pavement in New Canaan: Edw. Tracy, 200 Olivia St., Derby, $29,359; Richard Lamb, 90 West St., New York, $28,272, for unwashed sand and $30,762 for washed sand; Warren Bros. Co., Boston, $24,949; Union Paving Co., Hotel Bishop, New Haven, $25,353.

Bids opened same time for gravel road construction in Portland and New Hartford rejected.

★New Canaan, about 18,000 sq. yd. Warrenite pavement on Smith Ridge Rd. and South Ave. to Warren Bros. Co., 142 Berkeley St., Boston, at $47,000.

New Brighton, S. I., N. Y.—Contract for repaving Willow Brook road (bids opened Sept. 21) by Calvin D. Van Name, pres. Richmond Boro., awarded Richard Lamb, 136 Liberty St., New York, at $24,632, and to John E. Donovan, Port Richmond, for repaving Westervelt Ave. (bids opened Sept. 20) at $23,290.

Atlantic City, N. J.—Following bids opened Sept. 14 by Board Comrs. for paving portions of New Hampshire and other streets: Warner-Quinlan Asphalt Co., Syracuse, $193,509 for asphalt; Edward L. Bader, Atlantic City, $226,990 for warrenite; Northern Constr. Co., Newark, $289,037 for vitrified block.

Newark, N. J.—Following are 4 lowest bids opened Sept. 21 by city for paving Prince St. from Springfield Ave. to W. Kinney St. with (a) granite, (b) wood block: Alex. J. Milmoe, 83 Littleton Ave. (a) $20,718, (b) $21,589; O'Gara & Maguire, 127 Frelinghuysen Ave. (a) $22,104, (b) $20,632; Newark Paving Co., 133 First St. (a) $24,194, (b) $21,179; Glenfield Constr. Co., 141 S. Eighth St. (a) $24,562; Ralph Sangiovanni, 78 Hoyt St. (b) $20,642. Lowest bid submitted for paving Elm Rd. from Tyler St. to Gotthardt St. with asphalt on concrete by Standard Bitulithic Co., 31 Clinton St., at $2.28 per sq. yd.; total, $15,338.

★**Pittsburgh, Pa.**—Contract awarded by County Comrs. to McCrady Bros., Braddock, at $61,402 for improving Glassport and West Run Rd. (Bids opened Sept. 21.)

★**Maryland** — Contracts awarded by State Roads Comn., Garrett Bldg., Baltimore, for constructing section of road between Mason's Spring and Ripley, gravel construction, 4.17 miles to Whiting-Turner Constr. Co., Sexton Bldg., $27,008 and Reisterstown Rd. from Reisterstown to Carroll County line, 2.53 miles oilbound macadam, to Maryland Amiesite Stone Co., 15 E. Fayette St., $29,491.

★**Fredericksburg, Va.**—Contract awarded Perkinson & Finn, Quantico, at $19,909, for constructing the unimproved road in the national highway between Fredericksburg and Washington. Road is about 9 miles long.

★**Goodwater, Ala.**—Following are totals of four lowest bids opened Sept 19 for constructing 23 miles roads in Coosa Co.: Stanley & Singer, Lafayette, $44,145 (awarded contract); Ensley Constr. Co., Ensley, $48,189; Boyd & Bradshaw, $51,249, and P. H. O'Brien Birmingham, $48,732. W. P. Moon, co. engr.

New Orleans, La.—Following bids opened Sept. 12 by Commission Council for subsurface drains and paving: Barracks St. (lowest bidder), Hampton Reynolds, 823 Maison-Blanche Bldg., $14,521 for oil manufactured asphalt; M. Mitchell, 2646 Banks St., $7,711, is lowest bidder for subsurface drains, etc.; N. Peters St. (two bidders), Blum & McNamara, 625 Whitney Bank Bldg., $21,404, and Hampton Reynolds, 823 Maison-Blanche Bldg., $21,711, both for creosoted wood blocks; Craven & Lang, 1015 Hibernia Bldg., $3,804, lowest bidder for subsurface drains, etc.; Ursuline St. (lowest bidder), Southern Bitulithic Co., 910 Maison-Blanche Bldg., $16,479, for bitulithic; Blum & McNamara, 625 Whitney Bank Bldg., $7,162, lowest bidder for subsurface drains, etc.; Royal St. (two bidders), Blum & McNamara, $22,855, and Jamison & Hallowell, $23,041, both creosoted wood blocks; Blum & McNamara, $10,770, lowest bidder for subsurface drains; Bourbon St. (three bidders on creosoted wood block), Blum & McNamara, $22,381, Jamison & Hallowell, $22,891, Hampton Reynolds, $23,937; J. H. Coats Co., 540 S. Lopez St., $11,552, lowest bidder for subsurface drains, etc.; Esplanade Ave. (four bidders), Hampton Reynolds, $31,932, for oil manufactured asphalt; Southern Bitulithic Co., $32,862, bitulithic: Barber Asphalt Paving Co., 708 Hibernia Bldg., $36,760 for Trinidad Lake asphalt, and Jamison & Hallowell, $47,066 for creosoted wood block; Craven & Lang, $12,840, lowest bidder for subsurface drains. St. Ann St. (four bidders), Hampton Reynolds, $27,212 for oil manufactured asphalt; Southern Bitulithic Co., $28,470, bitulithic; Barber Asphalt Paving Co., $31,380, Trinidad Lake asphalt, and Jamison & Hallowell, $40,067, creosoted wood blocks; Blum & McNamara, $22,154, lowest bidder for subsurface drains.

★**Lawrenceburg, Tenn.**—Contract awarded by County Highway Comn. to Boyd Williams, McMinnville, at $136,076, for grading, surfacing with chert, constructing culverts and bridges on 36 miles of Jackson Military Rd.

★**Carrollton, Ky.**—Contract for constructing 6.2 miles Carrollton-Bedford Road awarded to Sam Coombs, Carrollton. W. Deatherage, co. clk.

Owensboro, Ky.—See "Proposed Work."

★**Akron, O.**—Contract for grading and paving Wooster Road (bids opened Sept. 11) awarded by bd. co. commrs. (U. G. High, clk) to J. M. Davidson, Akron, at $53,664; other bidder, McAlonan Bros., Akron, $54,733.

★**Cincinnati, Ohio.**—Contract awarded by Board of Control to R. E. Cash, 409 Lincoln Inn Court, at $38,030, for constructing roads, grading, etc. in Ault Park.

★**Lancaster, O.**—Contract for paving E. Main St. with Roseville brick awarded by bd. pub. serv. to Wilson & Becker, Lancaster, at $11,802.

Tiffin, Ohio.—See "Proposed Work."

★**Sandwich, Ill.**—Contract for paving Main and Railroad Sts. (bids opened Sept. 11) awarded by Bd. Local Improv. to Pronger & Fletcher, Blue Island, at $13,708.

★**Duluth, Minn.**—Contract awarded by City Comrs. to John Johnson at $419,649 for paving Sixth Ave. from Seventh to Eleventh Sts. with sandstone.

★**St. Paul, Minn.**—Contract awarded by City Council to Fielding & Shepley, Minneapolis, at $49,300, for paving Mississippi River Boule. from Summit Ave. to city limits.

★**Independence, Kan.**—Contract awarded by City Council to A. G. Sherwood, Independence, at $15,380, for paving. Geo. E. Weaver, city engr.

★**Billings, Mont.**—Contract for about 20,000 sq. yd. paving with gravel bitulithic in District No. 152 awarded Warren Constr. Co., Portland, Ore., at $51,564. Lowest on other materials: Montana Paving Co., one course concrete, $40,388; two course concrete, $42,776; S. Birch & Sons Constr. Co., Bozeman, bituminous concrete, "B", $41,599; asphaltic macadam, $37,818, and "Worswick," $39,609. E. M. Sneckenberger, city engr.

★**Van Buren, Ark.**—Contract awarded by Paving Comrs. to A. Elleffson, Ft. Smith, at $12,000, for paving 11,386 yd.

Mt. Pleasant, Tex.—See "Proposed Work."

★**Colfax, Wash.**—Contract for grading, draining and bridge work on 11 miles of Permanent Highway No. 12 between La Crosse and Dusty awarded to Ristved & Bragg, Colfax, at $39,150. Bids opened Sept. 18 by Co. Comrs., Geo. H. Newman, dep. co. aud.

★**Seattle, Wash.**—Contract awarded by Bd. Pub. Wks. to Coluccio & Niblett, Seattle, at $21,726, for paving Olive St.

Seattle, Wash.—See "Proposed Work."

★**North Bend, Ore.**—Contract awarded by City Council to Dean & Brown, North Bend, at $28,054, for paving waterfront Rd.

Chino, Cal.—Until Oct. 10, by E. L. Wetmore, city clk., for improving portions of Riverside Drive, Chino Ave., Fifth and other streets. Bonds for $73,000 for this work recently sold. Paul E. Kressley, city engr.

Hueneme, Cal.—Until Oct. 14, by Bd. Superv. (J. B. McCloskey, clk.), Ventura, for about 24,400 sq. ft. oil macadam pavement on Market St.

Los Angeles, Cal.—E. A. Baker, Hellman Bldg., submitted lowest bid at $13,250 to Bd. Supervs. for constructing 2.7 miles 6-in. concrete pavement, 20 ft. wide, on Lexington and Gallatin Rds. and Durfee Ave., Rd. Dist. No. 103. (Bids opened Sept. 18.)

Following are four lowest bids opened Sept. 18 by Bd. Supervs. for grading, curbing and gutters, 4.2 miles of streets in Occidental Heights, Rd. Dist. No. 104; S-C Constr. Co., Title Insurance Bldg., $33,536; J. S. Miller, Los ngeles, $34,192; George R. Curtis, 552 S. St. Louis St., $34,777, and E. S. Groshong, Los Angeles, $35,500. The S-C Contr. Co., Title Insurance Bldg., at $20,400, low bidder for constructing 3.58 miles on Artesia Ave., Rd. District No. 102.

★**Trenton, N. S.**—Contract awarded by Pub. Wks. Dept. to Fage & Lusby, Amherst, at $32,000 for constructing concrete pavements.

RAILWAYS
Steam and Electric

PROPOSED WORK.

Athens, Me.—Construction of Skowhegan & Athens Electric R. R. contemplated. Harvey D. Eaton, Waterville, said to be interested.

Groton, Conn.—New York, New Haven & Hartford RR. (Edw. Gagel, ch. engr., New Haven) plans changing grade in town of Groton and building bridge at Florence Ave.

Irwin, Pa.—Irwin-Herminie Traction Co. considering extending line north to Export.

Portage, Pa.—J. I. Johnson of Johnstown interested in street car line proposed between Portage and Mountaindale.

Steelton, Pa.—Council granted permission to Pennsylvania RR. (Alex. C. Shand, ch. engr., Broad St. Station, Philadelphia), to construct 5 freight tracks along old Pennsylvania Canal into Bethlehem Steel plant, including filling old canal and building small concrete and steel bridge below Harrisburg across Spring Creek.

Washington, Pa.—McDonald & Burgettstown St. Ry. Co. incorporated to construct 15-mile electric railway in Washington County. Captal $100,000. R. L. Henderson, Pittsburgh, said to be interested.

Williamsport, Pa.—Williamsport Passenger Ry. Co. (Ernest H. Davis, genl. mgr.) considering extending line into Newberry.

Baltimore, Md.—Reported United Ry. & Electric Co. (Mason D. Pratt, ch. engr., Continental Bldg.), considering constructing line on Liberty Heights Ave. and Old Liberty Rd., to Villa Nova.

Cumberland, Md.—City and Baltimore & Ohio RR. are considering eliminating grade crossing at Green St.

Alexandria, Va.—See "New Industrial Plants and Warehouses."

Staunton, Va.—Blue Ridge Light & Power Co. decided to improve and extend street car system. W. E. Moore & Co., engrs., Pittsburgh.

Wheeling, W. Va.—West Virginia Traction & Electric Co. contemplates construction of extension to Morgantown.

East Cleveland, O.—J. L. Free, Prospect Ave., Cleveland, has agreed to construct a street railway on Noble Road; cost $80,000.

Sidney, O.—Big Four RR. (C. A. Paquette, ch. engr., Cincinnati) reported considering making improvements between DeGraff and Houston, including double-tracking of line.

Caney, Kan.—Reported Atchison, Topeka & Santa Fe. RR. (R. A. Rutledge, ch. engr., eastern lines, Topeka) plans constructing a railroad from Caney through Pawhuska to Pawnee, Okla.

Prineville, Ore.—Citizens voted $100,000 subsidy for constructing railroad from main line of Oregon Trunk Ry. to Prineville (A. M. Lupfer, ch. engr., Portland).

Grass Valley, Cal.—Plans being made for 1 mile electric raiway to connect Empire and Pennsyvania mines. W. B. Bourn, 2550 Webster St., San Francisco, owner.

Kingston, Que.—Reported Canadian Pacific Ry. Co., Montreal, contemplates electrification of line from Kingston to Renfrew. Power plant to be erected on Mississippi River back of Sharbot Lake.

BIDS DESIRED.

Portland, Ore.—Until Dec. 6, by City Council, for elimination of grade crossing of O., W. RR. & N. Co. at several streets, advertised in this issue. Plans on file in New York office of Engineering Record. A. L. Barbur, city aud.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Des Moines, Iowa.**—Contract awarded by Des Moines City Ry. to A. H. Neumann & Co., Des Moines, for constructing addition to power plant on Des Moines River; cost about $55,000.

★**Kansas City, Mo.**—Contract awarded by Kansas City Rys. Co. for constructing 4 miles of extensions in Kansas City to Littlefield, Fry & McGough, 53 West Jackson Boule., Chicago, Ill. Cost, about $220,000.

★**Portland, Ore.** — Contract reported awarded Twohy Bros., Portland, for constructing 9-mile branch of the O. W. R. & N. Co., from Beaver, Idaho, to Carbon Creek, at $200,000.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

East Orange, N. J.—See "Reinforced Concrete."

Hoboken, N. J.—Hudson County Concumers' Ice Co., Hoboken, will erect 3-story brick plant at Sixteenth St. and Park Ave.; cost $77,000.

Long Branch, N. J.—Plant of Hazard Cascara Co., 75 Washington St., recently destroyed by fire, will be rebuilt.

New Castle, Pa.—Standard Steel Car Co., Mahoning Ave., appropriated $300,000 for additional buildings and facilities.

American High Explosive Co., New Castle, reported planning improvements to cost $400,000

Cincinnati, Ohio.—Linde Air Products Co., 63 Plum St., secured site at Stanton Ave. and Shillito St. and intends erecting $50,000 branch plant.

Cleveland, Ohio.—Reported Ackerman Wheel Co., incorporated at Wilmington, Del., proposes erecting plant here to cost about $75,000. W. A. Bennett and Henderson McIntyre, 1108 Engineers Bldg., interested.

Reported Sheer Bros. Fence & Iron Co., 715 E. 103d St., will erect new factory to cost about $75,000.

City Ice Delivery Co. (Harry D. Norvell, pres.), 908 New England Bldg., plans enlarging plant to cost about $1,000,000.

Youngstown, Ohio.—Trumbull Steel Co. of Warren reported planning plant extensions here to cost $3,000,000.

Gary, Ind.—Union Drawn Steel Co., Seventh Ave. and Fourt St., Beaver Pa., intends erecting plant here.

Detroit, Mich.—Detroit United Ry. Co. (F. W. Brooks, genl. mgr., Detroit) secured site on Monroe Ave., Chene, Dequindre and Macomb Sts. and plans erecting freight house, to cost $1,000,000.

J. E. Bolles Iron & Wire Wks. (J. B. Mansfield, vice-pres. and genl. mgr.), 4th and Porter Sts., purchased site on Hastings St. and E. Milwaukee Ave. and proposes erecting plant for manufacture of ornamental iron and wire work.

Madison, Wis.—Reported Capital City Culvert Co. (G. L. Schneider, pres.), will rebuild plant at South Madison, recently destroyed by fire.

West Allis, Wis.—Reported Northern Pacific Ry. (W. L. Darling, ch. engr., St. Paul, Minn.), contemplates erecting plant here for manufacture and repair of steel cars to cost about $2,000,000.

St. Paul, Minn.—Reported Henry Ford of Detroit, Mich., contemplates establishing $2,000,000 gas tractor plant here.

St. Louis, Mo.—Booth Cold Storage Co., Main and Ashley Sts., will erect 8-story cold storage plant to cost $130,000.

Humboldt, Ariz.—Consolidated Arizona Smelting Co. (D. M. Colvocoresses, mgr.), plans enlarging smelter and installation of additional furnaces and equipment to handle all classes of ore.

Little Rock, Ark.—A $100,000 mill is to be erected for E. L. Bruce Co., E. Seventeenth St., to replace plant destroyed by fire.

Oklahoma, Okla.—St. Louis & San Francisco RR. (F. G. Jonah, ch. engr., St. Louis, Mo.) will erect with their own forces a 10-stall roundhouse with engine pits and drop pits; cost $52,000, also install a cinder pit, operated with locomotive crane, machine shop, boiler house and blacksmith shop, car repair shed and storehouse, to cost $58,000; also install a 50-ft. 150-ton track scale and lay about 45,000 lin. ft. of track.

Spokane, Wash.—Reported plant of International Cement Co., recently destroyed by fire, will be rebuilt.

Los Angeles, Cal.—See "Reinforced Concrete."

Oakland, Cal.—Moran Meat Packing Co. (F. Whitton, mgr.), San Francisco, taking steps to erect $300,000 packing plant here.

BIDS DESIRED.

Kings Park, N. Y.—Until Oct. 5, by State Hospital Comn. (E. S. Elwood, secy.), Capitol, Albany, for refrigerating machine at Kings Park State Hospital, advertised in this issue. Lewis F. Pilcher state archt., Albany.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Paterson, N. J. — Contract reported awarded H. D. Best Co., 52 Vanderbilt Ave., New York, for erecting for Standard Oil Co. a 4-story, 75 x 100 ft., warehouse, wagon and horse building, garage, machine shop, office building and engine house for pumps.

★**Lebanon, Pa.**—Contract awarded John K. Petty, Lebanon, for erecting rolling mill, 61 x 200 ft., for Lebanon Iron & Steel Co.

Philadelphia, Pa.—See "Reinforced Concrete."

Richmond, Va.—John T. Wilson & Co., Richmond, submitted lowest bid for erecting city storage ware house at Fifteenth and Marshall Sts., at $58,377. Carneal & Johnson, archts., Chamber of Commerce Bldg.

★**Indianapolis, Ind.**—Contract awarded W. H. Isgrigg & Son, 116 S. Franklin St., Greensburg, for erecting for Metal Auto Parts Co. a 1-story, concrete foundations, brick, exterior factory, 90,000 sq. ft. floor surface, Barber asphalt roof, sheet metal gutters, cement floors, etc.

★**Great Falls, Mont.**—Grant Smith & Co., Henry Bldg., Seattle, has contract for erecting 20-stall roundhouse, 50 x 56-ft. boiler house and 36 x 40-ft. coal chute for Great Northern Ry. Co.; total cost $80,000.

★**Cottonwood, Idaho.**—Burrell Eng. & Constr. Co., 323 S. La Salle St., Chicago, secured contract to erect 125-bbl. capacity mill and 50,000-bu. capacity elevator for Cottonwood Milling & Elevator Co.

★**Westmount, Que.**—W. M. Irving, 26 Stanley St., Montreal, and the Frick Ice Refrigerating Co., 357 St. Catharine St., have contract for erecting new ice storage building for Arena Co., 4095 St. Catherine St., W.; cost, $50,000.

★**Ft. William, Ont.**—Contract awarded Thunder Bay Contr. Co., Whalen Bldg., Port Arthur, for erecting steel and concrete factory for Canada Starch Co., 164 St. James St., Montreal; cost $60,000.

Merritton, Ont.—See "Reinforced Concrete."

Port Arthur, Ont.—See "Foundations, Piers and Dams."

Toronto, Ont.—See "Reinforced Concrete."

BUILDINGS Public and Private

PROPOSED WORK.

Providence, R. I.—Homeopathic Hospital of Rhode Island (Fredk. S. Waite, City Hall, pres.) considering site for new institution.

Bridgeport, Conn.—A $200,000 business block is to be erected at Main and Franklin Streets to replace present Bronson Hawley homestead. Chas. D. Davis, pres. of Davis & Hawley Co., 996 Main St., reported interested.

Albany, N. Y.—Common Council passed ordinance appropriating $150,000 for alterations to city hall.

Amsterdam, N. Y.—Citizens voted to erect new school on Academy St. to cost $85,000.

Batavia, N. Y.—Citizens voted in favor of erecting high school; cost not to exceed $200,000. Lewis D. Collins, pres. bd. educ.

Brooklyn, N. Y.—Reported all bids opened Sept. 12 by Superv. Archt., Washington, D. C., for alterations to U. S. post office, rejected.

Plans filed for 6-story 65 x 96 ft. apartment house, to be erected on Driggs Ave. for Michael N. Herschaft: cost $60,000. Shampan & Shampan, archts., 772 Bway., Brooklyn.

Buffalo, N. Y.—Bd. of Educ. reported in favor of erecting new School 31 on Emslie St. to cost about $400,000.

Cohoes, N. Y.—Citizens voted $200,000 bonds for purchasing site and erecting new high school. Address Bd. of Educ.

New York, N. Y.—Plans filed for 6-story brick, limestone and terra cotta dwelling to be erected at 69th St. and Park Ave., for Henry P. Davison; cost $200,000. Walker & Gillette, archts., 128 E. 37th St.

Potsdam, N. Y.—Dr. John H. Finley, comr. of educ., Albany, approved plans of Lewis F. Pilcher, state archt., Albany, for Potsdam State Normal School; appropriation $300,000, of which $100,000 is available.

Asbury Park, N. J.—Seacoast Trust Co. (Jas. M. Ralston, Asbury Park, pres.) will erect new bank building at Bon St. and Mattison Ave.; cost about $100,000.

Dover, N. J.—All bids recently opened by Bd. Educ. for erecting high school rejected, being in excess of $100,000 appropriation. Plans to be revised and new bids asked.

East Orange, N. J.—Fairchild-Baldwin Co., East Orange, will erect 4-story, 94 x 60 ft. apartment house on Prospect St.

Newark, N. J.—McKim, Mead & White, 101 Park Ave., New York, selected by Memorial Bldg. Com. to prepare plans for $1,500,000 Memorial Building to be erected at Broad and Camp Sts.

Red Bank, N. J.—Erection of a $50,000 Y. M. C. A. building contemplated. S. K. Lipscomb, secy., Y. M. C. Assoc. of New Brunswick, interested.

Harrisburg, Pa.—Chamber of Commerce Hotel Com. considering erecting $1,000,000 hotel at Third and Walnut Sts. E. L. McColgin, Kunkel Bldg., may be able to give information.

Pittsburgh, Pa. — Plans prepared by Kiehnel & Elliott, Keenan Bldg., for Greenfield Grade School to be erected on Greenfield Ave. and Alger St.; cost $298,000.

Contract soon to be let for erecting West End-Sheraden High School; cost $265,000. McClure & Spahr, archts., 320 Fourth Ave. Geo. W. Gerwig, secy. Bd. of Educ.

All bids opened Sept. 2 by Bureau of Yards and Docks, Navy Dept., Washington, D. C., for constructing a structural shop at Norfolk Navy Yard rejected. New bids to be opened Sept. 30, unfortunately date our paper comes out.

Reading, Pa.—Duhring, Okie & Ziegler, Bailey Bldg., Philadelphia, are architects for 4-story, 50 x 120 ft. brick, concrete and terra cotta clubhouse to be erected for Wyomissing Club.

Norfolk, Va.—B. F. Mitchell, Seaboard Bank Bldg., is architect for fireproof 150 x 270-ft. retail market, to be erected by city at a cost of $100,000, including electric refrigerating machinery, electric elevator and incinerator.

Griffin, Ga. — Citizens voted $65,000 bonds to erect high school and addition to grammar school. J. F. Leitner, archt., Wilmington, N. C.; J. A. Jones, supt. schools.

New Orleans, La.—Contract soon to be let for erecting 14-story office building for Hibernia Bank & Trust Co. (R. S. Hecht, vice-pres.).

Shreveport, La.—City National Bank (J. B. Ardis, pres.) intends erecting 14-story office and bank building.

Cleveland, Ohio.—Reported sum of $50,000 has been given Mt. Sinai Hospital to erect nurses' home. Max Myers, secy. bd. trus.

Carpenter's Union (G. Schroeter, secy., 310 Prospect Ave.), reported plans erecting labor temple to cost about $60,000.

Reported Ford-McCaslin Co., 400 Williamson Bldg., contemplates erecting 10 or 12-story building on Euclid Ave. and E. Fourteenth St., to cost about $500,000.

Reported J. C. Cromwell, New Guardian Bldg., will erect a residence on East Boule. near Wade Park, costing about $55,000.

Plans prepared by Briggs & Nelson, 669 Rose Bldg., for Fourth Church of Christ (Scientist) to be erected on E. 105th St. and Euclid Ave.; probable cost $100,000.

East Liverpool, Ohio.—Public hall bonds for $50,000 will be sold Oct. 12 by J. A. Kenney, city aud.

Elyria, Ohio.—Reported New York Central RR. (G. W. Kittredge, ch. engr., New York) contemplates erecting new depot at East Ave. and Tremont St.

Norwood, Ohio.—Bausmith & Drainie, 901 Gerke Bldg., Cincinnati, engaged to prepare plans for schools for which $150,000 bonds were recently voted.

La Crosse, Wis.—Bd. of Regents at Madison approved plans for $80,000 physical training building to be erected at State Normal School here.

Milwaukee, Wis.—Erection of two-story school contemplated at Hartford and Maryland Aves.; probable cost $80,000. Address Bd. of Educ.

Minneapolis, Minn.—See "Foundations, Piers and Dams."

Leavenworth, Kan.—Citizens Sept. 19 voted against $150,000 bond issue to erect city hall and auditorium.

Grand Island, Neb.—Plans prepared for brick and stone passenger station which the Union Pacific Ry. (R. L. Huntley, ch. engr., Omaha) intends erecting here; cost $100,000.

Omaha, Neb.—See "Reinforced Concrete."

South Omaha, Neb.—St. Luke's Evangelical Lutheran Church will erect new edifice at Twenty-third and K Sts.; cost $50,000. Rev. S. H. Yerian, pastor.

St. Louis, Mo.—R. M. Milligan, comr. of school bldgs., submitted preliminary sketches Bd. of Educ. for new Alexander Hamilton School in West End; cost about $200,000.

Fort Worth, Tex.—School bonds for $225,000 sold by School Bd.

Paris, Tex.—Attorney General at Austin approved $100,000 school bond issue. Address Bd. of Educ.

Ardmore, Okla.—Reported Gulf, Colorado & Santa Fe RR. (F. Merritt, ch. engr., Galveston, Tex.) plans erecting new passenger station here to cost $50,000.

Seattle, Wash.—See "Reinforced Concrete."

Astoria, Ore.—Reported contract will soon be let by School Bd. for erecting proposed $80,000 high school. Whitehouse & Fouilhoux, Wilcox Bldg., Portland, archts.

Bend, Ore.—Contract soon to be let for erecting 3-story Pilot Butte Hotel for F. W. Sullivan of Bend and Phillip Brooks, Vancouver, B. C.; cost $80,000. Tourtelotte & Hummell, Rothchild Bldg., Portland, archts.

Los Angeles, Cal.—John Parkinson, Security Bldg., is architect for 9-story steel and brick building to be erected at Ninth St. and Bway. for Arthur Fleming, Chicago, and R. C. Gillis, Los Angeles.

Erection of 9-story, fireproof building at Third St. and Bway. contemplated; estimated cost $600,000. E. P. Clark, Consolidated Realty Bldg., reported interested.

Modesto, Cal.—Election Oct. 18 to vote $135,000 bonds to erect high school. Address Clerk School Board.

BIDS DESIRED.

Hartford, Conn.—Reported desired until Nov. 1, for erecting Y. W. C. A. building; probable cost, $210,000. L. E. Jallade, archt., 37 Liberty St., New York.

Thiells, N. Y.—Until Oct. 19, by Frank A. Vanderlip, pres. bd. mgrs., Letchworth Village, 7 Wall St., N. Y. City, for construction, heating, electric work, refrigeration equipment, for storehouse, bakery, refrigeration plant and cold storage building, and for underground piping at Letchworth Village, advertised in this issue. Lewis F. Pilcher, state archt., Capitol, Albany.

Elizabeth, N. J.—Until Oct. 18 for erecting children's building at Bonnie Burn Tuberculosis Farm. Oakley & Son, Inc., archts., 280 N. Broad St., Philadelphia.

Ridgewood, N. J.—Until Oct. 30, by Bd. Education, Ridgewood Township (Hadley Ford, clk.), for erecting high school. Separate bids for heating, plumbing, etc.

Woodbury, N. J.—Until Oct. 31 by Jas. A. Wetmore, acting superv. archt., Treas. Dept., Washington, D. C., for erecting U. S. Post Office at Woodbury.

Mishawaka, Ind.—Reported desired until Nov. 1, by Mishawaka Trust & Savings Co., for erecting 5-story bank and office building; probable cost $90,000. Enis R. Austin, archt., South Bend.

Terre Haute, Ind.—Until Oct. 7, by Bd. Trus. Indiana State Normal School (J. Jump. secy.), for constructing reinforced concrete brick and three-story science hall.

Ypsilanti, Mich.—Until Oct. 12, by Sumner Damon, city clk., for erecting hospital. E. R. Dunlap, archt., Detroit.

Chicago, Ill.—Until about Oct. 15 by Paul Gerhardt, archt., 64 W. Randolph St., for erecting 10-story hotel.

Beloit, Wis.—Reported desired until Oct. 9, for erecting two-story and basement 139 x 67 ft. brick school. Miner R. Rosman, archt., 878 Forty-fourth St.

Oshkosh, Wis.—Reported desired until Oct. 10, erecting 3-story and basement addition to State Normal School of brick and reinforced concrete, 135 x 143 ft. Separate bids for heating, plumbing, etc. Wm. Kiddle, secy., State Normal School, Madison.

Valley Junction, Iowa.—Until Oct. 24, by A. H. Minnis, pres. Bd. Educ., for furnishing material and erecting high school for Independent School Dist. Separate bids for heating, plumbing, etc. Proudfoot, Bird & Rawson, archts., 810 Hubbell Bldg., Des Moines.

Canby, Minn.—Reported desired until Oct. 18, for erecting school. Separate bids for plumbing, heating, etc. G. L. Lockhart, archt., 285 Endicott Bldg., St. Paul.

St. Cloud, Minn.—Reported desired until Nov. 12, for erecting city hall. Probable cost $60,000. Geo. G. Magnuson, city clk.

Clear Lake, S. D.—Until Oct. 16, by J. M. Wols, co. aud., for erecting a court house. Buechner & Orth, archts., 500 Shubert Bldg., St. Paul.

Sacramento, Cal.—Reported desired until Oct. 5, by City Comn., for erecting Carnegie Library. Probable cost $130,000. L. P. Rixford, archt., San Francisco.

Gagetown, N. B.—See "Foundations, Piers and Dams."

Santo Domingo, D. R.—Until Oct. 24, by Dir. Gen. Pub. Wks., for erecting a custom house. Takes ten days to receive mail from New York. For further information address Bureau Foreign and Domestic Commerce, Washington, D. C.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Boston, Mass.**—Contract awarded Whiton & Haynes Co., 200 Devonshire St., at $137,400, for erecting elementary school for lower grades in Mary Hemenway Dist., Gibson and Bispham Sts., Dorchester.

★**New Haven, Conn.**—Contract reported awarded J. G. White Eng. Corp., 43 Exchange Pl., New York, for erecting 2-story, fireproof, 148 x 78 ft., power house for Connecticut Co., at $118,000.

Dunkirk, N. Y.—All bids opened Sept. 15 for erecting school in First Ward rejected. Lowest bidder, Orcutt Bros., S. Dayton, at $73,463.

★**New York, N. Y.**—Contract awarded Serber-Stander Co., 118 E. Twenty-eighth St., by Public Service Comn., for construction of station finish on three stations on Broadway-Fourth Ave. subway in Manhattan, Canal, Twenty-third and Twenty-eighth Sts. in Broadway (bids opened Sept. 13) at $149,325.

★**Bloomfield, N. J.**—Contract awarded by General Electric Co. to John W. Ferguson Co., Paterson, for erecting 6-story, 75 x 800 ft., building; cost about $750,000.

Jersey City, N. J.—Lowest bid for erecting additions to High School and School No. 3 submitted by Albert Winternetz, 237 E. Seventy-second St., New York, at $273,000 and $77,000, respectively, and Gillis & Geoghegan, 537 W. Bway., New York, for heating at $71,090 and $17,000, respectively.

★**Newton, N. J.**—Contracts for erecting high school (bids opened Sept. 21) awarded as follows: General contract, C. E. Preston, White Plains, N. Y., $50,459; plumbing, R. A. Cooke, Hackettstown, $2,489; heating and ventilating, Callahan, Kingsley & Co., Inc., New York, $6,892; electric fixtures, G. D. Gardner, Dover, $602.

★**Plainfield, N. J.**—Contract for erecting city hall awarded P. F. Kenny, 33 Old Bway., New York, at $107,999; heating and plumbing. D. J. Galbraith, Plainfield.

★**Pottstown, Pa.**—Contract awarded Wm. H. Wiand, Pottstown, for erecting edifice at High and Price Sts. for St. James' Evangelical Lutheran Church; cost about $50,000. Lachman & Murphy, archts., Witherspoon Bldg., Philadelphia.

★**Baltimore, Md.**—Contract awarded Jas. J. O'Connor, 1110 Park Ave., for erecting St. Elizabeth Home, on Pen Lucy Ave.; cost about $150,000.

★Contract awarded Longacre Constr. Co., 22 E. Forty-second St., New York, for erecting 14-story, 148 x 150-ft., brick, stone, concrete and steel hotel at Light and German Sts. for Southern Hotel Co. Otto G. Simonson, archt., Maryland Casualty Tower Bldg.

Warrenton, Va.—Following are four lowest bids opened Sept. 19 by Superv. Archt., Washington, D. C., for constructing U. S. Post Office, (a) limestone, (b) sandstone: R. V. Richardson, Hampton (a), $43,270; (b), $43,570; J. L. Robinson Constr. Co., Baltimore (a), $44,225; (b), $44,720; Leeds Constr. Co., Nyack, N. Y. (a), $46,800; (b), $47,500; R. S. Moore, Lafayette, Ind. (a), $46,943; (b), $47,450.

Covington, Ky.—See "Reinforced Concrete."

★**Cincinnati, Ohio.**—Contract awarded Leibold-Gott Bldg. Co., 505 Gwynne Bldg., for erecting $60,000 apartment house at Clifton Ave. and Senator Pl. for Frank Wiborg.

★Contract awarded Geo. A. Fuller Co., 401 Swetland Bldg., for rebuilding John Hartness Brown Bldg., Euclid Ave. and E. Ninth St., and erecting 6-story addition; estimated cost $400,000. Geo. B. Post & Sons, 1109 Schofield Bldg., archts.

Cleveland, Ohio.—See "Reinforced Concrete."

★**Cleveland, Ohio.**—Contract awarded by Bd. of Educ. to Jas. H. Wells, Heed Bldg., Philadelphia, for erecting 3-story, 80 x 183 ft., brick, stone, concrete and terra cotta school; cost $250,000.

★**Butte, Mont.**—Contract awarded Sound Constr. & Eng. Co., Lowman Bldg., Seattle, for erecting first unit of proposed $250,000 Knights of Columbus Building, 6 stories, 65 x 92 ft., reinforced concrete and steel, at about $50,000. Link & Haire, archts., Butte.

★**Seattle, Wash.**—Contract awarded by School Bd. (Rueben W. Jones, secy.) to Jenkins & Jones, Hinckley Blk., for erecting West Seattle High School, at $196,600.

★**Berkeley, Cal.**—Contracts awarded by Regents of University of California for first unit of Chemistry Building to cost $167,696, including following: Excavation and concrete, Clinton Constr. Co., San Francisco, $61,414; plumbing, heating and ventilating, Scott Co., San Francisco, $27,500; electric work, F. E. Newbery Electric Co., Humboldt Bank Bldg., San Francisco, $22,652. Contract for additions to power plant awarded C. C. Moore & Co., San Francisco, at $49,589.

San Diego, Cal.—See "Reinforced Concrete."

★**Santa Barbara, Cal.**—Contract awarded Kier Constr. Co., American National Bank Bldg., San Diego, for erecting 2-story and basement, 160 x 130 ft., brick, Carnegie Library at $59,938.

★**Visalia, Cal.**—Contract awarded Trewhitt & Shields, Fresno, at $107,000, for erecting five-story and basement steel and brick 120-room hotel at Main and Church Sts. for J. S. Johnson. Ernest J. Kump, archt., Rowell Bldg., Fresno.

★**Ottawa, Ont.**—Contract awarded Wm. Joy, 86 High Park Ave., Toronto, for erecting stone and brick restaurant for Bowles Lunch Co., 149 Yonge St., Toronto; cost $50,000.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Fall River, Mass.—State Comn. on Waterway and Pub. Lands, Boston, appropriated $350,000 to construct state dock.

Bayonne, N. J.—Texas Oil Co. applied to U. S. Engrs. for permission to construct concrete pier to replace one recently burned.

Spring Lake, N. J.—Reported Borough contemplates spending $100,000 for preservation of and improving beach front and building bulkhead and jetties.

Washington, D. C.—The special bd. of engineer officers, composed of Col. H. C. Newcomer, Lieut.-Col. C. A. F. Flagler and Lieut.-Col. Wm. W. Harts, has submitted a report to Secy of War indorsing project of Langfitt Board of 1913 for establishment of power plant near Great Falls of Potomac for dual purpose of increasing water supply of District and for development of power for electric lights and other purposes for the Federal and District governments. The Langfitt plan contemplated the construction of a dam in the river about a third of a mile above Chain Bridge. Cost estimated at $5,172,600 for increase of water supply and $9,849,000 for power development.

Norfolk, Va.—A concrete pier 52 x 595 ft. to be constructed by Chesapeake & Ohio RR. at foot of Tazewell St.; probable cost $100,000. B. F. Mitchell, archt., Seaboard Bank Bldg.

Grand Rapids, Mich.—Consumers' Power Co., Grand Rapids, reported will construct a dam 30 miles below Manistee, 50 ft. high, 2000 ft. wide, base thickness 200 ft. and 40 ft. at top, and a concrete core of 3 ft. resting on hard pan.

Ashland, Wis.—Dock and Harbor Bd. considering plans submitted by Chicago & Northern Ry. Co. for a third ore dock. About $1,500,000 will be spent by the company in construction of dock, changes in ore yard and elevating of tracks.

Fort Scott, Kan.—Water Comr. Myrick is in favor of constructing another dam, costing $25,000, to increase water supply.

Seattle, Wash.—Arthur P. Denton, co. engr., preparing plans for wharf and waiting room to be constructed at Almy St., Howard Ave. N. and Fairview Ave. on southeastern shore of Lake Union; cost $16,000.

Park Board has instructed Engineer H. L. McGillis, park dept., to prepare plans for bulkheading and filling area uncovered by lowering of Lake Washington.

BIDS DESIRED.

Boston, Mass.—Until Oct. 21, by Bureau Yards & Navy Dept., Washington, D. C., for extension to shipbuilding ways and appurtenances at navy yard, Boston, specification 2263.

Rahway, N. J.—Until Oct. 4, by Bd. Union Co. Freeholders, Elizabeth, for reconstructing the center pier and fixed span approaches at the East Milton Ave. drawbridge under the Rahway River at Rahway. Jacob L. Bauer, co. engr.

Retaining Wall—Washington, D. C.—Until Oct. 3, by Public Bldgs. & Grounds, Washington, for constructing entrance on west side of Meriden Hill Park, advertised in this issue.

Augusta, Ga.—Until Oct. 10, by River & Canal Comn., Nisbet Wingfield, ch. engr., 811 Ellis St., addressed to City Council, for constructing reinforced concrete bulkhead and steel gates for water control across Butler's Creek, Richmond County, advertised in this issue.

Covington, Ky.—Until Oct. 3, by Fiscal Court (John B. Dillon, clk.), for constructing superstructure and substructure of bridge over Horse Branch on the Covington and Independence Turnpike.

Hamlin, Tex.—Until Oct. 6 by Loo Randals, city secy., for furnishing material and constructing reinforced concrete dam across California Creek for purpose of city water supply. H. C. Ford, city engr.

Gagetown, N. B.—Reported desired until Oct. 10, by R. C. Desrochers, secy. dept. pub. wks., Ottawa, for constructing wharf and warehouse.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Honolulu, H. T.**—Contract awarded Lord-Young Eng. Co., Honolulu, at $29,647, for constructing wharf, buildings, etc., at U. S. Quarantine Station, Honolulu.

★**New York, N. Y.**—Contract awarded Raymond Concrete Pile Co., 140 Cedar St., for concrete piles in foundations as follows: Extension to wire mill No. 2 of John A. Roebling's Sons Co., Roebling, N. J.; Adriance Machine Wks., Inc., Verona and Richards Sts., Brooklyn; plant at Indiana Harbor, Ind., for Mark Mfg. Co.; Clay School, Hegewisch, Ill.; Packard Motor Car Co., building at Long Island City; track scale and shipping building of Youngstown Sheet & Tube Co., Youngstown, Ohio; addition to Boys' School, Eleventh St. and Second Ave., New York City.

Atlantic City, N. J.—Following are bids opened Sept. 14 by city for constructing sea wall along Absecon Inlet and Gardner's Basin: J. W. Ingersoll, $27,186; Jas. Ferry & Sons, Inc., $28,721; M. B. Markland, $53,371, and Edw. L. Bader, $68,468 (bidders all of Atlantic City). J. W. Hackney, city engr.

★**Alexandria, Va.**—See "New Industrial Plants." "Proposed Work."

Dayton, Ohio—Two lowest bids opened Sept. 15 for constructing Steele dam submitted by Price Bros., West Jordan, Mich., at $29,840, and J. L. Bailey, Dayton, at $58,000. Engineer's estimate $29,860.

★**Russell, N. D.**—Contract awarded Hennepin Bridge Co., Minneapolis, at $19,350, for constructing steel and concrete piers for bridge over Mouse River at Russell (bids opened Sept. 12 by Co. Comrs, Bottineau). G. H. Hebert, co. aud.

★**Port Arthur, Ont.**—Contract awarded Barnett & MacQueen, 203 Cuthbertson Blk., Fort William, for foundations for $800,000 grain elevator to be erected for Saskatchewan Co-operative Elevator Co., Twelfth and Smith Sts., Regina.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Erie, Pa.—State Water Supply granted permission to city to construct covered concrete conduit for Mill Creek, part of flood prevention plan. Address City Clk. 50,000 acres.

Greenville, Miss.—Black Bayou Drainage Dist. organized, embracing 100,000 acres in Washington County. Comrs: L. C. Hays, pres., Hollandale; Wm. Atterbury, Estill, and Allen Hunt, Greenville. Surveys being made by Morgan Eng. Co., Memphis, Tenn., to be completed in the new year. Estimated cost, $576,000.

Geneseo, Ill.—The Lower Green River Special Drainage Dist, of which C. C. Martin is engr, is to be 5.5 miles long, of 60 ft. bottom; cost $60,000.

Seattle, Wash.—Comrs. of King and Pierce Cos. and Inter-County River Impv. Comn. appropriated $100,000 for continuing improvements of White Stuck and Puyallup River during next five months.

Coos Bay, Ore.—Reported Port of Coos Bay engaged Jas. Polheum, Portland, to prepare plans for suction dredge; cost $50,000.

Turlock, Cal.—Turlock Irrigation Dist. voted $162,478 bonds for repair and upkeep of canals in district.

Waterford, Cal.—Everett N. Bryan, Waterford, engaged as engineer for Waterford Irrigation District, for which citizens voted Aug. 31, $465,000 bonds. Work includes 40 miles of canal, one tunnel, miscellaneous concrete and frame structures such as checks, drops, flumes and siphons. Bonds will be sold Oct. 10.

BIDS DESIRED.

Boston, Mass.—Until Oct. 9, by Edw. F. Murphy, comr. pub. wks., for dredging, filling, sewerage, etc., for Strandway and Old Harbor improvement.

Providence, R. I.—Until Oct. 23 by U. S. Engrs. Office, Newport, for dredging in Providence Harbor, R. I., advertised in this issue.

Albany, N. Y.—Until Oct. 17, by W. W. Wotherspoon, state supt. pub. wks., for state canal work as follows: Contract No. 19-A, Erie Canal, Sect. 11, redredging Contr. No. 19 and incidental work. Contract No. 139, Oswego Canal, Sect. 1, excavating channel in Oswego River from lower end of Lock No. 8. Length 0.19 mile. Contr. 140, Champlain Canal, Sect. 1, placing bank protection along west shore of Hudson River about 5 miles north of Waterford and incidental work; also for Terminal Contract Nos. 19, 26 and 53.

Clyde, N. Y.—By Central Dredging Co., Swetland Bldg., Cleveland, for 150,000 yd. steam shovel work to sublet at Clyde. Information may be had from Superintendent at Clyde.

Williamsport, Pa.—Until Oct. 4 by County Comrs. (L. O. Bower, clk.) for constructing a dike and excavating channel of Lycoming Creek at Rossing Branch.

Tallahassee, Fla.—Until Oct. 31 by Bd. Comrs. Everglades Drainage Dist. for constructing canal 19 miles long from Lake Okeechobee, requiring removal of about 1,600,000 cu. yd. of material, advertised in this issue. F. C. Elliott, ch. drainage engr.

Vicksburg, Miss.—Until Oct. 2 by Third Mississippi River Dist., P. O. Box 404, Vicksburg, for constructing about 680,000 cu. yd. of new levee enlargement, advertised in this issue.

Vermilion, Ill.—Until Oct. 10, by A. H. Chambers, co. comr., for cleaning out, deepening and enlarging ditch, 31,450 ft. long, 71,460 cu. yd. C. F. Helman, engr., Paxton, Ill.

Sibley, Iowa.—Until Oct. 3 by D. W. Clayton, co. aud., for constructing Dickinson-Osceola Counties Joint Drainage Dist. No. 4, consisting of about 65,800 ft. 6 to 24-in. tile, bulkheads, etc. D. W. Clayton, co. aud.

Sioux City, Iowa.—Until Oct. 9 by E. E. Hosmer, co. aud., for constructing main ditch of the Smithland Drainage Dist., consisting of three cutoffs, combined open tile drainage system to consist of 17,035 ft. 10 to 18-in. tile, 13,153 cu. yd. excav., etc.

Benson, Minn.—Until Oct. 9, by D. P. Carney, co. aud., for constructing county ditch No. 16, to consist of main ditch and a number of branches; cost $13,094. S. B. Gardner, engr., Benson.

Morris, Minn.—Until Oct. 11 by C. R. Woolthan, co. aud., for constructing county ditch No. 25 and county ditch No. 27, to consist of main ditch and a number of branches. Cost $14,576. Until Oct. 12, separate bids, same place, for constructing county ditches Nos. 29 and 33, to consist of main ditches and branches, together with concrete bulkhead, etc. Cost $18,127.

Olivia, Minn.—Until Oct. 17 by J. L. Johnson, co. aud., for 125,000 lin. ft. of excav., removing 1,103,672 cu. yd. and laying and furnishing 440,299 lin. ft. of tile, bulkheads, etc., advertised in this issue. T. S. Hewerdine, engr., Olivia.

Until Oct. 16 by J. L. Johnson, co. aud., for constructing county ditch No. 70, in all about 51,495 ft., 5 to 28-in. tile, with necessary bulkhead, etc.; cost $26,436. L. C. Vader, engr., Olivia. Also separate bids same time for constructing Judicial Ditch No. 14, to consist of 49,215 ft. 5 to 24-in. tile, with necessary bulkheads, etc. T. S. Hewerdine, engr., Olivia.

Roseau, Minn.—Until Oct. 13 by A. G. Lundgren, Roseau, co. aud., for Judicial Ditch No. 63, Roseau and Marshall Counties, to consist of excavating about 511,198 cu. yd., cost $56,231; clearing 287.7 acres, costing $4,409; leveling 58.75 miles, cost $7,050, etc. Geo. W. Walker, engr., Thief River Falls.

Humboldt, Neb.—Until Oct. 10, by Drainage Dist. No. 4 (J. E. Wissler, chmn.), for constructing about 7 miles of new channel for the South Fork Nemaha River, requiring the moving of about 538,000 cu. yd., about 2155 cu. yd. lateral, river cleaning, etc.

Huntington, Neb.—Reported desired until Oct. 3, by H. J. Beaty, co. clk., for constructing the Brookey Bottom Ditch.

Emmett, Idaho.—Until Nov. 2, by Bd. Comrs. Canyon County Drainage Dist. No. 1, for constructing open drainage canal closed tile pipe drain with appurtenances, advertised in this issue. Horn & Hays, engrs., Empire Bldg., Boise.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**New Orleans, La.**—Following are contracts awarded by State Bd. Engrs., New Orleans, for levee work (bids opened Sept. 20): To Don B. Hearin & Son, Baton Rouge, for Stevenson to Jack Strange levee, 80,000 cu. yd., in Parish St. John the Baptist, at 16 cts. per cu. yd.; to Lower Coast Constr. Co., Pointe a la Hache, for Tarras Levee, 65,000 cu. yd., Parish Pointe Coupee, at 19.8 cts. per cu. yd.; also Cosse to Martin Levee, 40,000 cu. yd., Parish of Plaquemine, at 19.4 cts. per cu. yd.

★**Memphis, Tenn.**—Contract awarded Sternberg Bros., St. Louis, for Second South Forked Creek drainage project, about 4 miles of ditches and 10 miles of canals in Crocker, Dyer, Haywood and Lauderdale Counties. Ferree & McCleskey, engrs., Memphis.

★**Terre Haute, Ind.**—Following are three bids opened Sept. 20 by Prairie Creek Levee Asso., 401 Star Bldg., for constructing drainage ditches in Vigo and Sullivan Counties: J. B. Dorris, Sullivan, 24,144 (awarded contract); M. R. Polk Co., Oaktown, $24,297, and Fred C. Morgan, Indianapolis, $28,181. Stimson, Stimson, Hamill & Davis, attorneys, Terre Haute.

★**Nevada, Ia.**—Contract awarded Blakemore & Scott, Nevada, at $18,488, for constructing ditch in Sherman Township Drainage Dist. No. 76, about 19,880 ft. 6 to 30 in. tile and in laterals 7099 ft. 6 to 18 in. tile. (Bids opened Sept 14 by F. E. King, co. aud.)

★**Sioux City, Ia.**—Contract awarded H. B. Whitney, Emmetsburg, at 6.8 cts and 35 cts. per cu. yd. for clearing and enlargement work in Farmers Ditch, Drainage Dist. No. 1: Main ditch, 19½ miles, 640,590 cu. yd. excav.; 50 miles laterals, 113,077 cu. yd. E. E. Hosmer, co. aud.

★**Ada, Minn.**—Contract awarded Security Dredge Co., Minneapolis, for constructing Judicial Ditch No. 53, about 1,102,618 cu. yd. excav., at 7.72 cts. per cu. yd. (bids opened Sept. 19). C. D Simpson, deputy co aud.

★**Cottleville, Mo.**—Following are four lowest bids opened Sept. 12 by Bd. Superv. Cottleville Drainage Dist., for excavation 282,234 cu. yd. ditches for drainage in Dardenne Creek bottoms, Township 46 north; R. A. Brown & Co., East St. Louis, Ill., 9.5 cts. (awarded contract); Timothy Foohey Dredge Co., Ft. Wayne, 9.79 cts.; Chas. R. Lewis, Champaign, Ill., 9.98 cts.; Fred C. Morgan, Indianapolis, Ind., 9.8 cts.; R. C. Haenssler & Son, dist. atty., St. Charles.

★**Corinne, Utah.**—Contract awarded by Bd. Superv. to Corinne Concrete Tile Co, Corinne, for constructing Corinne Drainage Dist., in Box Elder Co., $175,000 available. Work includes 50,000 cu. yds. canal excav., 228 miles trenches and 239 miles cement tile. W. M. Bostaph, engr., Salt Lake City.

TUNNELS AND SUBWAYS

PROPOSED WORK.

Fort Worth, Tex.—City reported planning constructing subway under Main St. Probable cost $250,000.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**New York, N. Y.**—Contract awarded Degnon Contr. Co., 30 E. Forty-second St., by Public Service Comn. for constructing Sect. 1-B of Route No. 12, part of Fourth Ave. Rapid Transit R. R. (bids opened Sept. 13) at $810,265, and to Kaufman & Garcey, 51 Chambers St., for installation of tracks on main portion of Culver Rapid Transit R. R. in Brooklyn (bids opened Sept. 18) at $103,680.

MISCELLANEOUS

PROPOSED WORK.

Exterminating Mosquitoes—Providence, R. I.—Committee appointed by Council, including the Mayor and others, to confer with officials of Cranston and North Providence on the eliminating of the mosquito.

Terminal—Bayonne, N. J.—B. F. Cresson, ch. engr. Bd. Commerce and Navigation, submitted three plans for primary installations in connection with proposed terminal; one plan estimated to cost $3,000,000 providing wharfage for four ships and reclamation of 228 acres of land; one for $6,867,000, dock facilities for 25 ships and reclamation of 258 acres, and the third costing $8,3000,000 and providing wharfage for 35 ships.

Newark, N. J.—Contract soon to be let for 300-ton garbage destructor and municipal light, heat and power plant. Address Bd. Street and Water Comrs.

Conduits—New Brunswick, N. J.—Public Service Corporation, will place all wires throughout the city underground; cost $100,000.

★**Park Improvements—Westfield, N. J.**—Contract awarded G. A. Lawrence Co., 26 Clinton St., Newark, for developing park property on East Broad St., at $20,506.

Park Bonds—Middletown, Ohio.—Park and playgrounds bonds for $35,000 will be sold Oct. 11 by Louis T. Nein, city aud.

Transmission Line—Middletown, Ohio.—Ohio Gas & Electric Co. reported taking steps to construct high-tension transmission line to cost $90,000.

Transmission Line—Kendrick, Idaho.—Potlatch Consolidated Electric Co. of Kendrick (A. V. Dunkle, mgr.) contemplates constructing transmission line to connect with Washington Water Power Co. at Moscow, a distance of 12.3 miles.

BIDS DESIRED.

Locomotive Cranes—New York, N. Y.—Until Sept. 14, by Bureau Supplies and Accounts, Navy Dept., Washington, D. C., for Sched. No. 2262, one 20-ton locomotive crane, delivered at the navy yard, New York.

Snow Removal—New York, N. Y.—Until Oct. 5, by J. T. Fetherston, Comr. Street Cleaning, for removal of snow and ice during winter seasons 1916-1917. This will be one contract for the entire borough of Manhattan. Security $100,000. Also for same work divided into three snow removal districts, and contract if let will be let for each of the three districts. Security $35,000 for each district.

Road Oil—Ventura, Cal.—Until Oct. 10, by Bd. Superv. (J. B. McCloskey, clk.), for furnishing 10,000 bbl. road oil.

Floating Revolving Crane—Vallejo, Cal.—Until Nov. 11, by Bureau Supplies and Accounts, Navy Dept., Washington, D. C., for Sched. No. 2259, a 250-ton floating revolving crane at the navy yard, Mare Island.

Locomotive Jib Crane—Pearl Harbor, T. H.—Until Nov. 11 by Bureau Supplies and Accounts, Navy Dept., Washington, D. C., for Sched. No. 2261, a locomotive jib crane of 50 gross tons capacity at the naval station, Pearl Harbor.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Grouting for Tunnel—New York, N. Y.**—Following are unit figures of the successful bidder, Wm. Heyman, 15 Exchange Pl., Jersey City, for Contract 178, grouting portion of Eastview tunnel of Catskill aqueduct (bids opened Sept. 12 by Bd. Water Supply, New York): 10 cu. yd. excav. concrete masonry, $20; 6400 bbl. Portland cement, $2.60 10 cu. yd. concrete masonry, $20; 800 lin. ft. drilling holes in rock or masonry, 80 cts.; 700 lin. ft. steel pipe for grouting, etc., 70 cts.; making 250 connections for grouting, $3; 2000 cu. yd. mixing and placing grout, $6.30; 1100 tons sand for grout $5; cleaning up (lump sum), $1,300; total $38,320.

★**Stone — Vicksburg, Miss.** — Contract awarded by U. S. Engr. for 35,000 tons stone (bids opened Sept. 7) as follows Foster & Creighton Co., Nashville, $12,750, and to U. S. Stone Co., Little Rock, $19,500.

Gate Valves for Locks—Louisville, Ky.—Following are bids opened Sept. 23 by U. S. Engineer for furnishing stoney gate valves for Lock No. 41, Ohio River: Independent Bridge Co., 829 Beaver Ave., Pittsburgh, $27,528; J. & J. B. Milholland Co., Pittsburgh, $30,246; American Car & Fdry. Co., Jeffersonville, Ind., $37,480.

Cement, Sand, Etc.—Los Angeles, Cal.—Following are bids opened Sept. 15 by Maj. G. B. Pillsbury, Corps. Engrs. U. S. A., for (a) unit price, (b) total: Portland cement, 18,500 bbls., Riverside Portland Cement Co., 640 Title Insurance Bldg. (a) $1.73 (b) $32,005; California Portland Cement Co., 543 Douglas Bldg., (a) $1.75, (b) $32,375; Golden State Portland Cement Co., 522 Marsh-Strong Bldg., (a) $1.78, (b) $32,930. Stone, 22,000 tons: Pacific Rock & Gravel Co., 498 P. E. Bldg., (a) 84 cts., (b) $18,480; Russell-Greene-Foell Co., 2644 Compton Ave., (a) 85 cts., (b) $18,700. Bids for 11,000 tons sand submitted by Russell-Greene-Foell Co., 2644 Compton Ave., and Pacific Rock & Gravel Co., 498 P. E. Bldg., both at $7,150, and for 11,000 tons screenings, only bid, by Pacific Rock & Gravel Co., 498 P. E. Bldg., at $7,700.

Coal Handling Crane—Astoria, Ore.—Contract awarded by Port of Astoria to Zimmerman-Wells-Brown Co., Portland, at $17,847, for a 25-ton capacity coal handling crane.

★**Piping in Tunnel—Winnipeg, Man.**—Contract awarded by Provincial Government to Jas. Ballantyne Co., Ltd., at $24,587 for piping and accessories in Broadway tunnel. (Bids opened Aug. 30.)

Proposals

For Proposals Advertised See Pages 46, 47 and 48.

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.		See Eng. Record.
Oct. 2.	Cohoes, N. Y. Adv. Sep. 23, 30.	Sep. 23
Oct. 2.	Zanesville, Ohio Adv. Sep. 23.	Sep. 23
Oct. 2.	Red Bank, N. J.	Sep. 30
Oct. 3.	**Port Clinton, Ohio**	**Sep. 2**
Oct. 3.	Philadelphia, Pa.	Sep. 23
Oct. 3.	West Hoboken, N. J.	Sep. 23
Oct. 3.	Toronto, Ont.	Sep. 23
Oct. 3.	High Point, N. C.	Sep. 30
Oct. 3.	Cincinnati, Ohio	Sep. 30
Oct. 3.	Anthon, Iowa	Sep. 30
Oct. 3.	Fall River, Mass.	Sep. 30
Oct. 3.	Toronto, Ont.	Sep. 30
Oct. 3.	Tiffin, Ohio Adv. Sep. 30.	Sep. 30
Oct. 3.	Columbus, Ohio	Sep. 30
Oct. 3.	Waseca, Minn.	Sep. 30
Oct. 4.	Bonds, Dublin, Ga. Adv. Sep. 9, 16.	Sep. 9
Oct. 4.	Jacksonville, Fla.	Sep. 16
Oct. 4.	Sweetwater, Tex.	Sep. 30
Oct. 4.	Kansas City, Mo.	Sep. 30
Oct. 4.	Pocahontas, Ark.	Sep. 30
Oct. 4.	Cincinnati, Ohio	Sep. 30
Oct. 4.	Jacksonville, Fla.	Sep. 30
Oct. 5.	San Antonio, Tex.	Sep. 23
Oct. 5.	West Palm Beach, Fla.	Sep. 30
Oct. 5.	Slater, Mo.	Sep. 30
Oct. 5.	Alliance, Ohio	Sep. 30
Oct. 6.	Jacksonville, Fla.	Sep. 30
Oct. 9.	East Orange, N. J. Adv. Sep. 16.	Sep. 16
Oct. 9.	Youngstown, Ohio	Sep. 30
Oct. 9.	Stanton, Neb.	Sep. 30
Oct. 9.	Plainfield, N. J. Adv. Sep. 30.	Sep. 30
Oct. 9.	Logan, Iowa	Sep. 30
Oct. 9.	New York, N. Y.	Sep. 30
Oct. 10.	Port Clinton, Ohio	Sep. 16
Oct. 10.	Lebanon, Ohio	Sep. 16
Oct. 10.	Daytona, Fla.	Sep. 23
Oct. 10.	Ridgewood, N. J.	Sep. 30
Oct. 10.	Rogersville, Tenn.	Sep. 30
Oct. 10.	West St. Paul (P. O. St. Paul), Minn.	Sep. 30
Oct. 11.	**Bellwood, Pa.** Adv. Sep. 16.	**Sep. 16**
Oct. 11.	Boston, Mass.	Sep. 23
Oct. 11.	Trenton, Mo.	Sep. 23
Oct. 11.	Chilton, Wis.	Sep. 30
Oct. 11.	Oleans, N. Y. Adv. Sep. 30.	Sep. 30
Oct. 13.	Kenyon, Minn.	Sep. 23
Oct. 15.	Hermosa Beach, Cal.	Aug. 26
Oct. 16.	Cleveland Heights (P. O. Warrensville), Ohio.	Sep. 16
Oct. 16.	Newark, Ohio	Sep. 23
Oct. 16.	Louisville, Ky.	Sep. 30
Oct. 17.	Tarboro, N. C.	Sep. 30
Oct. 17.	Hermosa Beach, Cal.	Sep. 30
Oct. 23.	Havana, Fla.	Sep. 16
Oct. 30.	Front Royal, Va. Adv. Sep. 30.	Sep. 30
——	Franchise, Key West, Fla. Adv. Sep. 2, 9.	Sep. 2
——	Granite City, Ill. Adv. Sep. 30.	Sep. 30

STRUCTURAL STEEL WORK

Bids Close.		See Eng. Record.
Oct. 2.	**Benton Harbor, Mich.** Adv. Sep. 16.	**Sep. 16**
Oct. 3.	Clearwater, Fla.	Sep. 30
Oct. 3.	Chickasha, Okla.	Sep. 30
Oct. 3.	Fort Lauderdale, Fla.	Sep. 30
Oct. 4.	San Diego, Cal.	Sep. 30
Oct. 5.	Gastonia, N. C.	Sep. 16
Oct. 9.	Batesville, Miss.	Sep. 30
Oct. 10.	Ogden, Utah	Sep. 30
Oct. 10.	Jersey City, N. J.	Sep. 30
Oct. 11.	New Martinsville, W. Va. Adv. Sep. 23.	Sep. 23
Oct. 17.	New Martinsville, W. Va. Adv. Sep. 23, 30.	Sep. 23
Oct. 17.	Buffalo, N. Y. Adv. Sep. 30.	Sep. 30

REINFORCED CONCRETE.

Bids Close.		See Eng. Record.
Oct. 3.	Titonka, Iowa	Sep. 9
Oct. 3.	Little River, Ala.	Sep. 9
Oct. 3.	Monroeville, La.	Sep. 16
Oct. 3.	Bay Minette, Ala.	Sep. 16
Oct. 3.	Greensburg, Pa.	Sep. 23
Oct. 3.	Parnassus, Pa.	Sep. 30
Oct. 3.	New Boston, Ohio	Sep. 30
Oct. 4.	Warwick, R. I.	Sep. 30
Oct. 4.	Bakersfield, Cal.	Sep. 30
Oct. 5.	El Reno, Okla.	Sep. 23
Oct. 6.	Mauch Chunk, Pa.	Sep. 30
Oct. 7.	Princeton, Minn.	Sep. 9
Oct. 7.	Dana, W. Va.	Sep. 16
Oct. 7.	Hamilton, Ohio	Sep. 23
Oct. 9.	Benson, Minn.	Sep. 30
Oct. 10.	Circleville, Ohio.	Sep. 16
Oct. 10.	Fort Worth, Tex.	Sep. 30
Oct. 11.	Calhoun, Ga.	Sep. 30
Oct. 14.	Ventura, Cal.	Sep. 30
Oct. 16.	Upland, Cal.	Sep. 30
Oct. 18.	Arcadia, Fla.	Sep. 16
Oct. 24.	Rolfe, Iowa	Sep. 30

ROADS AND PAVING.

Bids Close.		See Eng. Record.
Oct. 2.	New York, N. Y.	Sep. 30
Oct. 3.	**Bakersfield, Cal.**	**Aug. 26**
Oct. 3.	Indiana	Sep. 16
Oct. 3.	Montclair, N. J. Adv. Sep. 23, 30.	Sep. 23
Oct. 3.	Indiana	Sep. 23
Oct. 3.	Kansas City, Mo.	Sep. 30
Oct. 3.	Luverne, Minn.	Sep. 30
Oct. 3.	Omaha, Neb.	Sep. 30
Oct. 3.	Pittsburgh, Pa.	Sep. 30
Oct. 3.	Defiance, Ohio	Sep. 30
Oct. 4.	Indiana	Sep. 16
Oct. 4.	Columbus, Kan. Adv. Sep. 23.	Sep. 23
Oct. 4.	Santa Ana, Cal.	Sep. 23
Oct. 4.	Illinois	Sep. 30
Oct. 4.	Kansas City, Mo.	Sep. 30
Oct. 4.	Cincinnati, Ohio	Sep. 30
Oct. 4.	Jackson, Miss.	Sep. 30
Oct. 5.	Indiana	Sep. 16
Oct. 5.	Indianapolis, Ind.	Sep. 23
Oct. 5.	Long Island City, L. I., N. Y.	Sep. 30
Oct. 5.	Garnett, Kan.	Sep. 30
Oct. 5.	Holly Springs, Miss.	Sep. 30
Oct. 5.	Boston, Mass.	Sep. 30
Oct. 6.	Alexandria, La.	Sep. 30
Oct. 6.	Houston, Tex.	Sep. 30
Oct. 6.	Florence, N. J.	Sep. 30
Oct. 6.	Indiana	Sep. 30
Oct. 8.	Monroe, N. C.	Sep. 30
Oct. 9.	Sebring, Ohio	Sep. 16
Oct. 9.	Washington	Sep. 23
Oct. 9.	California	Sep. 30
Oct. 10.	Maryland Adv. Sep. 23, 30.	Sep. 23
Oct. 10.	Belvidere, N. J.	Sep. 30
Oct. 10.	Washington, D. C. Adv. Sep. 30.	Sep. 30
Oct. 10.	Chino, Cal.	Sep. 30
Oct. 11.	Hammondton, N. J.	Sep. 30
Oct. 11.	Columbus, Miss.	Sep. 30
Oct. 12.	Bedford, Ohio	Sep. 23
Oct. 13.	Lasalle, Que.	Sep. 16
Oct. 14.	Indiana	Sep. 23
Oct. 14.	Houghton Lake, Mich.	Sep. 30
Oct. 14.	Hueneme, Cal.	Sep. 30
Oct. 17.	Woodbury, N. J.	Sep. 23
Oct. 17.	Omaha, Neb.	Sep. 30
Oct. 18.	Grand Island, Neb.	Sep. 30
Oct. 19.	Newark, N. J.	Sep. 30
Oct. 25.	Indiana	Sep. 16
Oct. 30.	Texarkana, Ark. Adv. Sep. 30.	Sep. 30

RAILWAYS

Bids Close.		See Eng. Record.
Dec. 6.	Portland, Ore. Adv. Sep. 30.	Sep. 23

INDUSTRIAL PLANTS AND WAREHOUSES.

Bids Close.		See Eng. Record.
Oct. 5.	Kings Park, N. Y. Adv. Sep. 30.	Sep. 30

BUILDINGS. Public and Private.

Bids Close.		See Eng. Record.
Oct. 2.	**Willows, Cal.** Adv. Aug. 26, Sept. 2.	**Aug. 26**
Oct. 3.	Huntington, W. Va.	Sep. 2
Oct. 4.	Leeds, Iowa	Sep. 23
Oct. 5.	Berlin, N. H.	Sep. 2
Oct. 5.	Auburn, Ind.	Sep. 23
Oct. 6.	Skohegan, Me.	Sep. 2
Oct. 6.	New York, N. Y.	Sep. 23
Oct. 7.	Terre Haute, Ind.	Sep. 30
Oct. 9.	Beloit, Wis.	Sep. 30
Oct. 10.	Sonyea, N. Y. Adv. Sep. 23, 30.	Sep. 23
Oct. 10.	Oshkosh, Wis.	Sep. 30
Oct. 11.	Ottawa, Kan.	Sep. 16
Oct. 11.	Pleasant City, Ohio	Sep. 16
Oct. 12.	Buckhannon, W. Va.	Sep. 9
Oct. 12.	San Bernardino, Cal.	Sep. 23
Oct. 15.	Chicago, Ill.	Sep. 30
Oct. 16.	Dickinson, N. D.	Sep. 9
Oct. 16.	Clear Lake, S. D.	Sep. 30
Oct. 17.	New Orleans, La.	Sep. 2
Oct. 18.	Wilmington, N. C.	Sep. 23
Oct. 18.	Waterloo, Iowa	Sep. 23
Oct. 18.	Elizabeth, N. J.	Sep. 30
Oct. 18.	Canby, Minn.	Sep. 30
Oct. 19.	**Du Bois, Pa.** Adv. Sep. 16, 23.	**Sep. 16**
Oct. 19.	Theills, N. Y. Adv. Sep. 30.	Sep. 30
Oct. 19.	Ypsilanti, Mich.	Sep. 30
Oct. 23.	Boise, Idaho	Sep. 23
Oct. 24.	Valley Junction, Iowa	Sep. 30
Oct. 24.	Santo Domingo, D. R.	Sep. 30
Oct. 30.	Burlington, N. C.	Sep. 23
Oct. 30.	Ridgewood, N. J.	Sep. 30
Oct. 31.	Woodbury, N. J.	Sep. 30
Nov. 1.	Hartford, Conn.	Sep. 30
Nov. 1.	Mishawaka, Ind.	Sep. 30
Nov. 12.	St. Cloud, Minn.	Sep. 30
Nov. 13.	**Birmingham, Ala.**	**Sep. 23**
Jan. 1.	**Webster, S. D.**	**Sep. 16**

FOUNDATIONS, PIERS AND DAMS.

Bids Close.		See Eng. Record.
Oct. 3.	Long Branch, N. J. Adv. Sep. 23.	Sep. 23
Oct. 3.	Covington, Ky.	Sep. 30
Oct. 3.	Washington, D. C. Adv. Sep. 30.	Sep. 30
Oct. 4.	Rahway, N. J.	Sep. 30
Oct. 6.	Hamlin, Tex.	Sep. 30
Oct. 9.	San Bernardino, Cal.	Sep. 23
Oct. 10.	Gagetown, N. B.	Sep. 30
Oct. 10.	Augusta, Ga. Adv. Sep. 30.	Sep. 30
Oct. 12.	Huntington, W. Va.	Sep. 23
Oct. 17.	Chicago, Ill. Adv. Sep. 23, 30.	Sep. 23
Oct. 18.	Rock Island, Ill. Adv. Sep. 23, 30.	Sep. 23
Oct. 21.	Norfolk, Va.	Sep. 23
Oct. 21.	Boston, Mass.	Sep. 30

EXCAVATION, DREDGING AND DRAINAGE.

Bids Close.		See Eng. Record.
Oct. 2.	Vicksburg, Miss. Adv. Sep. 30.	Sep. 30
Oct. 3.	Los Angeles, Cal.	Sep. 23
Oct. 3.	Albany, N. Y.	Sep. 16
Oct. 3.	Benson, Minn.	Sep. 23
Oct. 3.	Sibley, Iowa	Sep. 30
Oct. 3.	Hartington, Neb.	Sep. 30
Oct. 4.	Williamsport, Pa.	Sep. 30
Oct. 6.	St. James, Minn.	Sep. 23
Oct. 7.	Charleston, S. C.	Sep. 16
Oct. 9.	Harlingen, Tex.	Sep. 23
Oct. 9.	Sioux City, Iowa	Sep. 30
Oct. 9.	Boston, Mass.	Sep. 30
Oct. 10.	St. Ignatius, Mont. Adv. Sep. 9.	Sep. 9
Oct. 10.	Albany, N. Y. Adv. Sep. 16 to 30.	Sep. 16
Oct. 10.	Humboldt, Neb.	Sep. 30
Oct. 10.	Vermilion, Ill.	Sep. 30
Oct. 11.	Morris, Minn.	Sep. 30
Oct. 12.	Morris, Minn.	Sep. 30
Oct. 16.	Olivia, Minn.	Sep. 30
Oct. 16.	Roseau, Minn.	Sep. 30
Oct. 17.	Albany, N. Y.	Sep. 30
Oct. 17.	Olivia, Minn. Adv. Sep. 30.	Sep. 30
Oct. 23.	Providence, R. I. Adv. Sep. 30.	Sep. 30
Oct. 31.	Tallahassee, Fla. Adv. Sep. 30.	Sep. 30
Nov. 2.	Emmett, Idaho Adv. Sep. 30.	Sep. 30

MISCELLANEOUS.

Bids Close.		See Eng. Record.
Oct. 2.	Wreck, Newport, R. I. Adv. Sep. 2 to 23.	Sep. 2
Oct. 2.	Iron Castings, Louisville, Ky. Adv. Sep. 9 to 30.	Sep. 9
Oct. 2.	Dragline Excavator, Denver, Col. Adv. Sep. 16.	Sep. 16
Oct. 4.	**Elevator, Washington, D. C.**	**Aug. 26**
Oct. 4.	Stokers, Fargo, N. D. Adv. Sep. 9, 16.	Sep. 9
Oct. 5.	Snow Removal, New York, N. Y.	Sep. 30
Oct. 9.	Metal work for gate operating machinery, Louisville, Ky. Adv. Sep. 16 to 30.	Sep. 16
Oct. 10.	Road Oil, Ventura, Cal.	Sep. 30
Oct. 12.	Hydroelectric Equipment, Yosemite, Cal. Adv. Sep. 23, 30.	Sep. 23
Oct. 28.	Cranes, New York, N.Y.	Sep. 30
Nov. 11.	Crane, Pearl Harbor, T. H.	Sep. 30
Nov. 11.	Crane, Vallejo, Cal.	Sep. 30
Dec. 6.	Grade Crossings, Portland, Ore. Adv. Sep. 30.	Sep. 30

SEARCHLIGHT SECTION

Official Proposal Announcements

Price, $2.40 an inch.—Copy can be received until Thursday 10 a. m. for issue mailed the next morning

Bids open October 10, 1916.

NOTICE TO CONTRACTORS.

CRAIG COLONY FOR EPILEPTICS

SONYEA, N. Y.

Sealed proposals for construction, plumbing and drainage, electric work and refrigeration equipment, for alterations and additions to storehouse and cold storage plant and for additions and alterations to water supply, heating and electric work, at Craig Colony for Epileptics, Sonyea, N. Y., will be received by Hon. Percy L. Lang, President, Board of Managers, Craig Colony for Epileptics, Sonyea, N. Y., until 2 o'clock p. m., on Tuesday, October 10, 1916, when they will be publicly opened and read. Proposals shall be enclosed in an envelope furnished by the State Architect, sealed and addressed, and shall be accompanied by a certified check in the sum of five per cent (5%) of the amount of proposal. The contractors to whom the awards are made will be required to furnish surety company bond in the sum of fifty per cent (50%) of the amount of contract within thirty days after official notice of award of contract and in accordance with terms of Specifications Nos. 2520, 2518, 2519, 2517, 2495, 2498 and 2499. The right is reserved to reject any or all bids. Drawings and specifications may be consulted at Craig Colony for Epileptics, Sonyea, N. Y.; at the New York Office of the Department of Architecture, Room 1224, Woolworth Building, and at the Department of Architecture, Capitol, Albany, N. Y. Drawings and specifications and blank form of proposal may be obtained at the Department of Architecture, Capitol, Albany, N. Y., upon reasonable notice to and in the discretion of the State Architect, Lewis, F. Pilcher, Capitol, Albany, N. Y.

Dated September 13, 1916.

Bids open October 2, 1916.

NOTICE TO CONTRACTORS

WATER METERS

BOARD OF CONTRACT AND SUPPLY CITY OF COHOES, NEW YORK

Sealed proposals endorsed "Water Meters" and addressed to the undersigned will be received at the office of the Board of Contract and Supply of the City of Cohoes, N. Y., until two o'clock P. M., October 2, 1916, at which time and place all bids therefor will be publicly opened and read.

The work for which these proposals are invited consists in furnishing water meters of the disc type from ⅝ in. to 2 in. in size, together with 3-in. water meters of the current type. The specifications include a table of quantities, stating the approximate number of each type and size of meter which it is proposed to purchase. Meters are to be purchased delivered F. O. B. cars, Cohoes, N. Y.

All proposals must be on the blank form proposal attached to the specifications. The award of contract will be made not only on the basis of cost but upon the basis of the data asked for on the proposal blank and submitted by the bidder with his price proposal. A certified check in the sum of $300.00 must accompany the proposal as a guarantee that the bidder will enter into contract, if awarded, and furnish bond for faithful performance in the amount of $3,000.00. Specifications for the meters may be seen at the office of the Commissioner of Public Works, or will be mailed to prospective bidders at their request and on receipt of a check in the sum of $10.00, which amount will be held as a deposit against the return of specifications in satisfactory condition.

Bids submitted shall be open for acceptance for sixty days from date advertised for receiving bids.

The city reserves the right to reject any and all bids.

EDWARD N. AMYOT, Secretary,
Board of Contract and Supply,
Cohoes, New York.

Bids open October 19, 1916.

NOTICE TO CONTRACTORS

COTTAGES E, F, G & H

LETCHWORTH VILLAGE, THIELLS, N. Y.

Sealed proposals for construction, heating, plumbing and electric work for cottages E, F, G & H; construction, heating, plumbing and drainage, electric work and refrigeration equipment for storehouse, bakery, refrigerating plant and cold storage building; and for underground piping at Letchworth Village, Thiells, N. Y., will be received by Mr. Frank A. Vanderlip, President, Board of Managers of Letchworth Village, No. 7 Wall Street, New York City, until 12 o'clock noon, Thursday, October 19, 1916, when they will be publicly opened and read. Proposals shall be enclosed in an envelope furnished by the State Architect, sealed and addressed, and shall be accompanied by a certified check in the sum of five per cent (5%) of the amount of proposal. Contractors to whom the awards are made will be required to furnish surety company bond in the sum of fifty per cent (50%) of the amount of contract and in accordance with the terms of Specifications Nos. 2492, 2585, 2502, 2503, 2533, 2586, 2515, 2516, 2514 and 2587. The right is reserved to reject any or all bids. Drawings and specifications may be consulted at Letchworth Village, Thiells, N. Y.; at the Office of the Secretary, Mr. F. B. Kirkbride, 7 Wall Street, New York City; at the New York Office of the Department of Architecture, Room 1224, Woolworth Building; and at the Department of Architecture, Capitol, Albany, N. Y. Drawings and specifications and blank form of proposal may be obtained at the Department of Architecture, Capitol, Albany, N. Y., upon reasonable notice to and in the discretion of the State Architect, LEWIS F. PILCHER, Capitol, Albany, N. Y.

Dated September 15, 1916.

Bids open October 10, 1916.

NOTICE TO CONTRACTORS

STATE OF MARYLAND, STATE ROADS COMMISSION

BALTIMORE, MD.

Sealed proposals for building the following:

Contract No. BC-26—Baltimore City: One section of Pennsylvania Avenue from North Avenue to Fulton Avenue, about 0.29 miles in length. (Sheet asphalt.)

Contract No. BC-27—Baltimore City: One section of Hilton Street from Wesley Street to Frederick Road, about 0.66 miles in length. (Sheet asphalt.)

will be received by the State Roads Commission, at its offices, 601 Garrett Building, Baltimore, Maryland, until 12 M. on the 10th day of October, 1916, at which time and place they will be publicly opened and read.

Bids must be made upon the blank form contained in the book of specifications. Specifications and plans will be furnished by the Commission upon application and cash payment of $1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check for the sum of Five Hundred ($500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond, and comply with the Acts of the General Assembly of Maryland respecting contracts.

The Commission reserves the right to reject any and all bids.

By order of the State Roads Commission this 18th day of September, 1916.

FRANK H. ZOUCK, Chairman.
CLYDE H. WILSON, Secretary.

Bids open December 6, 1916.

NOTICE INVITING PROPOSALS FOR

ELIMINATION OF GRADE CROSSINGS

CITY OF PORTLAND, ORE.

Sealed proposals will be received by the Council of the City of Portland, Oregon, in the office of the Auditor of said City until 10 o'clock a. m., December 6, 1916, for the performance of all work and the furnishing of all materials, tools and appliances necessary or required for the elimination of grade crossings of the railroad of the Oregon-Washington Railroad & Navigation Company across Sandy Boulevard, East Forty-seventh Street, East Fifty-second Street, East Fifty-third Street, East Fifty-fifth Street, East Sixtieth Street, Halsey Street (Barr Road), East Seventy-fourth Street and East Eighty-second Street in the City of Portland by the construction of all viaducts, viaduct approaches and other structures, and the performance of all other work required by and in full compliance with Ordinance No. 32,094 of the City of Portland and the plans and specifications prepared by the City Engineer, as approved and adopted by said Ordinance.

The said plans, specifications and estimates are on file in the office of the Auditor of the City of Portland and copies thereof with list of approximate quantities, instructions to bidders, and form of proposal or bid may be obtained by making application to the Auditor accompanied by a payment of $15.00 for each set of plans and specifications desired, and thereupon such plans and specifications shall become the property of the person or corporation making such payment. A copy of the plans and specifications will also be on file, for reference and inspection in the office of The Engineering News, 10th Avenue at 36th Street, and The Engineering Record, 239 West 39th Street, New York City, New York.

No proposal will be considered unless accompanied by a check payable to the order of the Mayor of the City of Portland, certified by a responsible bank in the City of Portland, Oregon, for an amount equal to ten per cent of the aggregate amount of the bid, to be forfeited as fixed and liquidated damages in case the bidder neglects or fails to furnish the required bond and execute a contract within ten days after receiving notice of the award of the contract to him.

Bids shall be opened by the Council at 10.00 o'clock a. m. on December 6, 1916. The Council reserves the right to reject any or all bids.

A. L. BARBUR,
Auditor of the City of Portland.

Bids open October 31, 1916.

DRAINAGE CANAL

TALLAHASSEE, FLA.

Sealed proposals will be received by the Board of Commissioners of Everglades Drainage District at the office of the Board, until 10 A. M. October 31, 1916, and then opened and publicly read, for the construction of a canal nineteen miles long, extending northwest from Lake Okeechobee in the Everglades Drainage District, requiring the removal of approximately 1,600,000 cubic yards of material.

The Board reserves the right to reject any or all bids.

Information on application.

F. C. ELLIOT,
Chief Drainage Engineer.

Tallahassee, Fla., September 20, 1916.

Bids open October 17, 1916.

NOTICE TO BRIDGE CONTRACTORS

CLERK'S OFFICE, COUNTY COURT, WETZEL COUNTY, NEW MARTINSVILLE, WEST VIRGINIA.

Sealed proposals will be received at this office until 12 noon, Tuesday, October 17th, 1916, for the construction of the following bridges:

No. 1. Earnshaw, over Long Drain at mouth of Teagarden Fork, Church District.

No. 2. Paden Fork, near Wright Farm, Magnolia District.

No. 3. Over South Fork of Fishing Creek, near Hood's Store at Folsom, Grant District.

No. 4. Over Brown's Run, Hundred-Burton road, Clay District.

No. 5. Over North Fork of Fishing Creek, near Mobley, Grant District.

No. 6. Over Rush Run, near Wileyville, Center District.

No. 7. Earnshaw, at Sta. 15+54, Church District.

No. 8. Burton road, Sta. 117.

No. 9. Burton road, Sta. 97.

No. 10. Wadestown road, Sta. 52.

No. 11. Wadestown road, Sta. 59.

No. 12. Rock Camp road, Sta. 101.

Plans and specifications may be seen at this office, or at the office of State Road Bureau, Morgantown, W. Va.

Copy of blue print may be had for cost.

A certified check for 5 per cent of the proposal, made payable to the County of Wetzel, shall be filed with each bid. Should the successful bidder fail to execute contract and bond within ten days after acceptance of his proposal, the deposit shall be forfeited to the County in liquidation of damages.

All proposals must be in form shown in specifications.

The Court reserves the right to reject any and all bids.

S. MYERS,
Clerk.

September 9, 1916.

Bids open October 3, 1916.

BIDS FOR PAVING AND CURBING SOUTH FULLERTON AVENUE

MONTCLAIR, N. J.

Sealed bids will be received by the Town Clerk for the construction of a pavement and curb on South Fullerton Avenue, from Bloomfield Avenue to Gates Avenue, a total distance of twenty-seven hundred (2700′) lineal feet, more or less. Bids will be received for paving with amiesite, warrenite, sheet asphalt, asphaltic concrete (Topeka) and asphalt block. The above work is to be done, together with any incidental work in connection therewith, all in accordance with the contract, plans and specifications therfor, on file in the office of Edgar S. Closson, Town Engineer, and there to be seen.

Each bidder will be required to use the form of bid on file in the office of the Town Engineer and all bids not made on such form will be rejected.

Each bid must be accompanied by a forfeit of $2,500, to insure the signing of the contract and bond by the successful bidder within two (2) weeks after the award shall have been made.

All bids must be in by Tuesday, October 3, 1916, at 8 p. m., at which time the Board of Commissioners will meet in the Municipal Building to consider the same.

The Board of Commissioners reserves the right to reject all bids or to award the contract to the lowest bidder or bidders who furnish satisfactory evidence of their ability to carry out the contract as regards time, quality of work to be done and materials to be furnished.

By order of the Board of Commissioners.

HARRY TRIPPETT,
Town Clerk.

Prices of Clay Products and Cement Stiffen Somewhat as Steel Advance Continues

Present Wealth of Country Creates Opportunity to Sell Bonds and Hold Funds for Lower Material Market — What Contractors Who Make Money May Do with It Under Existing Conditions

THE UNPARALLELED increase in money in circulation in the United States was pointed out by this journal last week. The stock of gold in this country has been increased in two years by $675,000,000. Large sums continue to be sent us at every sign of stiffening interest rates. As a result, though our huge balance of trade is said to have bought back for us during the past year foreign-held bonds worth $1,000,000,000 and stocks valued at $320,000,000, bonds are still selling at rates which give low interest yields, and stocks are showing great activity at a slightly higher level than even that of last January. When the war ends it is safe to assume that our present balance of trade can hardly be maintained, even allowing for successes in the field of foreign commerce surpassing anything we were able to accomplish before the war. We are accumulating an undue share of the world's gold. Some of this accumulation is bound to flow back with a return of normal conditions; and when it does, interest rates can no longer be held down, and bond yields will have to be very attractive to tempt investors.

The present time is a seller's era. It is sure to be succeeded by a period more favorable to the buyer. Common sense points out that those who have things to sell should dispose of them now, and those who wish to buy should accumulate funds to take advantage of the inevitable reaction in prices. How does this apply to engineering construction?

In the first place, those who finance such construction should now be raising funds by selling securities in the favorable market. The money should be held until the present activity is over and prices fall, when it can be invested in construction at a saving which would much more than offset the present loss in interest payments. Even this loss can be reduced by lending the money on short-time notes for the immediate future. The construction carried out in this way will be ready to begin producing at the beginning of the recovery succeeding the next reaction. Such a policy should appeal to the engineering advisers of all corporations, government bodies and others in a position to adopt it. Many concerns that are making large profits at the present time can accumulate a cash reserve from this source alone sufficient to put them in a strong position for the next decline and to enable them to do their building when prices are down.

Contractors who are making money at present will be wise to keep it in a liquid form. Plant must be bought for use on contracts in hand, and in many cases high prices must be paid for it, but no careful man will consider at present loading up with much equipment for which he has no immediate use. On the other hand, supply houses and those who have new or old equipment for sale should make the most of existing conditions, which are favorable to the seller. While construction work is greatly hampered in this country and Canada by the severe shortage of labor and by the difficulty of securing steel even for concrete reinforcing, there is nevertheless a great deal of work in hand. Also the machinery demand is out of proportion to the volume of work because of the scarcity of labor.

In short, those who contemplate further immediate manufacturing extensions should have definite sales in view, and those who contemplate future construction work should be providing their funds now. Contractors will be wise to accumulate all the cash they can, and to arrange to convert in the present market any bonds they may take in payment for work, unless it is desirable to hold such bonds until after the next dull period.

Iron and Steel

The shortage of freight cars is beginning to have an effect on deliveries of steel products. According to the *Iron Age*, railroad equipment orders are broadening, and if plates could be secured, even more car building would be undertaken. Also, the foreign demand for steel products other than war supplies is showing a revival which is gratifying to the steel trade. Many grades of pig iron have advanced during the past month, and prices of finished steel products are stiffening as immediate deliveries become still more difficult to secure. Iron reinforcing bars have advanced, and while steel bars have not advanced, it is next to impossible to secure early deliveries on them. In consequence, high-carbon bars, in most cases rolled from old rails, are being used for reinforcing to a considerable extent.

Pig Iron—Prices per gross ton at several points have recently been quoted as follows:

No. 2x, Philadelphia	$19.95
No. 2, Birmingham	15.00
No. 2 furnace, Chicago	18.50
Basic, Pittsburgh	19.50

Steel Products—Prices of certain steel products per 100 lb. f.o.b. the points named are given below:

	Immediate delivery	Future delivery	Warehouse
Pittsburgh:			
Structural material	$2.95	$2.70	$3.35
Plates	3.50	3.00	...
Steel bars	2.75	2.60	**3.35**
Iron bars	2.50	2.50	3.25
Rivets	...	4.00	...
New York:			
Structural material	2.92	**2.87**	3.35
Plates	3.67	**3.17**	**4.00**
Steel bars	...	2.77	3.25
Iron bars	...	2.67	3.35
Chicago:			
Structural material	2.94	**2.89**	...
Plates	3.69	3.19	3.75
Steel bars	...	2.79	3.25
Iron bars	...	2.69	3.25
Rivets	...	4.00	...

Sheets.—Both galvanized and black sheets have advanced during the month. Prices for No. 28 gage sheets, f.o.b. the points named, are given below:

	Black	Galvanized
Pittsburgh	**$3.00**	**$4.25**
Chicago	**3.19**	**4.39**

Rails.—The price per ton for standard section rails, f.o.b. the points named, is given below:

	Open hearth	Bessemer
Pittsburgh	$35.00	$33.00
Chicago	35.00	33.00

Cast-Iron Pipe.—Cast-iron pipe has advanced again during the month, though recently lettings have not been large. Prices per ton, f.o.b. the points named, were recently quoted as follows:

	Class A and gas pipe	Class B and heavier
New York	**$32.50**	**$31.50**
Chicago	**32.50**	**31.50**
Birmingham	27.00	26.00

Wrought Pipe.—Black pipe has advanced during the month $4 per ton, while galvanized remains unchanged. Prices in carload lots per ton, f.o.b. Pittsburgh, for 2½ to 6-in. lap-welded pipe, plain ends, are given below:

	Black	Galvanized
Steel pipe	**$68.00**	$93.00
Iron pipe	**90.00**	116.00

Concrete Materials

Cement.—As may be seen from the table below, cement prices have advanced at several points throughout the country over those quoted in these columns Sept. 2. The prices given below are per barrel in large lots to contractors without containers, f.o.b. the points named:

Boston	$1.75	Memphis	$1.74
New York	1.32	Duluth	1.66
Pittsburgh	1.41	St. Paul	1.73
Cleveland	1.54	Cedar Rapids	**1.69**
Cincinnati	1.70	Kansas City	1.52
Detroit	1.55	Houston	1.65
Chicago	1.46	Denver	**2.54**
Atlanta	1.64	Salt Lake City	2.70
Jacksonville	1.60	Phoenix	2.85
New Orleans	**1.90**	Seattle	*2.00*
		Los Angeles	2.00

Sand.—Prices of sand per cubic yard to contractors remain substantially unchanged at the points quoted:

Boston	$0.65	Kansas City	$0.60
New York	.50	Houston	1.00
Pittsburgh	*.73	Denver	.85
Cincinnati	*.70	Salt Lake City	.70
Chicago	1.05	Phoenix	1.00
New Orleans	1.05	Seattle	*.40*
St. Paul	1.00	Los Angeles	.35

*Per ton.

Gravel and Crushed Rock.—Prices in large lots per cubic yard to contractors, f.o.b. the points named, are given below:

	Gravel		Crushed rock	
	1½ in.	¾-in.	1½-in.	¾-in.
Boston	$1.44	$1.54	$1.60	$1.75
New York	1.00	1.10	1.00	1.15
*Pittsburgh	.39	.39	1.26	1.34
Cincinnati	*.70	*.70	.85	.85
Chicago	1.05	1.05	.85	.85
New Orleans	1.05	1.50	2.00	2.00
St. Paul	1.00	1.00	1.45	1.45
Kansas City	2.00	2.25	1.25	1.35
Houston	1.75	1.85	1.75	1.85
Denver	1.25	1.25	1.25	1.25
Salt Lake City	.70	.70	.70	.70
Phoenix	1.50	2.00	1.75	1.75
Seattle	.50	.40	**1.50**	1.50
Los Angeles	.85	.85	.95	1.00

*Per ton.

Brick and Paving Materials

Brick.—Prices in brick show slight fluctuations. Although it is thought that the demand in the East is small, production, especially in the New York district, has been considerably reduced by the shortage of labor. One manufacturer recently withdrew from the open market because of his inability to secure sufficient labor to supply contracts already closed. Prices recently quoted per 1000, wholesale, f.o.b. the points named, are as follows:

	Common	Paving
Boston	$11.50	$20.00
New York	7.25	..
Pittsburgh	8.00	8.50
Cincinnati	..	21.00
Chicago	7.00	..
New Orleans	7.40	30.00
St. Paul	**7.90**	20.40
Kansas City	7.25	20.00
Houston	10.00	26.00
Denver	*7.00*	12.00
Salt Lake City	8.00	..
Phoenix	8.00	..
Seattle	**7.50**	*28.75*
Los Angeles	*6.50*	..

Stone and Wood Paving Blocks.—Prices on paving blocks show little variation from last month. Those quoted in large lots to contractors, f.o.b. the points named, are as follows:

	Standard stone blocks	4-in. wood blocks
Boston, per sq. yd.	$2.45	$2.04
New York, per sq. yd.	2.15	2.00
Pittsburgh, selected per 1000	95.00	65.00
Cincinnati, per 1000	70.00	..
New Orleans, per sq. yd.	1.35	1.41
St. Paul, per sq. yd.	*1.75*	*1.47*
Kansas City, per sq. yd.	2.00	1.58
Denver, per sq. yd.	..	1.86
Seattle, per sq. yd.	..	**1.45**

Asphalt.—The prices for asphalt given below are per ton, wholesale, f.o.b. the points named:

	Kind	Price per ton
Boston	Trinidad	$21.00
Pittsburgh	Aztec	18.84
Cincinnati	Trinidad	20.50
New Orleans	Texaco	20.00
St. Paul	Sheet	20.90
Kansas City	Trinidad	21.50
Denver	Trinidad	40.00
Salt Lake City	Sheet	36.00
Seattle		**13.50**
Los Angeles		10.00

Lumber

Although lack of transportation and strikes have hampered the lumber industry on the Pacific Coast and base prices in this section have receded somewhat, the lumber industry as a whole is thought to be in a much stronger position than last year at this time. For the year ended Aug.

Prices advanced over those quoted last month printed in **bold faced** type; those that have declined, in *italics*.

31 last the total shipments of soft woods, which include almost all structural timber, exceeded the total cut by 1.3 per cent, although production is running 12 to 14 per cent ahead of that for last year.

Yellow Pine.—Wholesale prices per 1000 ft. b.m., f.o.b. the points named, have recently been quoted as follows:

	1 x 10 Rough	2 x 10 D. & M.	8 x 8 20	12 x 12 20
Boston	$35.00	$33.00	$32.00	$35.00
New York	22.50	**24.00**	30.00	35.00
Pittsburgh	38.00	45.00	....	....
Chicago	23.00	20.00	23.50	27.00
New Orleans	26.00	25.00	28.00	28.00
St. Paul	*25.00*	*25.25*	*26.85*	*24.85*
Kansas City	33.25	20.50	28.25	31.25
Houston	*18.00*	*20.00*	*18.00*	*22.00*

Fir.—Wholesale prices per 1000 ft. b.m. were quoted recently, f.o.b. the points named, as follows:

	1 x 10 Rough	2 x 10 D. & M.	8 x 8 20	12 x 12 20
Boston	$46.50	$33.00	$35.00	$42.00
Pittsburgh	38.00	40.00	....	....
Chicago	....	....	30.25	30.25
St. Paul	*23.25*	*21.25*	25.00	*25.00*
Kansas City	26.00	....	26.00	27.00
Denver	19.50	20.00	22.00	23.00
Salt Lake City	23.50	....	19.25	23.50
Phoenix	38.00	38.00	34.00	34.00
*Seattle	*14.00*	*14.00*	*14.00*	*14.00*
*Los Angeles	21.00	21.00	21.00	21.00

*Base price.

Spruce and Hemlock.—Recent prices, wholesale, per 1000 ft. b.m., f.o.b. the points named, are as follows:

	Hemlock 1 x 10 Rough	Hemlock 8 x 8 20	Spruce 8 x 8 20
Boston	$26.00	....	$30.00
Pittsburgh	30.00	....	....
Chicago	*19.00*	$21.00	....
St. Paul	*22.50*	**24.85**	*25.00*
Kansas City	26.00	26.00	....
Denver	19.50	23.00	20.00
Salt Lake City	23.00	....	....
*Seattle	14.00	14.00	14.00
*Los Angeles	20.00	20.00	....

*Base price.

Sewer Pipe and Tile

Sewer Pipe.—Advances over the prices quoted last month are noted at New York, St. Paul and Houston. The prices given below are in large lots to contractors, per linear foot, f.o.b the points named:

	3-in.	5-in.	8-in.	12-in.	24-in.	36-in.
Boston	$0.0810	$0.1215	$0.1890	$0.3645	$1.2150	$3.075
New York	**.078**	**.117**	**.182**	**.351**	**1.17**	**2.972**
*Pittsburgh	79	79	79	79	79	55
Cincinnati	.0625	.10	.1375	.25	1.04	....
Chicago	.0625	.10	.1375	.30	1.1375	3.50
New Orleans	.04	.0625	.156	.221	.845	3.50
St. Paul	**.07**	**.09**	**.14**	**.295**	**.88**	2.33
Kansas City	.0412	.0687	.135	.2437	.9375	2.85
Houston	**.0562**	**.0937**	**.1875**	.355	1.30	3.70
Denver	.06	.12	.17	.2875	1.05	1.85
Salt Lake City	.08	.135	.2025	.3375	1.125	....
Phoenix	.075	.125	.225	.375	1.25	3.00
Seattle	.075	....	.225	*.4125*	1.75	....
Los Angeles	.055	.09	.16	.265	1.00	....

*Discount from list price.

Hollow Building Tile.—Prices per 1000, in large lots to contractors, f.o.b. the points named:

	4x12x12	8x12x12	12x12x12
Boston	$95.00	$150.00	$175.00
Perth Amboy	**70.00**	**117.00**	**175.00**
Cincinnati	65.00	85.00	110.00
Chicago	**54.00**	**101.25**	**140.00**
New Orleans	77.50	137.50	170.00
St. Paul	48.00	**81.00**	*115.00*
Kansas City	46.75	90.00	126.00
Houston	70.00	**115.00**	....
Denver	60.00	90.00	130.00
Salt Lake City	60.00	95.00	135.00
Phoenix	100.00	**175.00**	....
Los Angeles	40.00	75.00	....
Seattle	**54.50**	**100.00**	**170.00**

Miscellaneous

Oil.—Prices per barrel of 50 gal., to contractors, at the points named, have recently been quoted as follows:

	Fuel	Black	Red Engine	Steam Cylinder	Gasoline
Boston	$4.50	$6.50	$6.25	$18.75	$11.50
New York	...	7.50	6.25	17.50	*11.00*
Pittsburgh	3.50	6.25	9.00	20.00	10.75
Cincinnati	4.25	4.75	9.00	14.00	11.00
Chicago	1.61	4.40	*8.50*	16.50	*8.25*
New Orleans	3.50	5.50	10.50	16.50	9.25
St. Paul	4.25	3.75	11.00	....	*8.75*
Kansas City	8.30	3.85	8.85	16.35	7.90
Houston	4.10	4.50	9.00	18.00	9.00
Denver	5.25	8.00	15.25	22.00	10.50
Salt Lake City	....	8.00	13.00	20.00	12.50
Phoenix	**1.80**	8.50	11.50	20.00	*12.00*
Seattle	**1.50**	**4.00**	10.00	**21.50**	*9.75*
Los Angeles	1.10	6.75	9.25	19.00	**9.00**

Manila Rope.—Price per pound, full coils, ¾, 1 and 1½-in. rope, local delivery at points named:

Boston	$0.20	Kansas City	$0.1975
New York	**.20**	Houston	.195
Pittsburgh	.17	Denver	.23
Cincinnati	.22	Salt Lake City	.225
Chicago	.185	Phoenix	**.28**
New Orleans	.19	Seattle	.19
St. Paul	***.205**	Los Angeles	*.175*

*1½-in. only.

Dynamite.—Prices per 100 lb. to contractors at the points named have recently been quoted as follows:

	20 per cent low freezing	40 per cent gelatine	60 per cent gelatine	80 per cent gelatine
Boston	$18.00	$23.75	$28.75	$32.50
New York	....	22.00	27.00	....
Pittsburgh	17.75	17.50	22.50	28.25
Cincinnati	14.75	16.75	19.25	29.50
Chicago	13.50	18.75	22.75	28.25
New Orleans	16.25	18.25	20.75	....
St. Paul	**17.00**	**20.78**	**25.75**	29.50
Kansas City	15.00	20.75	25.75	29.75
Houston	....	19.00	21.50	....
Denver	14.00	19.75	24.75	28.75
Salt Lake City	12.25	17.50	21.50	27.00
Phoenix	....	27.00	....	....
Seattle	10.00	*13.50*	*16.00*	....
Los Angeles	17.00	25.00	30.00	....

Copper.—The copper market continues strong and it is estimated that fully half the producing capacity for the first six months of 1917 has already been sold. Exports during September amounted to almost 30,000 tons. Electrolytic, spot, New York, sold recently at 28¾ to 29¼ cents per pound to large buyers. Producers are selling for delivery in the first quarter of next year at 27 to 27¼ cents per pound.

Lead.—Lead has risen in price during the month to 7.25 cents per pound, New York, for spot, in large lots. The corresponding East St. Louis price is 7.1 cents per pound.

Prices advanced over those quoted last month printed in **bold faced** type; those that have declined, in *italics*.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Derby, Conn.—City and New York, New Haven & Hartford R. R. Co. approved the construction of Water St. sewerage system. Address City Clerk.

Canton, N. Y.—In a report submitted to Water Bd., Chas. Perry of Albany estimates cost of supply of water secured from springs south of village at $181,000 for gravity system and $157,000 for gravity pumping system.

Dover, N. J.—City desires correspondence with hydraulic engineers to submit report on the value of two water sheds. Additional water supply contemplated. Edward Kelly, water comr.

Paterson, N. J.—Bd. of Public Wks. voted to construct sewers in Lily, Grove, East Twenty-third, East Thirty-seventh and East Thirty-eighth Sts. and Hamburg and Michigan Aves.

South Bound Brook, N. J.—Construction of lateral sewers in three streets contemplated. Peter Merlett, boro clk.

Beaver Falls, Pa.—Construction of sewage disposal plant contemplated. Address boro clk.

Clarion, Pa.—Chester & Fleming, Union Bank Bldg., Pittsburgh, engaged to prepare plans for sewerage system. Address Borough Clerk.

Donora, Pa.—City Council voted to construct sanitary sewers in McRae Ave. and Modisetta Ave.

Erie, Pa.—Intercepting sewage system and disposal plant is to be constructed. W. D. Kinney, street dir.

Nescopeck, Pa.—Boyd M. Trescott, Millville, is engineer for proposed waterworks. Election will probably be held first of year to vote on proposition; cost about $32,000. R. E. Moorhead, boro. engr.

Portage, Pa.—Extension of sewer system, to cost $25,000, contemplated. Address city clk.

Spartanburg, S. C.—City Engineer making preliminary surveys for extending sewerage system to several sections of city.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Arcadia, Fla.—Citizens voted following bond issues: $21,000 sanitary sewers, $19,000 waterworks extensions. Address city clk.

Birmingham, Ala.—City Comn. adopted ordinance to construct storm sewers in West End; cost, $25,000. Julian Kendrick, city engr.

Rogersville, Tenn.—Bonds for $25,000 for water system will be sold Oct. 10 by W. B. Hale, village recorder.

Lexington, Ky.—Plans and specifications adopted for constructing Northside storm sewer; cost, about $25,000. Address city clk.

Lorain, Ohio.—City Council voted to construct sanitary sewers on West Twentieth and West Twenty-third Sts. and storm sewers on Charleston, Tacoma, Denver Aves. and "C" St.

Philip Burgess, Columbus Savings & Trust Bldg., Columbus, and Morris Knowles, Oliver Bldg., Pittsburgh, Pa., in report to City Council recommend improvements to waterworks; estimated cost, $108,000.

Salem, Ohio.—City Council directed City Engr. and Service Dir. to estimate cost of enlarging and reconstructing, if necessary, settling tanks; also cost per bed for cleaning out and refilling with sand and gravel.

Argos, Ind.—Installation of 2500 ft. 4-ft. and 1000 ft. 2-ft. pipe line contemplated. C. E. Vandorn, supt. waterworks.

Holland, Mich.—Plans and specifications prepared for construction of 1,000,000-gal. reservoir 95 x 95 ft. and 15 ft. deep, for purposes in connection with present standpipe. Gardiner S. Williams, engr., Ann Arbor.

Otsego, Mich.—Citizens voted $30,000 bonds for improving and extending waterworks. Address city clk.

Elgin, Ill.—City contemplates extensions to sewer system next spring; cost about $20,000. M. H. Brightman, city engr.

Gaylord, Ill.—Citizens voted $15,000 bonds for extending water system. Address city clk.

Wauwatosa, Wis.—All bids opened Sept. 16 for laying water main on 7th Ave. considered too high. Further action will be taken next spring. Address City Clerk.

Sioux City, Iowa.—Paul D. Cook, 518 United Bank Bldg., is engineer for proposed waterworks for North Riverside section. Phil. Carlin, supt. waterworks.

Minneapolis, Minn.—Surveys being prepared for laying 30,000 ft. of 60-in. distribution mains in 1917. J. J. Jensen, superv. of waterworks.

Fargo, N. D.—Contract about to be let for constructing sewers; cost about $300,000. Frank Anders, city engr.

Texas.—Santa Fe RR. Co. (F. Merritt, ch. engr., Galveston) considering constructing water storage reservoirs and pumping plants at Brownwood, 300,000,000 gal. capacity, and at Sweetwater, 290,450,000 gal. capacity.

Leavenworth, Wash.—Reported city is having surveys and estimates of cost prepared for constructing proposed auxiliary water system. Address city clk.

Seattle, Wash.—Surveys are being made by A. H. Dimock, city engr. for constructing first unit of $3,000,000 extension to municipal waterworks, first unit to be addition to Volunteer Park reservoir, of reinforced concrete construction, 512 x 480 ft., capacity 50,000,000 gals.; cost $190,000 to $200,000. Contract to be let about Dec. 1. L. B. Youngs, supt. waterworks.

Vancouver, Wash. — Clark County Comrs. granted North Coast Power Co., Vancouver, franchise for laying 18-in. water main from company's springs at Image to Vancouver; cost about $60,000.

Albany, Ore.—Construction of municipal waterworks contemplated. It is proposed to secure water supply from Roaring Creek and construct pipe line 23 miles long; cost about $226,000. Address City Clerk.

Astoria, Ore.—City Council contemplates constructing sewerage and drainage system in Dist. No. 2, to consist of 12-in. sewer and drain in Twenty-ninth St. and 10-in. sewer and drain in Harriso Ave., to be salt glazed vitr. sewer pipe with "Y" connections and manholes, outlets, etc.

Condon, Ore.—Reported Balfour-Guthrie Cement Co. plans installing reservoir and pipe line at artesian well.

McMinnville, Ore.—Election will be held Nov. 7 to vote $90,000 bonds for water system. Address city clk.

Alhambra, Cal.—City contemplates acquiring or constructing waterworks, also constructing sewage disposal works. Bonds sold Oct. 2, $324,000 water and $13,000 for sewage disposal works. Address city clerk.

Coalinga, Cal.—Plans and specifications being prepared by F. G. Dessery, Los Angeles, for municipal waterworks. He is also estimating value of present system of Pleasant Valley Water Co., which supplies Coalinga.

Lordsburg, Cal.—Claremont Co-operative Water Co. (E. W. Browning, mgr.) will construct reservoir.

Ogden, Utah.—Proposes constructing reservoir and masonry dam; diverting channel will be 65,000 ft. long, 36 in. diameter, to increase water supply. Jos. M. Tracy, city engr.

Pocatello, Idaho.—About $50,000 is to be spent for following improvements: 4-in. line on Lincoln Ave. from Bonneville to Hayden St., 6-in. pipe line on Seventh and Hayden Sts., 4-in. main from Lovejoy to Halliday Sts.; $300,000 bonds recently voted will be sold next spring.

Guelph, Ont.—City Engineer in a report to City Council estimates cost of repairing water mains at $75,000. Wooden pipe with steel bands and asphalt coating is recommended.

BIDS DESIRED.

Long Island City, N. Y.—Until Oct. 10, by William Williams, Comr. Water Supply, Gas and Electricity, Municipal Bldg., New York, for laying water mains in Borough Queens, as follows: Section 1, 10 streets in First Ward, including Flushing Ave. and Franklin St., security $25,000; Section 2, 18 streets in Third Ward, including Jamaica Road and Bayside Ave., security $12,000.

New York, N. Y.—Until Oct. 9, by Marcus M. Marks, pres. Manhattan Boro, for alterations and improvements to sewer in W. Forty-third St., 850 lin. ft. 3 ft. 6 in. x 2 ft. 4 in. brick sewer, 30,000 ft. timber, and 470 cu. yd. rock excav., class A and B, etc. Security $8,500.

Fairview, N. J.—James Lyons, Boro. Clk., will sell Oct. 23 58.253 tons 20-in. and 3.528 tons 8-in. c.i. pipe, advertised in this issue. For further information apply to McClave & McClave, Engrs., telephone 105 Cliffside, N. J.

Harrisburg, Pa.—Until Oct. 12 by W. H. Lynch, supt. pub. improv., Court House, for laying terra cotta pipe sewers in 12 streets. M. B. Cowden, city engr.

Philipsburg, Pa.—Until Oct. 23, by Citizens' Water Co., at the office of Morris Knowles, 2541 Oliver Building, Pittsburgh, for constructing a dam and impounding reservoir near Philipsburg, advertised in this issue.

Richmond, Va.—Until Oct. 11, at office of Administration Bd., room 305, City Hall, for one electrically operated centrifugal pump of 5,000,000 gal. capacity for water boosting service; also one 150-hp. alternating-current induction-type, three-phase wound rotor motor for operation on 60 cycle 3600-volt circuit. J. W. Trafford, city electrician.

South Jacksonville, Fla.—Until Oct. 18, by Bd. Bond Trus. (E. C. Broward, chmn.) for improvement to water and light plant to consist of foundation and erection of a Unaflow type engine for direct connection to 175 k.v.a. generator, f.o.b.

Cleveland, Ohio.—Until Oct. 14, by Co. Comrs. (E. G. Krause, clk.), for constructing sewers in West Twenty-fifth, West Twenty-eighth Sts., and Church, and Vermont Aves., and other streets. W. A. Stinchcomb, co. surv.

Hamilton, O.—Reported desired until Oct. 12, by H. R. Garver, Dir. Pub. Service, for 500 water meters.

Tiffin, O.—Reported desired until Oct. 12, by George W. Hoffman, City Clk., for River Heights sewer addition, 2½ miles 15 to 22-in. tile brick segment block and 30 brick manholes.

Indianapolis, Ind.—Until Oct. 27 by The City for constructing circular brick or segmental block sewer in E. 30th St., including 1645 ft. 5 ft. 9 in., 1675 ft. 5 ft., 665 ft. 4 ft. 6 in., 2005 ft. 4 ft. and 1335 ft. 3 ft.; estimate cost $67,000. B. J. F. Jeup, city Clk.

Flint, Mich.—Until Oct. 17, by Bd. Water Comrs., for excavating of purification works, advertised in this issue.

Evanston, Ill.—Until Oct. 13 by Comm. Pub. Wks. for about 12,500 12 to 60 in. pipe sewers advertised in this issue.

Panora, Ia.—Until Oct 10 (readvertisement) for constructing sewer system, cost about $23,000. Bruce & Standevan, Engrs., Omaha, Neb.

Minneapolis, Minn.—Until Oct. 23, by K. E. Alexander, City Purchasing Agent, for one 30,000,000-gal. electric motor driven centrifugal pump for Water Wks. Dept.

Garden City, Kan.—Until Oct. 13, for constructing 52,400 ft. 8 to 18 in. pipe sewer. Cost about $50,000. Ruckle Engineering Co., engrs., Hutchinson. J. F. Crocker, city clk.

Kirksville, Mo.—Reported desired until Oct. 13, by S. R. Reelhorn, clk. bd. educ., for constructing sewerage system and sewage disposal plant.

St. Louis, Mo.—Reported desired until Oct. 10, by E. R. Kinsley, pres. bd. pub. service, 315 City Hall Bldg., for constructing sewers in Manchester Rd. Sewer Dist. No. 5, Glase Creek Sewer Dist. No. 13, and Baden Sewer Dist. No. 3.

Temple, Tex.—Reported desired until Oct. 15, for constructing reinforced concrete reservoir 225 x 220 ft., 4,000,000 gal. capacity. Address city secy.

Pocatello, Idaho.—Until Oct. 17, by City Clerk, for 25,000 ft. 12-in. wood stave pipe line from Pocatello to Bibson Creek, advertised in this issue. E. S. Anderson, Engr., Pocatello.

Panama.—Until Oct. 30, by Maj. Earl I. Brown, general purchasing officer the Panama Canal, Washington, D. C., for Cir. No. 1085, water turbine driven exciters, induction motor driven pumps, traveling crane, etc.

Until Oct. 14, for Cir. No. 1083, steel channels, cast-iron pipe, etc.; also until Oct. 19, Cir. No. 1086, motor-driven centrifugal pumps, etc.

PRICES AND LETTINGS.

★Indicates award of contract.

★Boston, Mass.—Following are three bids opened Sept. 27 by Metropolitan Water & Sewerage Bd. for Sect. 102 of high level sewer, Wellesley extension, Needham: Bruno & Petitti, 18 Tremont St., $62,042 (awarded contract); Michael Meehan, Jamaica Plain, $66,293; Geo. M. Bryne, Pine St., Winchester, $75,530.

Lowest bid opened by Boston Transit Comn. for constructing concrete sewer on pile foundation in Summer St. submitted by Jas. J. Couglan Co., 27 School St., at $14,528.

★Watervliet, N. Y.—Following are totals of bids opened by city Sept. 25 for completing water system: Fidelity Casualty Co., 92 Liberty St., New York, $45,061 (awarded contract); H. K. Corbin Co., 30 Church St., New York, $63,451; Peter Keeler Bldg. Co., 468 Orange St., Albany, $65,341, and Beaver Engineering & Constr. Co., 51 Chambers St., New York, $80,889. Solomon, Norcross & Keis, engrs., Watervliet.

★Edgewater, N. J.—City Council awarded contract for constructing sewer outlet No. 11 to John J. McGarry, Edgewater, at $114,528.

★Steelton, Pa.—Contract for constructing system of storm sewers awarded by Boro Council to Geo. W. Ensign, Inc., Harrisburg, at $64,748, for concrete, brick or vitr. block. J. L. L. Kuhn of Harrisburg submitted bid at $105,239 for reinforced concrete.

★Cleveland, Ohio.—Contract for laying 16, 10, 8 and 6-in. water main in E. 132d St., Kemper and Haddam Roads, N. and S. Moreland Boule. and Cormers Ave., awarded by Bd. of Control (bids opened Sept. 20), to J. Conelly Constr. Co., 520 Leader-News Bldg., at $10,694.

★Dover, Ohio.—Contracts awarded by city for installing at waterworks pumping station horizontal duplex pump to Worthington Pump & Mfg. Co., Cleveland, at $5,000, and centrifugal pump to Hill Pump Co., Anderson, at $2,029.

Ironton, Ohio.—Only bid opened by Director Bd. Public Service Sept. 22 for constructing pumping station, intake tunnel and wells for waterworks system submitted by Hausman & Shumway Co., Portsmouth, at $68,000, and was rejected.

★Portsmouth, Ohio.—Whitaker-Glessner Co. awarded contract to Dravo Contr. Co., Pittsburgh, for constructing reinforced concrete sewer to extend from Spillway to Ohio River; cost about $100,000.

★Shaker Heights (P. O. Cleveland), Ohio.—Contract for constructing storm and sanitary sewers (bids opened Sept. 19) in Eaton Rapids and Courteland Boule., awarded to The Lanese Co., Cleveland. Carl L. Palmer, First National Bank Bldg., Cleveland, village clk.

★Emmetsburg, Iowa.—Contract for constructing 12,650 ft. 10 to 36-in. storm sewers with manholes awarded to Zitterell & Sullivan, Webster City, at $25,230 (bids opened Sept. 26 by T. F. Rutledge, city clk.).

★Hardin, Mont.—Contract for constructing lateral sewer system in Hardin awarded by City Council to Security Bridge Co., Billings, at $34,250.

★Three Forks, Mont.—Contract for constructing sewer awarded by city to Security Bridge Co., Minneapolis, Minn., at $127,449.

STRUCTURAL STEEL WORK

PROPOSED WORK.

Buffalo, N. Y.—Arthur W. Kreinheder, comr., approved plans and specifications for reconstruction of viaducts in Michigan Ave., Hamburgh St., Seneca St. east of Hamburgh St., Seneca St. east of Smith St., Smith St. south of Seneca St., and at intersection of Elk St. and Abbott Rd.; cost, $100,000.

Schenectady, N. Y.—Plans prepared by J. A. Bensel, 111 Bway., New York, for Great Western Gateway bridge over Mohawk river and barge canal, approved; $600,000 available; total cost $1,000,000. Frank Williams, state engr., Albany.

Pennsylvania.—State Water Supply Comn., Harrisburg, has approved following applications:

Comrs. of Fayette County to construct 24-ft. span bridge across Coal Lick Run in South Union Township.

City of Johnstown to construct bridge across Solomon Run, on Jacoby St. and Joy Alley, Seventeenth Ward.

Supervs. of Cerbs Township, McKean County, to construct bridges across Horse Run Creek and Bardon Brook.

Council Bluffs, Iowa.—Droge Elevator Co., 520 Pearl St., considering erecting steel and concrete warehouse adjoining present elevator at Ninth Ave. and Twelfth St.; cost $50,000.

Kansas City, Kan.—L. R. Ash, bridge engr., directed by city comrs. to prepare plans for new structure to replace 7th St. viaduct.

Kansas City, Mo.—Park Board will soon award contract for bridge 700 ft. long in Swope Park, over Blue River, at Seventy-first St. Waddel & Son, engrs., 934 Wyandotte St.; cost $160,000.

Vancouver, Wash.—Comrs. of Lewis and Clarke counties approved plans for joint bridge over North Fork of Lewis River, near Cresaps Ferry; cost, $14,000. W. A. Schwarz, engr. of Clarke County, Vancouver.

You can try many services in the hope of getting the best contracting news or You can read the contracting news section of the Engineering Record and be sure of getting it.

Clifton, Ariz.—Election to be held to vote on issuing $200,000 bonds to construct 2 steel bridges, new city hall, new fire station, drainage ditch and repairing river wall. M. Danenhauer, town clk.

St. John, N. B.—Plans being prepared by F. Neil Brodie, 42 Princess St., for steel and brick theater to be erected for F. G. Spencer, 95 Charlotte St.; cost, $100,000.

BIDS DESIRED.

Newark, N. Y.—Until Oct. 18, by Albert W. Beaven, pres. bd. mgrs. State Custodial Asylum for Feeble Minded Women, for elevated water tank at said institution, advertised in this issue. Lewis F. Pilcher, state archt., Albany.

Jersey City, N. J.—See "Reinforced Concrete."

Philadelphia, Pa.—Until Oct. 28, by Bureau of Yards and Docks, Navy Dept., Washington, D. C., for constructing two 300-ft. steel towers at U. S. Navy Yard, Philadelphia.

Eatonton, Ga.—Until Oct. 17 by County Comrs. (C. B. Alford, Chmn.) for constructing steel bridge over Indian Creek, north of Eatonton.

Cleveland, Ohio.—Until Oct. 13, by Co. Comrs. (E. G. Krause, clk.), for constructing bridge per Report No. 3920.

Illinois.—See "Roads and Paving."

Mitchell, S. D.—Reported desired until Jan. 1, by J. M. Crampton, co. aud., for constructing 18 bridges. Probable cost, $20,000.

Santa Rosa, N. M.—Until Oct. 23, for constructing 2 steel bridges in Guadalupe County, 140 ft. long 16 ft. wide, one across Truchers Creek at Ft. Sumner and one at Delia over Pecos Creek. J. W. Johnson, asst. state engr., Santa Fe.

PRICES AND LETTINGS.

★Indicates award of contract.

★Baltimore, Md.—Contract awarded Dietrich Bros., Pleasant and Davis Sts., for 1200 tons of iron and steel required for Southern Hotel to be erected at German and Light Sts.

★Baltimore, Md.—Contract awarded Dietrich Bros., North St., at $130,000 for 1200 tons structural steel work in New Southern Hotel. Longacre Constr. Co., gen. contr., 22 E. 42nd St., New York City.

★Norfolk, Va.—Contract awarded Laub & Stuart, Pittsburgh, Pa., by Norfolk-Berkley Bridge Corp., for steel bridge from Norfolk to Berkley, 2100 ft. long; cost $350,000.

★Elkin, N. C.—Reported Surry County Comrs. at Dobson and Yadkin County Comrs. at Yadkinville awarded contract to Virginia Bridge & Iron Co., Roanoke, Va., at $7,600 for constructing bridge over Yadkin River between Elkin and Jonesville.

★Corning, Ark.—Contract awarded Vincennes Bridge Co., at $19,000 for bridge across Black river.

★Groveton, Tex.—Contract awarded by Co. Comrs. for steel bridge over Trinity river near Riverside to Midland Bridge Co., Kansas City, Mo., at $30,000.

★Seattle, Wash.—Contract awarded to Minneapolis Steel & Machinery Co., Minneapolis, Minn., for steel bridge over Railroad Ave. at $5,000.

★Tucson, Ariz.—Contract awarded Middleton Constr. Co., Kansas City, for constructing 3 county highway bridges, at $24,760.

★Pitman, N. J.—Following are unit figures of three bids opened Sept. 18 by Borough Council for Item "A" sewer system: (a) Martin Miller & Pizzimenti, Caldwell, $67,498 (awarded contract); (b) John M. Kelley Contr. Co., Camden, $68,719; (c) F. T. Buckins, Jr., Philadelphia, $77,500. Contract for Item "B"—two sewage disposal plants—awarded J. E. Bunting Co., Flushing, L. I., N. Y., at $32,472.

★Unit figures Item "A" Pitman, N. J., sewer system.

	*(a)	(b)	(c)
1,090 ft. 6-in. terra cotta pipe, 0-4 ft. deep	$0.40	$0.46	$0.40
611 ft. 6-in. terra cotta pipe, 4-6 ft. deep	0.45	0.53	0.50
1,129 ft. 8-in. terra cotta pipe, 0-4 ft. deep	0.50	0.56	0.45
16,172 ft. 8-in. terra cotta pipe, 4-6 ft. deep	0.50	0.46	0.50
44,813 ft. 8-in. terra cotta pipe, 6-8 ft. deep	0.55	0.55	0.65
2,338 ft. 8-in. terra cotta pipe, 8-10 ft. deep	0.95	0.83	0.90
799 ft. 8-in. terra cotta pipe, 10-12 ft. deep	1.50	1.22	1.30
465 ft. 8-in. terra cotta pipe, 12-14 ft. deep	2.25	1.53	2.00
591 ft. 8-in. terra cotta pipe, 14-16 ft. deep	3.00	1.68	2.40
1,843 ft. 10-in. terra cotta pipe, 0-4 ft. deep	0.55	0.67	0.80
3,342 ft. 10-in. terra cotta pipe, 4-6 ft. deep	0.65	0.71	1.00
3,297 ft. 10-in. terra cotta pipe, 6-8 ft. deep	0.90	0.80	1.50
730 ft. 10-in. terra cotta pipe, 8-10 ft. deep	1.50	1.00	2.00
174 ft. 10-in. terra cotta pipe, 10-12 ft. deep	2.40	1.19	2.50
625 ft. 12-in. terra cotta pipe, 0-4 ft. deep	0.70	0.78	0.90
75 ft. 12-in. terra cotta pipe, 4-6 ft. deep	0.75	0.86	1.30
605 ft. 12-in. terra cotta pipe, 6-8 ft. deep	0.95	0.80	2.00
683 ft. 15-in. terra cotta pipe, 0-4 ft. deep	0.85	1.26	1.30
863 ft. 15-in. terra cotta pipe, 4-6 ft. deep	0.95	1.37	1.50
240 ft. 15-in. terra cotta pipe, 6-8 ft. deep	1.50	1.54	1.75
145 terra cotta 6 x 5-in. "Y" branches	0.50	0.40	0.25
2,592 terra cotta 8 x 5-in. "Y" branches	0.50	0.55	0.30
220 terra cotta 10 x 5-in. "Y" branches	0.70	0.73	0.50
35 terra cotta 12 x 5-in. "Y" branches	1.40	0.89	0.83
250 ft. deep cut connections	1.00	0.22	0.35
10 ft. 8-in. c.-i. pipe, 6-8 ft. deep (railroad crossing)	5.00	3.43	4.00
74 ft. 8-in. c.-i. pipe, 8-10 ft. deep (railroad crossing)	5.50	4.86	4.00
96 ft. 8-in. c.-i. pipe, 8-10 ft. deep (railroad crossing)	5.00	4.90	4.25
20 ft. 10-in. c.-i. pipe, 10-12 ft. deep (railroad crossing)	5.50	3.58	5.25
80 ft. 10-in. c.-i. pipe, 12-14 ft. deep (railroad crossing)	7.50	5.26	5.25
16 manholes, 0-4 ft. deep	30.00	34.73	30.00
73 manholes, 4-6 ft. deep	30.00	41.61	40.00
96 manholes, 6-8 ft. deep	35.00	48.72	50.00
16 manholes, 8-10 ft. deep	45.00	60.32	60.00
5 manholes, 10-12 ft. deep	55.00	69.04	70.00
1 manhole, 12-14 ft. deep	65.00	77.59	90.00
2 manholes, 14-16 ft. deep	75.00	90.00	110.00
70 ft. drop pipe for drop manholes	1.50	0.78	1.00
18 lampholes	15.00	8.05	12.00
1 flush tank, Type "A-A," 4-6 ft. deep	135.00	149.21	180.00
3 flush tanks, Type "A," 6-8 ft. deep	145.00	195.16	170.00
5 flush tanks, Type "B-B," 5.5 x 6 ft. deep	80.00	106.00	110.00
16 flush tanks, Type "B," 6-8 ft. deep	75.00	109.25	95.00
5 flush tanks, Type "C," 4-6 ft. deep	100.00	105.04	142.00
55,000 ft. trench repaved with gravel	0.04	0.035	0.01
2,000 ft. 8-in. pipe, Class "B," bituminous joints	0.08	0.085	0.10
4,500 ft 10-in. pipe, Class "B," bituminous joints	0.10	0.09	0.12
1,600 ft. 15-in. pipe, Class "B," bituminous joints	0.12	0.15	0.15

Newark, N. J.—Following are unit figures of four lowest bids opened Sept. 21 by Bd. Street and Water Comrs. for constructing steel railroad bridge at Port St. over tracks of Central RR. of New Jersey: (a) Averill Matthews Co., Essex Bldg., $115,362; (b) Holbrook, Cabot & Rollins Corp., 52 Vanderbilt Ave., New York, $115,887; (c) Linde & Griffith Co., Newark, $122,083; (d) O'Gara & Maguire, Newark, $127,537.

	(a)	(b)	(c)	(d)
23,600 lin. ft. untreated S. L. Y. P. piles	$0.39	$0.32	$0.28	$0.45
2,600 cu. yd. concrete in piers	8.53	7.85	9.50	6.84
1,200 cu. yd. concrete casings	12.05	10.00	10.75	13.50
57 tons steel reinforcement	95.00	100.00	90.00	100.00
1,470 sq. yd. wood block paving	2.50	2.65	2.50	3.00
All structural steel	60,100.00	66,000.00	67,750.00	71,500.00
Additions or deductions in steel per ton	110.00	100.00	110.00	120.00
6,600 sq. ft. cement walk	0.05	0.05	0.20	0.20

REINFORCED CONCRETE

PROPOSED WORK.

Enhaut, Pa.—Philadelphia & Reading RR. (S. T. Wagner, ch. engr., Philadelphia) applied to Comrs. Swatara Township for permission to construct steel and concrete bridge across Rutherford subway.

Nicetown (P. O. Philadelphia), Pa.—Plans prepared for six-story brick and reinforced concrete office building to be erected at Nicetown for Midvale Steel Co.

Boaz, W. Va.—Kanawha Traction & Electric Co. (P. P. Crafts, gen. mgr., Parkersburg) contemplates constructing reinforced concrete viaduct at Boaz.

Owatonna, Minn.—Election will be held in November to vote on constructing steel or concrete bridge over Straight River at Bridge St.; cost, $20,000. Address City Clk.

Omaha, Neb.—Contract will be let about Nov. 1 for erecting brick and concrete grade school at Forty-fifth and Corby Streets; cost about $112,000. Fredk. W. Clarke, archt., Omaha.

Bremerton, Wash.—Plans being prepared by A. L. Haley, Peoples Bank Bldg., Seattle, for 4-story, reinforced concrete hotel to be erected at Front and Washington Aves. for Jack Smith; cost $100,000.

Eugene, Ore.—Co. Comrs. contemplate replacing wooden abutments of all bridges with concrete. Address clk. co. court.

Los Angeles, Cal.—John Parkinson, 420 Title Insurance Bldg., engaged to prepare plans for 6-story and basement reinforced concrete and brick loft and factory building to be erected at Hewitt and Traction Sts. for Joannes Bros., 819 E. First St.

Seal Beach, Cal.—Plans being prepared by T. Franklin Power, 333 Higgins Bldg., Los Angeles, for 5-story and basement, 70 x 120 ft., reinforced concrete hotel, to be erected for E. C. Curtis.

Belleville, Ont.—Maple Leaf Tire Co., Ltd., will erect reinforced concrete factory, to cost $100,000. H. C. Long, supt. constr., 605 Traders Bank Bldg., Toronto.

BIDS DESIRED.

Jersey City, N. J.—Until Oct. 11, by Bd. Freeholders (Walter O'Mara, clk.), for constructing a steel span and concrete retaining wall to replace northerly present arch, and repairs to the south arch at Woodcliff, North Bergen, Weehawken Branch of the Hudson Co. Boule.

Trenton, N.J.—Until Oct. 13, by Bd. of Mgrs., New Jersey State Hospital (Scott Scammel, secy.), for constructing concrete wall.

De Kalb, Miss.—Reported desired until Oct. 11, by Highway Comrs., Supervs. Dist. No. 5, for constructing about 100 cement and concrete bridges.

Crown Point, Ind.—Until Oct. 12 by County Cmrs. for constructing concrete culvert and 2 bridges. Edw. Simon, co. aud.

Spokane, Wash.—Until Oct. 19, by Leonard Funk, comr. pub. wks., for concrete bridge across Spokane River at Post St.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Johnstown, Pa.**—Contract awarded to E. Arthur James, Johnstown, for concrete bridge over Soloman Run at Jacoby St. John W. Cramer, engr.

★**Ludlow, Ky.**—Contract awarded, Butler Taylor Co., Louisville, Ky., at $25,751 for constructing reinforced concrete viaduct over RR. tracks at Elm St. (bids opened Sept. 14). Other bidders L. Eld, Concrete Steel Co., Cincinnati, $30,613; J. J. Weaver, Ludlow, $33,477, and Chas. Remick, Jr., Cincinnati, $34,501. W. B. Cullen, city clk.

Kansas City, Mo.—Following are four lowest bids opened Sept. 28th by City on bridge: over Brush creek on Troost Ave., Fox-Redpath Constr. Co., at $16,675; Martin Carroll Co., at $18,523; Kansas City Constr. Co., at $21,059; Midland Constr. Co., at $22,861. Bridge over McGee St. Trafficway on 26th St.: Fox-Redpath Constr. Co., at $13,133; Kansas City Constr. Co., at $14,398; Martin Carroll Co., at $14,446; Halpin-Boyle Constr. Co., at $15,657. Bridge over Wyandotte St. on 31st St.: Martin Carroll Co., $11,363; Kansas City Constr. Co., $11,906; Geo. W. Goodlander, at $12,503; Halpin-Boyle Constr. Co., $13,196; lowest for culvert on 51st St. E. of Indian ave. Michael Walsh, at $5,526.

★**Somerville, Ohio.**—Contracts awarded by Co. Comrs. at Hamilton for Seven Mile Creek bridge to Arpp-Simpson Co., Middletown, at $14,886, and Four Mile Creek bridge in Milford Township, at $8,972. Wm. M. Davis awarded contract for bridge at Manrod Farm at $8,348.

ROADS AND PAVING

PROPOSED WORK.

Aldan, Pa.—Boro. Council voted $12,000 bonds; $10,000 to be used for street repairs. C. F. Van Horne, secy. of council.

Canonsburg, Pa.—Borough Council sold $30,000 street paving bonds. Address Bor. Clerk.

Irwin, Pa.—Supervisors N. Huntingdon Township propose spending $300,000 on brick roads.

Pittsburgh, Pa.—Jos. G. Armstrong, mayor, authorized grading and repaving of Liberty Ave.; cost $17,000.

Wernersville, Pa.—State Public Service Comn., Harrisburg, directed Berks & Dauphin Turnpike Co., which operates road between Hummelstown and Wernersville, to rebuild 17 miles of road between Palmyra and eastern limits of Myerstown before July 1, 1917, and to repair 35 miles of its road before July 1, 1918.

Maryland.—State Roads Comn., Garrett Bldg., Baltimore, will construct National Defense Highway between Washington, D. C., and Annapolis, of concrete; also two roads in Frederick County, one from Frederick through Buckeystown to near Spinks Ferry, the other through Urbanna to Hyattstown.

Fayetteville, W. Va.—County Cmrs. will pave about 42 miles of Fayette Giles Kanawha Turnpike with bituminous concrete or Portland cement; cost $600,000. J. K. McGrath, rd. engr., Mt. Hope.

Greenville, S. C.—Paving bonds for $500,000 will be sold Oct. 10 by W. H. Willimon, co. supervisor.

Arcadia, Fla.—Citizens voted $90,000 street improvement bonds. Address City Clerk.

St. Cloud, Fla.—Paving bonds for $15,000 will be sold Nov. 18 by Fred B. Kenney, city clk. It is proposed to pave about 9000 sq. yd. on New York, Penna, Tenth and Eleventh Sts. with asphalt, concrete, asphalt macadam, vitr. brick, cement concrete or sand asphalt, including 5000 ft. cement or stone curb. W. A. Rinn, engr., St. Cloud.

Birmingham, Ala.—City Comn., Sept. 26, adopted ordinance providing paving with asphalt Tuscaloosa Ave. from Sixth to Fourteenth Sts. n. w.; cost $60,000. Julian Kendrick, city engr.

Natchitoches, La.—Road Dist. No. 19 bonds for $250,000 will be sold Oct. 30 by Police Jury. Address Secy. Police Jury.

Centreville, Tenn.—Citizens of county voted $225,000 for road improvements. Address County Clerk.

Selmer, Tenn.—H. L. Buck and J. C. Phillips, engrs., Jackson, Tenn., surveying Central West Tennessee Highway, Selmer to Bethel Springs.

Brooksville, Ky.—Citizens voted $200,000 bonds to reconstruct macadam roads under "State Aid." Surveys being made by Roland R. Pyne, co. construction engr., and contract will be let in spring. Work includes several small bridges and resurfacing present macadam road with water-bound macadam.

Harlan, Ky.—City Council proposes macadamizing Elm, Central, Mound, Main, Clover and First Sts. Address City Clk.

Newport, Ky.—City Comrs. intend using wood block on street improvements this fall. Address City Clerk.

Cleveland, Ohio.—Co. Park Comrs. propose constructing 6 miles boulevard encircling city.

Defiance, Ohio.—Road bonds for $64,000 will be sold Oct. 10 by Roger Daoust, co. aud.

Cincinnati, O.—Contract will soon be let by City Council for improving 31st St. with brick; cost, $12,116. Frank S. Krug, city engr.

Election will be held in November to vote $180,000 bonds for improving public landing by paving with granite. Address Director Public Service.

City Council passed ordinance to issue $32,200 road bonds for improving Arrow, Beach, Kling, Maple Leaf and St. Lawrence Aves., and Collegeview Pl. and Vine St.

Mount Gilead, Ohio.—Road bonds for $42,161 will be sold Oct. 13 by Co. Comrs. C. O. Higgins, co. aud.

Napoleon, Ohio.—County sold $31,000 bonds for road work in Freedom and Richfield Townships.

Painesville, Ohio.—City sold $23,500 road improvement bonds. Address City Clk.

Springfield, Ohio.—City Comn. sold $20,113 road improvement bonds. Address City Clk.

St. Bernard, Ohio.—Street Improvement bonds for $50,000 will be sold Oct. 10 by W. L. Taylor, city aud.

Toledo, Ohio.—H. C. McClure, engr. Dept. Pub. Service., contemplates paving with brick or concrete this fall; in all about 3 miles road.

Urbana, O.—East Court St. paving, improvement bonds for $17,500 will be sold Oct. 30 by H. M. Crow, city aud.

Upper Sandusky, Ohio.—Street improving bonds for $15,500 will be sold Oct. 23 by Charles U. Read, village clk.

Warren, Ohio.—Co. Comrs. sold $18,000 road bonds. Address County Clk.

Goshen, Ind.—Reported Elkhart Township sold $23,000 River Ave. road bonds. Address Township Clk., Goshen.

Ann Arbor, Mich.—It is proposed to pave Miller Ave. about 12,000 sq. yds. with brick on concrete found. Manley Osgood, city engr.; Ross Granger, city clk.

Petoskey, Mich.—City plans paving with asphalt concrete, Emmet, William, Bay and Howard Sts. Cost, $18,000. R. D. Jupp, asst. city mgr.

Mattoon, Ill.—Contracts will probably be let in spring by Bd. Local Improv. for paving 1½ blocks on Moultic Ave., 10 blocks on Twenty-seventh St., 5 blocks on Fifteenth St. John A. Goetz, city engr.

Naperville, Ill.—City considering paving 57,000 sq. yds. on Jefferson Ave., Eagle and Mill Sts., with one course reinforced concrete with integral curb, cost $104,000. C. A. Ashley, city engr.

Ottawa, Ill.—Bd. Local Imprv. authorized paving "loop district, which includes greater part down-town district; estimated cost $108,999. Geo. L. Farnswirth, city engr.

Bd. Superv. propose improving La Salle County road with brick or concrete; cost $40,000.

Minneapolis, Minn.—E. E. Terrill, co. engr., in report to comrs. recommends spending $500,000 on roads and bridges in spring, connecting Shakopee bridge with Eden Prairie road, and widening Superior Boulev., Glen Lake Ave. Concrete or trap rock base with tarvia filler recommended.

Winnebago, Minn.—Election will probably be held to vote on issuing bonds for paving business section. Address City Clk.

Augusta, Kan.—City intends paving with brick on concrete foundation State St. and Fifth Ave., about 140,000 sq. yd. Black & Veatch, engrs., Inter-State Bldg., Kansas City, Mo.

Springfield, Mo.—City plans paving with concrete portions of Lyon St., asphaltic macadam on Kickapoo Ave., and tarvia filled macadam on Harrison St. O. D. Chrisman, city engr.

Arkansas.—Hugh R. Carter, state highway engr., Little Rock, has completed specifications and estimates for 15 miles of road between Marked Tree and county line in Poinsett County, cost $38,000; 10½ miles of road in Desha County between McArthur and Drew County line, cost $62,000; 50 miles gravel road across Sharp County from Worth to Hardy and Cave City, cost $95,000; gravel road from Conway to Saltillo in Faulkner County, cost $35,000.

Eureka Springs, Ark.—Contracts will soon be let for 235,000 sq. ft. bitulithic paving on Main St. W. H. Elliott, city engr.

Forrest City, Ark.—City Council passed ordinance for paving 6 miles of streets with combination of asphalt and macadam; cost $40,000. Lund & Hill, engrs., 201½ W. Second St., Little Rock.

Cameron, Tex.—Election soon to be held to vote $15,000 bonds for improving roads in Rd. Dist. No. 7. Address County Clerk.

Cumby, Tex.—County Comrs. sold $50,000 road bonds. Address County Clerk.

Denton, Tex.—Surveys for county roads now being made; $800,000 bond issue proposed. Address County Clerk.

Weatherford, Tex.—Election soon to be held to vote $600,000 road improvement bonds. Address County Clerk.

pave Oak, Gulf, Hinckley and Burns Sts., about 30,000 sq. yds., with concrete. C. Edge, city engr.

Woodward, Okla.—Election will soon be held in Garvin Township to vote $30,000 road improvement bonds. Address Clerk of Garvin Township.

Anacortes, Wash.—Paving of 16-ft. highway between Anacortes and Mount Vernon contemplated. State Highway Bd. will appropriate about $30,000 toward construction. Cost, $16,000 per mile. Address Secy. Chamber of Commerce.

Mansfield, Wash.—City Council plans grading, paving, etc., several streets; cost $15,000. Address City Clerk.

North Yakima, Wash.—O. E. Brashears, co. engr., completed plans for graveling 6 miles on Parker Bottom from Piland bridge to Buena Ave.; cost $18,000.

Seattle, Wash.—Contract soon to be let by Bd. Pub. Wks. for paving Eleventh Ave., N. E. Cost, $35,878.

All bids opened recently by Bd. Pub. Wks. for paving Rainier and Forty-seventh Aves. rejected.

Bd. Pub. Wks. approved plans and specifications for paving W. Halladay St.; cost $12,000. A. H. Dimock, city engr.

Port Townsend, Wash.—Ordinance passed for paving First St. with concrete and constructing concrete walks on Jefferson and Tyler Sts.; cost $21,404. Wm. J. Sadler, city engr.

Astoria, Ore.—City Engr. authorized to prepare plans for improving Olney Ave. and other streets by grading, paving with asphaltic concrete, bitulithic or Portland cement.

Portland, Ore.—Reported City Council plans paving College St. with concrete or brick; cost $17,000. Philip Dater, city engr.

Glendale, Cal.—Public Service Dept. contemplates constructing 2 miles rock macadam road into Verdugo Canon. E. M. Lynch, city engr.

San Francisco, Cal.—Bd. Pub. Wks. will pave, by day labor, with wooden block on concrete foundation, Battery St. from California St. to the Embarcadeo.

Ventura, Cal.—County voted $1,000,000 road improvement bonds. J. B. McCloskey, co. clk.

BIDS DESIRED.

Boston, Mass.—Until Oct. 13, by Park and Recreation Dept. (John H. Dillon, chmn., 33 Beacon St.), for bituminous pavement on Commonwealth Ave., from Arlington to Exeter St.

Massachusetts.—Until Oct. 10 by State Highway Comm. (Wm. D. Sohier, Chmn.) State House, Boston, for constructing 3400 ft. state highway in the city of Gloucester; also 6800 ft. in the town of Pelham.

Albany, N. Y.—Until Oct. 26, by State Comn. of Highways, 55 Lancaster St., for state highway work in a number of counties, advertised in this issue. Edwin Duffey, comr.

Brooklyn, N. Y.—Until Oct. 11, by L. H. Pounds, pres. Brooklyn Boro, for sidewalks and paving on portions of Atlantic Ave., Mercer, Hinsdale Sts., Ave. J and other streets, in all about 29,126 sq. yd. asphalt, 40,990 sq. ft. cement sidewalks; security, $42,000. Also furnishing and delivering 10,000 asphalt blocks, 2000 bbl. Portland cement, concrete, broken stone, etc.

Buffalo, N. Y.—Until Oct. 10 by Arthur W. Kreinhedler, comm. pub. wks., for laying curb and paving portions Warring, Philadelphia Aves. and Boehm Pl. and repaving Fillmore Ave.

New York, N. Y.—Until Oct. 11, by Comrs. of Parks (Raymond V. Ingersoll, chmn.), for repaving with sheet asphalt and asphalt block on concrete foundation, portion of Eastern Boulev., Boro. Bronx. Security, $20,000.

Camden, N. J.—Until Oct. 11, by Stone Road Com. (Fred. W. George, clk., at Court House), for paving with bituminous surface on macadam foundation, 13,782 sq. yd. J. J. Albertson, co. engr.

Greensburg, Pa.—Reported desired until Oct. 29, by John S. Bell, co. compt., for 3¼ miles brick paving, concrete curb, etc.; cost, $70,000.

Philadelphia, Pa.—Reported desired until Oct. 28, by Geo. E. Datesman, dir. pub. wks., for grading, paving and bridge repairs. Probable cost, $150,000.

Baltimore, Md.—Until Oct. 18 by Bd. of Awards (John F. O'Meara, acting pres.) for paving road No. 4, Lock Raven Contract 44, Water Department, advertised in this issue. Walter E. Lee, Water engr., city hall.

Maryland.—Until Oct. 16, by State Road Comn., 601 Garrett Bldg., Baltimore, for Contract No. D-19, construction one section of road between Church Creek and Taylor Island, Dorchester County, concrete, about 7.25 miles, advertised in this issue.

Pennsboro, W. Va.—Reported desired until Oct. 20, by John B. Yates, city clk., for grading, curbing and paving streets, alleys and avenues.

Moundsville, W. Va.—Until Oct. 21, by O. B. Bonar, city clk., for about 7000 sq. yd. brick pavement on Tomlinson, Grant and Ash Aves., including cement curb and gutter. Alex. Purdy, city engr.

Wellsburg, W. Va.—Reported desired until Oct. 20, by C. A. Nicheilberger, co. engr., for constructing Bethany Pike, 6.8 miles.

Brookville, Fla.—Reported desired until Oct. 19, by city, for 7140 sq. yd. asphalt concrete pavement, 5460 ft. concrete curb. Hiram McElroy, engr., Tampa.

Tallahassee, Fla.—Until Oct. 10, by Bd. Co. Comrs. (J. C. Moore, chmn.), for constructing following roads: Meridian Rd., Springhill Rd., Centerville and Sunny Hill Rd., Miscosukie Rd., Bucklake and other roads, in all about 55 miles sand clay, 5 miles gravel or broken stone, 127,034 cu. yd. excav., together with drains, bridges, etc. J. W. Jones, co. engr.

De Kalb, Miss.—Reported desired until Oct. 11, by Highway Comrs., Supervs. Dist. No. 1, for grading, draining, 30 miles rock road.

Hamilton, Ohio.—Until Oct. 12, by H. R. Garver, service dir., for paving portions of Progress and Eaton Aves., Franklin, Ninth and C Sts.

Steubenville, O.—Until Oct. 12 by Geo. W. Borden, dir. pub. service, for grading, paving and curbing portions of Henry Ave.

New York, N. Y.—Following are unit figures of 4 lowest bids opened Sept. 25 by Marcus M. Marks, Pres. Manhattan Borough, for regulating and grading W. 134th St., Bway. to Riverside Drive: (a) Summit Eng. & Con. Co., 109 Broad St., $49,820; (b) P. J. Duffy, 132d St. and St. Ann's Ave., $50,531; (c) Di Menna & Del Balso, 2336 Cambrelling Ave., $51,050; (d) Thos. Crimmins Con. Co., 440 E. Sixty-ninth St., $55,525.

	(a)	(b)	(c)	(d)
22,000 cu. yd. earth excav.	$0.80	$0.90	$0.90	$1.10
100 cu. yd. rock excav.	3.00	1.00	3.00	1.10
7,000 cu. yd. filling	0.01	0.005	0.01	0.05
5 cu. yd. Class A concrete	7.00	7.00	6.00	6.25
100 cu. yd. Class B concrete	6.00	6.50	6.00	6.00
700 sq. ft. concrete sidewalk, Class A	0.20	0.20	0.16	0.20
60 sq. ft. concrete sidewalk, Class B	0.18	0.20	0.16	0.15
600 bbl. reinforcing rods and bars	0.08	0.05	0.05	0.045
1,600 lin. ft. new bluestone curbstone	0.80	0.65	1.00	0.75
50 lin. ft. old curbstone redressed	0.35	0.10	0.01	0.20
6,200 sq. ft. new bluestone flagging	0.35	0.22	0.26	0.25
100 sq. ft. old flagging	0.20	0.05	0.01	0.05
500 cu. yd. dry rubble masonry	3.50	2.00	2.00	2.00
5,200 cu. yd. rubble	4.90	5.00	4.90	5.00
200 lin. ft. vitr. pipe, 4 in. in diameter	0.25	0.30	0.25	0.20
150 lin. ft. vitr. pipe, 8 in. in diameter	0.50	0.30	1.00	0.85
1,000 M ft. timber	30.00	30.00	25.00	35.005
360 lin. ft. guard rail	0.40	0.50	0.50	0.25

★**Lawrenceburg, Tenn.**—Following are unit figures of 4 lowest bids opened Sept. 20 by Lawrence County Highway Comn. (R. M. Barker, engr.) for improving Jackson Military Road, distance of about 36 miles: (a) Boyd Williams, McMinnville, Tenn. $136,076 (contract awarded); (b) Montgomery-Perkins Co., San Antonio, $139,021; (c) Healy Constr. Co., Meridian, Miss., $144,781; (d) A. A. Smith, Mount Pleasant, Tenn., $148,158.

	*(a)	(b)	(c)	(d)
16 acres clearing and grubbing	$60.00	$70.00	$60.00	$85.00
139,820 cu. yd. earth excavation	0.22	0.21	0.21	0.23
11,900 cu. yd. loose rock excavation	0.36	0.38	0.35	0.40
780 cu. yd. solid rock excavation	0.70	0.80	0.75	0.80
124 lin. ft. 12-in. vitrified pipe	0.38	0.55	0.50	0.44
168 lin. ft. 15-in. vitrified pipe	0.55	0.75	0.60	0.6625
170 lin. ft. 18-in. vitrified pipe	0.75	1.07	0.80	0.865
64 lin. ft. 24-in. vitrified pipe	1.45	1.75	1.30	1.42
1,072 lin. ft. 12-in. c.-m. pipe	0.71	0.75	0.76	0.76
1,238 lin. ft. 15-in. c.-m. pipe	0.88	0.90	0.90	0.9275
502 lin. ft. 18-in. c.-m. pipe	1.02	1.15	1.10	1.095
224 lin. ft. 24-in. c.-m. pipe	1.57	1.74	1.60	1.66
164 lin. ft. 30-in. c.-m. pipe	1.95	2.05	1.90	2.055
100 lin. ft. side drains	0.18	0.30	0.30	0.50
320.8 cu. yd. Class "A" concrete	9.00	10.50	11.00	10.55
715 cu. yd. Class "B" concrete	8.25	9.25	10.00	9.85
... cu. yd. Class "C" concrete	...	8.50	...	...
11.18 cu. yd. class handrail, concrete	13.00	20.00	20.00	15.00
29,082 lb. reinforcing steel	0.0525	0.055	0.045	0.045
2,500 lin. ft. guard railing	0.09	0.16	0.20	0.25
200 cu. yd. stripping chert pits	0.25	0.18	0.40	0.35
65,700 cu. yd. chert in place complete	1.28	1.31	1.40	1.395
20 days foreman force account	3.50	3.50	5.00	4.00
50 days teams force account	4.50	4.50	4.50	4.00
600 days labor force account	1.65	1.75	1.75	1.75

Illinois.—Until Oct. 11, by State Highway Dept., Springfield, for following State Road work:

Clay City, Clay County, Sect. B, concrete 1875 ft., estimated cost $2,478.

Flora, Clay County, Sect. C, earth 2550 ft., $3,344.

Vandalia, Fayette County, Sect. B, water bound macadam, 10,200 ft, $13,900.

Choat, Massac County, Sect. C, 1 bridge, $774.

Aledo, Mercer County, Sect. F, earth, 16,041 ft., $4,110.

Reynolds, Mercer County, Sect. G, earth, 14,925 ft., $4,302.

Seaton, Mercer County, Sect. H, earth, 15,261 ft., $4,302.

Joy, Mercer County, Sect. I, earth, 7020 ft., $2,930.

Shelbyville, Shelby County, Sect. E, oiled earth, 11,000 ft., $5,103; Sect. F, oiled earth, 13,000 ft., $5,222; Sect. G, 14,550 ft. oiled earth, $5,488; Sect. H, oiled earth, 11,422 ft., $5,354.

La Fayette, Stark County, Sects. D and E, oiled earth, 47,125 ft., $18,925.

Carterville, Williamson County, Sect. E, concrete, 3674 ft., $3,064.

Kansas City, Mo.—Until Oct. 10 by Bd. Pub. Wks. for paving with sheet asphalt portion of Troost Ave.

St. Louis, Mo.—Reported desired until Oct. 10, by E. R. Kinsley, pres. bd. pub. serv., for vitr. brick and bitulithic pavement on portions of Vermont and Clarence Aves. and Wallace St.

Grove Hill, Okla.—Reported desired until Oct. 17, by Co. Comrs., for improving portions of Jackson and West Bend Rd. A. L. Smith, co. engr.

Tillamock, Ore.—Until Oct. 10 by Ira C. Smith, city recorder, for hardsurfacing with concrete curb and drainage portions of 5th St. in Dist. 1; also Second Ave. in Dist. No. 2.

PRICES AND LETTINGS.

★Indicates award of contract.

★**Hartford, Conn.**—Contract awarded by Bd. Contr. and Supply for reinf, conc. roadway on Ridgefield and Scarborough Sts. to F. A. Barone, 16 Winchester St., at $12,070.

★**Irvington, N. J.**—Contract awarded Sept. 27 by Town Council for paving and curbing Laurel Ave. to P. Cammello & Co., Westfield, N. J., at about $10,000.

Washington, D. C.—Following are lowest bids opened recently by Comrs. D. C. for street paving amounting to $300,000: Peerless Engr. & Constr. Co., Chicago, $1.54 per sq. yd. for natural asphalt, or $1.44 per sq. yd. for reduced oil asphalt; Washington Asphalt Brick & Tile Co., Washington, D. C., only bid on asphalt block, at $1.66 per sq. yd.

★**Chicago, Ill.**—Contract awarded by County Comrs. to Commonwealth Improvt. Co., Chicago, at $57,000 for constructing 4 miles of asphaltic concrete road in Lynn and Wheeling Townships, Cook County.

★**Canton, Ohio.** — Following contracts awarded by Board of Control for paving and improving streets: To F. A. Downs, Canton, for Second St., at $11,038; Eleventh St., at $20,907; Rex Ave., at $13,157; Burd Paving Co., Canton, for Third St., at $46,447; Cleveland-Trinidad Paving Co., Cleveland, for Clarendon Ave., at $45,789, and to N. E. Wise, Canton, for Tenth Ave., at $15,316.

★**La Salle, Ill.**—Contract awarded T. W. Keys, La Salle, for paving portions Hennepin and Seventh Sts., at $28,000.

★**Valley Junction, Iowa.** — Contracts awarded by City Council for paving 66,000 yd. as follows: To Warren Bros., Boston, at $1.91 per yd., for 33,000 yd., and to Des Moines Asphalt Paving Co., Des Moines, at $1.55½ per yd. for 33,000 yd.

St. Paul, Minn.—Following bids opened by City Council for paving Mississippi River Boule.: Fielding & Shepley, 216 W. University Ave., $49,300, and Thornton Bros., St. Paul, $49,359.

★**Aberdeen, Wash.**—Contract awarded by City Council to Standard Transfer Co., Aberdeen, at $12,882, for paving W. Boule. with gravel.

Pasco, Wash.—Lowest bid submitted Sept. 19 to County Comrs. for constructing Permanent Highways Nos. 3 and 4 by Porter & Conley, 219 Lumberman's Exchange Bldg., at $10,700.

★**Santa Ana, Cal.**—Contract awarded by Bd. Supervs. to H. Clay Kellogg, Santa Ana, at $23,994 for constructing about 2 miles of earth road in Santa Ana Canyon.

Santa Barbara, Cal.—Following are four liwest bids opened Sept. 21 by Bd. Supervs. for improving 2½ miles of Mission Ridge Rd.: Paul & Calkwell, Stockton, $53,337; Brashear-Burns Co., Van Nuys Bldg., Los Angeles, $54,183; E. A. Garland, Santa Barbara, $55,271, and F. R. Ritchie, Chronicle Bldg., San Francisco, $57,324.

★**Toronto, Ont.**—Contract awarded Godson Contr. Co., Manning Chambers, Toronto, for asphalt paving at $16,500.

RAILWAYS
Steam and Electric

PROPOSED WORK.

New London, Conn.—New York, New Haven & Hartford RR. (Edw. Gagel, ch. engr., New Haven), and State Highway Comn. considering elimination of grade crossing at Bolton Notch station.

Girard, Pa.—Erie RR. (R. S. Parsons, ch. engr., New York) plans constructing freight yard at Girard; capacity 2500 cars.

Hershey, Pa.—Preliminary surveys completed for electric railway between Hershey, Old Lion, Union Square, Mastersville, Lawn, Upper Lawn, Bachmanville and Elizabethtown. M. S. Hershey interested.

Barton, Md.—Reported Cumberland & Westernport Electric Ry. (B. W. Duncan, genl. mgr., Frostburg) will reconstruct line between Moscow and Barton.

Roanoke, Va.—See "Industrial Plants and Warehouses."

Chester, W. Va.—Pittsburgh, Cincinnati, Chicago & St. Louis Ry. Co. will construct a 12-mile railway between Chester and Merrill, Pa. A. C. Shand, ch. engr. Pennsylvania RR. Co., Broad St. Station, Philadelphia, may be able to give further information.

Parkersburg, W. Va.—Kanawha Traction & Electric Co. will issue $1,700,000 bonds, $40,000 of which is for improvements in Parkersburg.

Greenville, S. C.—Rights of way being secured for constructing railroad from Greenville to Hendersonville and Asheville, N. C. Russell N. Edwards, engr., Indianapolis, Ind., may be able to give further information.

Orangeburg, S. C.—Carolina Southern Ry. Co. incorporated to construct standard gauge railroad from Orangeburg to Estill. Among incorporators: E. N. Mittle of Bowman, and J. Leroy Dukes of Orangeburg.

Spartanburg, S. C.—Piedmont & Northern Ry. (E. Thomason, gen. mgr., Charlotte, N. C.) will construct line from Spartanburg to Gastonia.

Pensacola, Fla.—Reported Mobile, Volanta & Pensacola RR. Co. (M. H. Miller, vice-pres. and genl. mgr., Seacliff, Ala.) will construct extension from Pensacola to Volanta, Ala.

Springfield, Tenn.—Reported Nashville & Gallatin Interurban Ry., Nashville, Tenn., will be extended from Edenwold to Springfield, distance 19 miles. Work to begin soon.

Covington, Ky.—Louisville & Nashville RR. Co. (W. H. Courtenay, ch. engr., Louisville) and Chesapeake & Ohio RR. Co. (F. I. Cabell, ch. engr., Richmond. Va.) preparing plans to abolish all grade crossings in city.

Hazard, Ky.—Reported Louisville & Nashville RR. Co. (W. H. Courtenay, ch. engr., Louisville) will extend line up Lott Creek a distance of about 15 miles.

Alliance, Ohio.—Cleveland, Alliance & Mahoning Valley RR. Co. will construct extension to Hudson next year.

Mason City, Ia.—Mason City & Clear Lake RR. Co. contemplates constructing 1½ miles new track in Mason City.

Omaha, Neb.—County Comrs. and officials of Union Pacific RR. are considering elimination of grade crossing at Sarpy Crossing.

Belle Fourche, S. D.—Belle Fourche & Northwestern Ry. incorporated by H. F. Albers, Miles City; H. J. Bamford, Baker, Mont.; L. A. DeBelloy, Camp Crook, S. D. and others. to construct a railroad from Belle Fourche to Miles City, Mont., a distance of about 200 miles, through the counties of Butte, S. D., and Fulton and Custer, Mont.

Billings, Mont.—Reported Northern Pacific Ry. Co. (W. L. Darling, ch. engr., St. Paul, Minn.) will construct railway from Billings through northern part of Stillwater and Sweet Grass counties via Reed Point, Columbus, Big Timber, Melville.

Ore City, Tex.—Santa Fe RR. Co. (C. E. Felt, ch. engr., 80 E. Jackson St., Chicago) will extend their lines from Ore City to Daingerfield.

Fort Worth, Tex.—Reported Houston & Texas Central RR. is interested in new belt line proposed to encircle city.

Ardmore, Okla.—Construction of electric interurban railway from Ardmore to Fox oil field contemplated. Address Ardmore Railway Co. for further information.

Mexico.—Contract about to be let by Gov. Eseban Cantu, of Lower California, for constructing railroad from Mexicali to San Pelipe, about 70 miles

Tulsa, Okla.—Construction work about to begin on 170-mile railway between Tulsa and Oklahoma City for Tulsa & Oklahoma City Rapid Transit Co.

Bellingham, Wash.—Methow Valley & Eastern RR. Co. incorporated with J. A. Miller, H. B. Paige and others of Bellingham, to construct a railroad from Bellingham to Spokane via Methow Valley.

Portland, Ore.—Reported construction work will begin late this fall or early spring on constructing 450 mile railroad in central Oregon for Oregon, California & Eastern Ry. Co. (Robt. E. Strahorn, pres.)

Roseburg, Ore.—No bids received Sept. 11 by city for constructing 28⅝ miles railroad from Roseburg to Rock Creek. L. G. Hocks, city engr. R. L. Whipple, city clk.

Martinez, Cal.—Work about to begin on construction of Martinez & Concord Interurban Ry. Grading will begin on Escobar, Pine and Jones Sts. and Pascheco Rd. Clifford McClellan, San Francisco, is interested.

Geronimo, Ariz.—Geronimo Mining Co. (D. J. Shea, pres., Boston, Mass.) plans constructing 6-mile standard guage railroad from Geronimo on Arizona Eastern to copper mines northeast of Geronimo.

Hamilton, Ont.—City Council voted to construct hydroelectric railway from Port Credit to St. Catharines, via Hamilton.

Toronto, Ont.—Toronto Suburban Ry. Co. plans constructing extension from Bathurst St. east along Davenport Rd. and Poplar Plains Rd.

BIDS DESIRED.

Taylorville, Ill.—By H. M. Hallock, gen. mgr., Chicago, Illinois Midland Ry. Co., Taylorville, for constructing 3½ miles single-track main line, and 1 mile side track.

PRICES AND LETTINGS.

★Indicates award of contract.

Louisa, Va.—Contract awarded Cowherd & Cowherd, Columbia, to construct a 12-mile railroad between Holiday Mine, Spotsylvania Co., and Sulphur Mine, Louisa Co.

★**Sebring, O.**—Contract for grading 18 miles of Pennsylvania R. R. between Sebring and Leetonia awarded to Frank R. Jones Const. Co., Chicago, Ill. Cost between $800,000 and $1,000,000.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

New Bedford, Mass.—Reported Passaic Cotton Mill Co., 346 Bway., New York, will erect a spinning and weaving mill here.

Buffalo, N. Y.—Reported plant of Delaney Forge & Iron Co., recently destroyed by fire, will be rebuilt.

New York, N. Y.—Following are unit figures of 4 lowest bids opened Sept. 28 by Public Service Comn. for First Dist., 120 Broadway, for constructing 239th St. yard of Route No. 18, White Plains Road Rapid Transit Railroads: (a) Thos. J. Buckley Constr. Co., 303 Fifth Ave., $372,893; (b) Thos. Crimmins Contr. Co., 444 E. Sixty-ninth St., $387,050; (c) Dennis E. Conners, 64 W. Eighty-eighth St., $407,650; (d) Jobson-Gifford Co., 30 E. Forty-second St., $414,207.

	(a)	(b)	(c)	(d)
1—38,000 cu. yd. earth excavation	$1.50	$0.95	$0.90	$0.80
1E—3,500 cu. yd. railroad embankment	1.00	.05	1.00	.75
1N—Removing trees and shrubbery (lump sum)	...	...	...	...
2A—1,260 cu. yd. earth excavation, sewer pipes and ducts	2.00	1.50	1.25	2.00
3—12,500 cu. yd. rock excavation	1.50	2.50	2.00	2.90
3A—420 cu. yd. rock excavation, sewers, pipes and ducts	2.00	5.00	5.00	6.00
6—5,000 cu. yd. (b) 1-2-4 concrete	7.55	8.10	10.00	10.00
6—4,000 cu. yd. (c) 1-2½-5 concrete	7.14	6.50	7.50	9.00
8—1,000 cu. yd. rubble stone masonry	4.00	5.00	6.00	5.70
9—30 cu. yd. brick masonry	30.00	20.00	20.00	15.00
9D—30 cu. yd. removal of old masonry	40.00	20.00	15.00	10.00
12—2,000 lin. ft. timber piles	.10	.01	.60	.15
13—2 M timber foundations	10.00	30.00	80.00	45.00
14—700 cu. yd. broken stone	.50	2.00	3.00	2.25
15—1,700 sq. yd. (c) 3-ply waterproofing	.90	.95	.80	1.00
15C—3,300 sq. yd. coat of pitch without fabric	.35	.35	.25	.20
17—1,800 lin. ft. (e) 4-in. vitrified pipe	.20	.25	.40	.25
19—1,600 tons riveted steel	90.42	107.75	105.00	110.00
19B—550 tons re-erecting old steel	4.25	16.50	17.00	22.50
19C—700 tons removing old steel	1.90	22.50	20.00	12.00
19R—200 reframing stringer ends (per end reframed)	5.00	22.50	35.00	12.50
20—50 tons steel beams and shapes	90.42	107.75	120.00	110.00
21—170 tons steel rods and bars	75.00	80.00	90.00	100.00
25—15 tons miscellaneous iron castings	75.00	60.00	80.00	100.00
27D—1,100 lin. ft. wrought-iron pipe railing	1.00	.75	.80	.75
27E—1,600 lin. ft. wrought-iron picket fence	3.00	3.00	2.80	3.00
30—425 sq. yd. (n) street surface restored	2.50	2.00	3.00	3.50
30—175 lin. ft. (o) restoring old curb	.60	.10	1.00	.60
42—115 tons straight c.-i. sewer pipe	47.00	60.00	40.00	55.00
43—10 tons special c.-i. sewer pipe	60.00	80.00	80.00	95.00
75—1,900 lin. ft. (c) street surface railroad support	.50	.70	2.00	1.00

Philadelphia, Pa.—Reported contract about to be let for erecting 8-story, 90 x 200 ft., brick, steel and reinforced concrete loft building at Sixth and Filbert Sts. for Hale & Kilburn Mfg. Co., Eighteenth St. and Lehigh Ave.

Westport, Md.—Reported contract soon to be let for a plant which the Baltimore Enamel & Novelty Co., Woodall St., Baltimore, proposes erecting here; cost, about $300,000.

Alexandria, Va.—Southern Ry. (T. H. Gatlin, asst. ch. engr. m. of w. & structures, Washington, D. C.) plans improvements here, including 20-stall roundhouse, 100-ft. turntable, mechanical coal-handling plant, etc. Contract for foundation for roundhouse awarded J. P. Pettyjohn & Co., Lynchburg, Va.

Roanoke, Va.—Norfolk, Va.—Norfolk & Western RR. (Jos. E. Crawford, ch. engr., Roanoke) contemplates improvements to cost about $2,000,000, to include extension of electrification system on three divisions, new freight station and additions to shop at Roanoke.

Follansbee, W. Va.—Reported Follansbee Bros. Co., Follansbee, contemplate erecting $1,500,000 steel manufacturing plant.

St. Albans, W. Va.—Roissler & Hassalacher Chemical Co. of Perth Amboy, N. J., reported contemplates erecting $1,000,000 plant here to manufacture chemicals used in alloys.

Charlotte, N. C.—Chatham Mfg. Co., of Elkin, reported contemplates erecting four-story, 300 x 80-ft. mill and other buildings here.

Cleveland, Ohio.—National Carbon Co., Madison Ave. N. W. and West 117th St., intends erecting 135 x 300-ft. addition to factory; cost, $50,000.

Warren, Ohio.—Plans being prepared by W. C. Owen & Co., 1900 Euclid Ave., Cleveland, for factory to be erected here for Westgard Tire & Rubber Co.; one unit 2 stories, 100 x 240 ft., and a power house, 1 story, 40 x 40 ft.

Beloit, Wis.—Reported Esterline & Angus Co. of Indianapolis will erect $50,000 plant here for manufacture of electrical fixtures.

Council Bluffs, Iowa.—See "Structural Steel Work."

St. Paul, Minn.—A $2,000,000 foundry and factory for making battleship parts, gun mountings and miscellaneous government equipment contemplated here. G. W. Harrison, 1011 Merchants Bank Bldg., reported interested.

Fargo, N. D.—Equity Packing Plant Co., Fargo, will erect 3-story, fireproof, brick and cement packing plant to cost $500,000.

Muskogee, Okla.—Reported preliminary plans prepared for $160,000 improvements contemplated by Missouri, Kansas & Texas Ry. (L. F. Lonnbladh, ch. engr., Dallas), including roundhouse, shops, smaller buildings and necessary trackage.

Salt Lake City, Utah.—Browning Automobile & Supply Co., 55 West Fourth S. St., intends erecting salesroom, storage and automobile shop building on Main and Sixth S. Sts., to cost about $100,000.

Belleville, Ont.—See "Reinforced Concrete."

Niagara Falls, Ont.—Perfection Tire & Motor Co., 713 Marquette Bldg., Chicago, plans erecting $50,000 branch factory here.

Lulu Island, B. C.—Reported plant of Pacific Steel Products, Ltd., recently destroyed by fire, will be rebuilt.

Cnasi, Cuba.—Reported M. S. Hershey of Hershey Chocolate Co., Hershey, Pa., plans erecting sugar mill at Cnasi, Cuba; capacity 100,000 bags; cost about $1,000,000.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Pittsburgh, Pa.**—Contract awarded Fetzer-Winger Co., Bessemer Bldg., for erecting 3-story and basement service station and repair shop, 74 x 150 ft., on Baum Boule and Roup St., for McAlister Bros. Co.; cost, $95,000.

★**Birmingham, Ala.**—Contract awarded Hettrick Constr. Co., Dallas, Tex., for erecting plant for Linde Air Products Co. at Tenth Ave. and Twenty-eighth St.; cost about $50,000.

★**Shelley, Idaho.**—Contract awarded Dyer Constr. Co., Clevelnad, Ohio, for erecting sugar factory here for Utah-Idaho Sugar Co. (T. R. Cutler, gen. mgr.).

★**Hamilton, Ont.**—Contract awarded Mackay & Paulin, Bank of Hamilton Bldg., for erecting brick factory for Dominion Steel Castings Co., Depew St.; cost $75,000.

BUILDINGS
Public and Private

PROPOSED WORK.

Narragansett Pier, R. I.—Plans being prepared by Willard Kent, Narragansett Pier, for $50,000 emergency hospital.

Waterbury, Conn.—Plans being prepared for office building to be erected for Chase Rolling Mills Co., N. Main St.; cost about $600,000.

Wethersfield, Conn.—Plans being prepared by Unkleback & Perry, New Britain, for school to be erected here; estimated cost $50,000.

Wading River, L. I., N. Y.—T. B. Scott, 45 E. Sixty-second St., New York, proposes erecting a colonial mansion at Wading River to cost about $50,000.

Arlington, N. J.—Plans approved for new edifice to be erected for First Baptist Church; cost, about $50,000.

Clinton, N. J.—Reported State has purchased site in Clinton for erecting proposed insane hospital, to cost about $100,000. Address, State Archt., Trenton.

Hoboken, N. J.—Steps being taken to replace old No. 3 School. Bd. of Educ. recently approved $161,000 bond issue.

Newark, N. J.—Bd. of Educ. contemplates erecting elementary school on Maple Ave.

New Brunswick, N. J.—Reported plans prepared by Oakley & Son, Inc., Elizabeth, for enlarging and remodeling Middlesex General Hospital, to cost about $55,000.

Bellevue, Pa.—Erection of $100,000 Y. M. C. A. building contemplated here.

Bethlehem, Pa.—Reported Kurtz Bros., Bethlehem, contemplate erecting 5-story theater here.

Homestead, Pa.—Plans being prepared by M. Nirdlinger, Diamond Bank Bldg., Pittsburgh, for $50,000 Masonic Temple to be erected for Lodge No. 582.

Jeannette, Pa.—Preliminary steps being taken by School Bd. to issue $175,000 bonds for erecting school on Gaskill Ave.

Johnstown, Pa.—Henry Hornbostel, Peoples Bank Bldg., Pittsburgh, retained to prepare plans for addition to Mercy Hospital; estimated cost, $50,000.

Nicetown (P. O. Philadelphia), Pa.—See "Reinforced Concrete."

Philadelphia, Pa.—Revised plans being prepared by Walter Thomas, 130 S. Fifteenth St., for 1-story, 65 x 95 ft., stone edifice, to be erected at Indiana Ave. and Almond St., for St. George Protestant Episcopal Church; cost about $50,000.

Mayor Smith Sept. 7 signed ordinance authorizing an agreement with Philadelphia Chapter, American Institute of Architects, to prepare plans and specifications for restoration of old city hall, Fifth and Chestnut Sts.; $60,000 available.

Plans prepared by Marshall & Fox, 38 S. Dearborn St., Chicago, and Chas. W. Bolton & Son, Witherspoon Bldg., assoc. archts., for 12-story, 120 x 120 ft., brick and limestone civic building, to be erected at Fifteenth and Race Sts.; cost $800,000. Rev. Rufus W. Miller, secy of Publication and Sunday School Bd. of the Reformed Church, reported interested.

Philadelphia, Pa.—Reported contract soon to be let by Frank V. Nickles, 1530 Real Estate Trust Bldg., for erecting 6-story hotel at Darien and Catharine Sts. for Frank Palumbo.

Pittsburgh, Pa.—Site purchased near new Schenley High School for erecting stadium, to cost about $500,000. Geo. W. Gerwig, secy. bd. of educ.

Baltimore, Md.—Benj. Frank, 328 N. Charles St., engaged to prepare plans for 13 additional buildings to Children's Hospital School, Greenspring Ave.

Plans of Parker, Thomas & Rice, 1109 Union Trust Bldg., for Baltimore Art Museum, submitted in competition, have been selected.

Election Nov. 7 to vote $1,000,000 school bonds. Address Bd. of Educ.

Frostburg, Md.—Plans being prepared by Chas. M. Anderson, 324 N. Charles St., for 3-story addition to dormitory of Frostburg Normal School.

Staunton, Va.—Plans being prepared by Albert Kelsey, Perry Bldg., Philadelphia, for 1-story stone Sunday School building and alterations to First Presbyterian Church; cost, $50,000.

Salisbury, N. C.—Reported Southern Bell Telephone Co., 78 S. Pryor St., Atlanta, Ga., will spend $125,000 for erecting new exchange building here and placing wires underground.

Macon, Ga.—Bonds amounting to $200,000 for erecting hospital and city auditorium sold. Address City Clk.

Miami, Fla.—Plans being considered for Masonic Temple to cost about $75,000.

Montgomery, Ala.—State has appropriated $50,000 for erecting training school for girls here. Charles Henderson, governor.

New Orleans, La.—Elks Lodge intends erecting 3-story, 180 x 145 ft. club house on present site on Franklin St.; cost, $200,000.

Laurel, Miss.—City of Laurel has appropriated $20,000 and Jones Co. $30,000 toward erecting buildings for proposed South Mississippi Hospital. Address Trus. of said hospital in Hattiesburg.

Clarksville, Tenn.—Steps being taken to erect Baptist Church to cost $60,000.

Murfreesboro, Tenn.—A 3-story and basement brick high school, costing $50,000, is to be erected. J. H. Cricheow, pres. city bd. educ.

Basil, Ohio.—Liberty Union village school bonds for $60,000 will be sold Oct. 11 by Bd. Educ. (J. W. Buchanan, clk.).

Frank L. Packard, Hayden Bldg., Columbus, is architect for above school.

Cleveland, Ohio. — Reported Reuben Shapiro and Louis Flatau, 429 Society for Savings Bldg., purchased site at Superior Ave. and Lakeview Rd. and intend erecting 4-story theater, store, office and lodge building to cost $75,000.

Reported F. W. Mettler of Mettler-Gloyd Co., 753 Hippodrome Annex Bldg., will erect store and apartment building at Madison Ave. and W. Eighty-ninth St.; cost $75,000.

Dayton, Ohio.—Architects engaged to prepare plans for 3-story addition to Eagles Lodge building on S. Main St.; cost $50,000.

Lakewood, Ohio.—Plans being prepared by G. A. Grieble Co., 808 Cuyahoga Bldg., Cleveland, for 3-story store and apartment building to be erected on Detroit Ave. for Jos. Novogroder, 1791 E. Sixty-third St.; cost $80,000.

Lorain, Ohio.—Reported Chas. Farrell, Lorain, contemplates erecting $50,000 hotel at Bway. and Eighth St.

Chicago, Ill.—Reported contract soon to be let by Bd. of Educ. for erecting Robert Lindblom High School, at Sixty-first and Sixty-second Sts., Lincoln and Winchester Aves.; cost, $1,000,000. Arthur F. Hussander, archt., 730 Oakdale St.

Illinois, Central Ry. (A. S. Baldwin, ch. engr., Chicago) submitted plans to City Council for proposed railway passenger terminals. Station to be of granite and steel construction, 400 x 700 ft. and trainsheds 1400 ft. long.

Rock Falls, Ill.—Steps being taken to erect 2-story and basement, 140 x 80 ft., brick and tile high school; cost, $50,000. F. J. Scott, clk. bd. of educ.

Urbana, Ill.—Trus. of University of Illinois reported in favor of erecting three new buildings at University to cost $200,000 each.

West Allis, Wis.—Erection of high school to cost about $80,000 contemplated. Address. Clk. School Bd.

Cedar Rapids, Iowa.—Y. M. C. A. intends erecting five-story building, to cost about $165,000.

Clarinda, Iowa.—Erection of school on Garfield St. contemplated; cost, $60,000. Address School Bd.

Des Moines, Iowa.—Reported a $75,000 women's dormitory is to be erected for Highland Park College.

Minneapolis, Minn.—Reported city considering rebuilding First Infantry Armory, Kenwook Parkway near Hennepin Ave.; cost about $100,000.

E. F. Lundberg, 24. S. Thirteenth St., contemplates erecting 3-story brick apartment building at 1212 Yale Pl.; cost $70,000.

An administration building, costing $500,000, is to be erected for St. Mary's Hospital.

An addition is to be erected to West High School, Hennepin Ave.; cost $225,000. Address Secy. Bd. of Educ.

Y. M. C. Assoc. (S. W. Wiley, genl. secy.) proposes erecting 6-story fireproof building to cost $800,000.

South St. Paul, Minn.—Swift & Co., South St. Paul, propose erecting office building to cost about $50,000.

St. Paul, Minn.—Sperry Realty Co., 207 Pittsburgh Bldg., will erect $150,000 fireproof apartment building at Summit Ave. and Wabasha St.

St. Thomas College, Merriam Park, will erect new chapel to cost $80,000.

Wichita, Kan.—Plans of Rose & Peterson, 715 Minnesota Ave., Kansas City, selected for county jail, to be 6 stories, of steel, concrete and stone construction.

Omaha, Neb.—Bd. Trus. of Methodist Hospital, Thirty-sixth and Cuming Sts., authorized erection of new wing to cost $70,000.

John Latenser & Sons, Bee Bldg., engaged to prepare plans for new Athletic Club building to be erected on Douglas and Seventeenth Sts.; cost about $400,000.

Contract will be let about Nov. 10 for erecting Training School at Sixth and Pierce Sts.; cost $55,000.

Great Falls, Mont.—Wm. Roberts, Great Falls, plans erecting three-story, 100 x 150 ft., fireproof business building on Central Ave. and Fifth St., to cost $150,000.

Helena, Mont.—Reported Hugh Daly of Butte has purchased Broadwater Hotel here and intends erecting addition to cost about $50,000.

Beaumont, Tex.—Contract soon to be let for 20-room Pollard School; estimated cost about $65,000. Guy W. Jumker, pres. school bd.

Denison, Tex.—Plans prepared by C. H. Page & Bro., Austin Nat'l. Bank Bldg., Austin, for $50,000 fireproof ward school. Address School Bd.

Fort Worth, Tex.—Sanguinet & Staats, First Nat'l. Bank Bldg., engaged by School Bd. to prepare plans and supervise construction of high school, negro high school and addition to Fifth Ward School, for which $225,000 bonds were voted.

Sherman, Tex.—Plans being prepared by C. H. Page & Bro., Austin Nat'l. Bank Bldg., Austin, for high school to cost 80,000. Address Bd. of Educ.

Bartlesville, Okla.—Election Nov. 7 to vote $100,000 bonds to erect high school. Address Bd. of Educ.

Durant, Okla.—County Comrs. reported in favor of calling election to vote $100,000 courthouse and jail bonds. Address County Clerk.

Oklahoma, Okla.—Plans being prepared by Stewart & Wilderson, Oklahoma, for 40-suite apartment house to cost $60,000.

Bremerton, Wash. — See "Reinforced Concrete."

Portland, Ore.—Reported contract soon to be let by A. E. Doyle, archt., Worcester Bldg., for erecting Woman's Union Building at Tenth and Montgomery Sts.; cost about $100,000.

Plans being prepared by Houghtaling & Dougan, Henry Bldg., for 3-story and basement building to be erected at Fourth and Taylor Sts. for Moose Lodge; cost $50,000.

School Bd. contemplates erecting six new schools as follows: Nicholson, Malone Heights, Woodstock, Hoffman, Laurelhurst and a third unit for Franklin High School.

Los Angeles, Cal.—A. C. Martin, 430 Higgins Bldg., engaged to prepare plans for 9-story theater and office building, to be erected at Third St. and Bway., for Stability Bldg. Co.

San Francisco, Cal.—Competitive plans will be received Feb. 15 by State Bd. Control, Sacramento, for San Francisco State Bldg. Program of conditions and instruction on file in New York office of Engineering Record.

Seal Beach, Cal.—See "Reinforced Concrete."

Tucson, Ariz.—Reported Bd. of Regents of University of Arizona (R. B. Von Kleissmid, pres.), desires plans and specifications for a college of mines and engineering building to cost $150,000.

Soda Springs, Idaho.—Frank Paradice, Pocatello, engaged to prepare plans for 3-story and basement, 100 x 160-ft. hotel and sanatorium to be erected for Soda Springs Hotel & Sanatorium Co.; cost $175,000.

St. John, N. B.—Plans being prepared by F. Neil Brodie, 42 Princess St., for brick and steel hotel, to be erected for H. E. Green; cost $50,000.

St. Johns, N. B.—See "Structural Steel Work."

Verdun, Que.—Contract soon to be let for erecting brick, steel and limestone addition to Gertrude Ave. College; cost, $75,000. J. Benoit, archt., 1200 Wellington St.

Kemptville, Ont.—F. R. Heakes, Parliament Buildings, Toronto, engaged to prepare plans for new Agricultural School to be erected for Provincial Dept. of Agriculture; cost, $150,000.

BIDS DESIRED.

Springfield, Mass.—Until Oct. 12 (readvertisement), by Com. on City Property (Giles Blague, chmn.), Administration Bldg., for erecting school on Franklin St., to be known as Hooker School. Sam'l M. Green Co., 293 Bridge St., Springfield, engrs. and archts.

Rockville, Conn.—Until Nov. 21, by Jas. A. Wetmore, acting superv. archt., Washington, D. C., for constructing U. S. Post office, advertised in this issue.

Hudson, N. Y.—Until Oct. 13, at N. Y. State Training School for Girls, for construction work of repairs to roof of Administration building, advertised in this issue. Lewis F. Pilcher, state archt., Albany.

New York, N. Y.—Until Oct. 9, by C. B. J. Snyder, supt. of school buildings, for erecting, including plumbing and drainage, addition to School No. 32 on E. 183rd St., Bronx Boro. Total security, $53,000.

Potsdam, N. Y.—Until Oct. 31, by Dr. Thos. E. Finegan, deputy comr. of educ., Education Bldg., Albany, for erecting, heating, plumbing and electric work for reconstruction of State Normal Training School, Potsdam, advertised in this issue. Lewis F. Pilcher, state archt., Albany.

East Orange, N. J.—Until Nov. 27, by James A. Wetmore, acting superv. archt., treas. dept., Washington, D. C., for erecting postoffice. Probable cost, $100,000.

Paterson, N. J.—Until Oct. 13, by Jas. J. Maher, chmn. hospital committee, Bd. of Health, for erecting nurses' home, laundry and pavilion at Paterson Isolation Hospital.

Media, Pa.—Until No. 14, by James A. Wetmore, acting superv. archt., treas. dept., Washington, D. C., for constructing U. S. postoffice.

Munhall, Pa.—Reported desired by Dr. J. F. McNeely, pres. bd. educ., until Oct. 16, for 2-story and basement, 50 x 80 ft. addition to high school; probable cost $75,000. Wm. G. Eckles, archt., Lawrence Savings & Trust Bldg., New Castle, Pa.

Cincinnati, Ohio.—Until Nov. 1, by Bd. Educ. (Chas. W. Handman, bus. mgr., 511 West Court St.), for addition to McKinley school, including gymnasium; cost, $50,000.

Kenmore, Ohio.—Until Oct. 23, by Bd. Educ. (Ira W. Fiscus, clk.), for erecting high school at Michigan and Wyoming Aves. M. P. Lauer, archt., 328 Hamilton Bldg., Akron.

Lima, Ohio.—School bonds for $490,000 sold. Address Bd. Educ.

Newark, Ohio.—Reported desired until Oct. 10 for 2-story and basement, 80 x 100 ft. parochial school and convent for St. Francis De Sale's R. C. congregation; probable cost $60,000. Howard & Merriam, archts., 8 E. Broad St., Columbus.

Springfield, Ohio.—Until Oct. 13, by J. M. Pierce, co. aud., for erecting additions to building at the County Children's Home. Robt. G. Gotwald, archt., Springfield.

Until Oct. 13, by Co. Comrs., at office of J. M. Pierce, co. aud., for additions to County Infirmary building. Robert C. Gotwald, archt., Gotwald Bldg.

Wilmington, Ohio.—Reported desired until Oct. 13 for erecting 2-story and basement, 56 x 174 ft. motion picture theater; probable cost $60,000. Dittoe, Fannestock, Ferber, archts., 103 Carew Bldg., Cincinnati.

Flint, Mich.—Until Oct. 12 by A. J. Wildanger, Secy. Bd. Trust. Union School Dist., for erecting Dort school. Separate bids for heating, ventilating, plumbing, etc. Malcomson & Higginham, archts., 404 Moffat & Bldg., Detroit.

Grand Rapids, Mich.—Until Oct. 20, by H. N. Morrill, bus. mgr. bd. of educ., for erecting 1-story grade school, advertised in this issue. H. H. Turner, archt., 234 N. Division Ave.

Ypsilanti, Mich.—Until Oct. 25, by Fred. L. Keeler, sec. State bd. educ., Lansing, for erecting an administration building at Michigan State Normal College, including heating, plumbing, etc. Smith Hinchman & Grylls, archts., Washington Arcade, Detroit.

Dunning, Ill.—Until Oct. 17, by Bd. of Administration (Frank D. Whipp, Fiscal Superv.), Springfield, for erecting kitchen, bakery and dining room building at Chicago State Hospital, Dunning. Separate bids for heating, plumbing, etc. Jas. B. Dibelka, state archt., 130 N. Fifth Ave., Chicago.

Kenosha, Wis.—Report desired until Oct. 15 for erecting 3-story clubhouse for B. P. O. E. No. 750 (E. F. Randall, chmn. bldg. comn., 730 Exchange St.); probable cost $100,000. R. A. Messmer & Bro., archts., Majestic Bldg.

Mt. Pleasant, Iowa.—Until Oct. 21, by Pleasantlawn Consolidated School Dist. (John Kopp, secy.) for furnishing material and erecting school. Separate bids for heating, plumbing, ventilating, etc. H. W. Underhill & Co., archts., Bryant Bldg., Kansas City, Mo.

St. Paul, Minn.—Until Oct. 10, by A. M. Stem, archt., 601 Endicott Bldg., for erecting 12-story and basement clubhouse and store for St. Paul Athletic Club. Toltz Eng. Co., engrs., 1410 Pioneer Bldg.

Clear Lake, S. D.—Report desired until Oct. 18 for 2-story and basement court house; probable cost $85,000. J. M. Wold, co. aud., Buechner & Orth, archts., 500 Shubert Bldg., St. Paul, Minn.

Wenatchee, Wash.—Until Nov. 10, by James A. Wetmore, acting superv. archt., treas. dept., Washington, D. C., for constructing U. S. postoffice.

Fresno, Cal.—Plans being prepared by Coates & Travers, Rowell Bldg., for fireproof county hospital; probable cost, $50,000. Address co. clk.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Brooklyn, N. Y.**—Contract awarded Marc Eidlitz & Son, Pierrpont and Clinton Sts., for erecting new edifice at Park Ave. and Fiftieth St. for St. Bartholomews Church; estimated cost, $1,000,000.

★**Rochester, N. Y.**—Contracts reported awarded by Bd. Educ. for erecting School 22, include following: Mason and carpenter work, R. T. Ford, 206 South Ave., $110,617; plumbing, heating and ventilating, Edw. Towe, Rochester, $41,658; cut stone, Buffalo Litholite Co., Main and Amherst Sts., Buffalo, $11,751; roofing, Flesch & Schmidt, 123 Andrews St., $10,602.

★**Garfield, N. J.**—Contract awarded by Bd. of Educ. for erecting Palisade Ave. School to P. F. Caviston, Carbondale, Pa., at $59,595, and plumbing to Thos. J. Nolan, 222 Madison St., Passiac, at $5,500.

Trenton, N. J.—Lowest bids opened by City Comn. for erecting city police, fire and telephone equipment building, totaling $97,340, include following: General construction, S. W. Mather, Greenwood and Canal Sts., $68,734; plumbing and heating, Greiner Plumbing Co., 254 N. Clinton Ave., at $2,014 and $2,680 respectively.

★**Philadelphia, Pa.**—Contract awarded Geo. L. Sipps, 912 Locust St., for erecting 4-story and basement, terra cotta and granite bakery for Henry Rohner; cost $50,000.

★**Pittsburgh, Pa.**—A. F. Gailey, 6468 Frankstown Ave., reported contractor for erecting $50,000 addition to clubhouse of Loyal Order of Moose No. 47, Boyle and North Aves., Northside.

★Contract awarded Golden & Crick, 3512 Fifth Ave., for erecting motion picture theater at Liberty Ave. and Forty-seventh St., for Jas. Clark; estimated cost, $50,000.

★**Cincinnati, Ohio.**—Contract awarded Jas. Griffith & Sons Co., Reading Rd. and E. Twelfth St., for alterations to Trinity Methodist Church, W. Ninth St.; estimated cost $50,000. Saml. Hannaford & Sons, archts., Sixth and Vine Sts.

★**Wilberforce, Ohio.**—Contract reported awarded Cullen & Vaughn Co., Hamilton, for erecting two buildings for Wilberforce University, at $95,000.

★**Jackson, Mich.**—Contracts awarded by Bd. of Educ. (G. W. Scotford, secy.) for erecting school (bids opened Sept. 22) as follows: General construction, J. S. Wahlman, Ann Arbor, $169,850; heating and ventilating, Lige Heating & Ventilating Co., Auburn, Ind., $29,896; plumbing, Arthur Pickles, Jackson, $14,073.

★**Jesup, Iowa.**—Contracts for erecting Jesup consolidated school (bids opened Sept. 19) awarded as follows: General construction, Logan Bros., Clinton, $65,850; heating and ventilating, G. E. Newton Co., Waterloo, $10,429; plumbing, Messner & Co., Cedar Rapids, $5,419.

★**Rexburg, Idaho.**—Contract awarded Pacific Constr. Co., Rexburg, for erecting $65,000 hotel for Rexburg Investment Co.

★**Quebec, Que.**—Contract awarded J. Gosselin, Levis, Que., for erecting brick hospital for Anti-Tuberculosis League; cost, $125,000.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Biloxi, Miss.—City Council decided to issue $30,000 bonds for constructing seawall along beach front, and street improvements.

Pass Christian, Miss.—In report to A. F. Saucier, mayor, for proposed seawall, the lock block system of concrete walls is recommended.

Akron, Ohio.—State Supt. Pub. Wks., Columbus, preparing estimates on cost of constructing reservoir to impound water of Tuscarawas River Valley to add to storage capacity of the Portage Lake system, including dredging, retaining wall, etc., for industrial purposes, for Akron and other communities.

Minneapolis, Minn.—Minneapolis General Electric Co., 15 South Fifth St., contemplates constructing concrete foundation for 5-story office building and substation at 17 Fifth St. S.; cost $100,000.

Beaumont, Tex.—Resident Engr. O. A. Seward has been engaged by the city to prepare plans for wharf units to complete the wharf system. Portion of $230,000 bonds recently voted to be used for this purpose.

Houston, Tex.—E. E. Sands, city engr., is preparing plans for repairing pier of McKee St. bridge. Cost, $7,000.

Seattle, Wash.—County Engineer engaged to prepare plans for a dock 100 x 75 ft. at north end of Lake Union for county.

Klamath Falls, Ore.—U. S. Reclamation Service will lease to private party right to construct dam across head of Link River to obtain power to pump water on 20,00 acres of land.

Newport Beach, Cal.—Citizens voted $125,000 bonds for constructing jetty 2000 ft. long and dredging a channel 2 miles long. Paul E. Kressley, city engr.

Richmond, Cal.—Reported agreement reached between city and Bay Counties Land Co. on constructing certain portions of inner harbor and reclamation of lands. Address city clk.

Prescott, Ariz. — Arizonia Hydraulic Power Co. (Ed. Meeks, mgr., Prescott), contemplates constructing diversion dam on Verde River, 23 miles south of Campe Verde, to consist of installation of three units, generating 6500 hp., constructing transmission line a distance of 120 miles and constructing 12 miles of ditches and flumes to convey water to power plants.

Ogden, Utah.—See "Waterworks and Sewers."

BIDS DESIRED.

Boston, Mass.—Until Oct. 13, by Park and Recreation Dept. (John H. Dillon, chmn.), for grading and constructing seawall on Savin Hill Beach, Dorchester.

Washington, D. C.—Until Oct. 31 by Comrs. D. C. (Oliver P. Newman, chm.) for constructing portion of wall on Canal road, advertised in this issue.

Wheeling, W. Va.—Until Oct. 21, at U. S. Engr's. office, for furnishing and erecting steel lock gates, for Dam No. 24, Ohio River, advertised in this issue.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Atlantic City, N. J.**—Contract awarded J. W. Ingersoll, Atlantic City, at $27,186, by City Comn., for concrete sea wall around Absecon Inlet Playground.

★**Mobile, Ala.**—Jett-Muths Constr. Co., Mobile, awarded contract at $12,000 by Bd. City Comrs., for floating and delivering back to their original moorings four sections of Ollinger-Bruce Dry Docks, by means of levees.

Indianapolis, Ind.—Following two bids received by Bd. Pub. Wks. Sept. 27, for constructing concrete flood-prevention wall along south bank of Fall Creek: American Constr. Co., 108 N. Delaware St., $113,300, for (a) mass construction, and $114,100 for (b) reinforced concrete construction: Hackedorn Contr. Co., Indianapolis, (a) $152,771; (b) $144,979.

★**Seattle, Wash.**—Following are four lowest bids opened Sept. 20 for constructing transit shed extension on existing substructure of Wharf No. 2 East Waterway erminal, Harrington Peters, Oriental Bldg., at $32,800 (contract awarded); Sweeson & Co., 3065 Arcade Bldg., $33,538; Standard Constr. Co., 205 Pacific Blk., $33,792; Chas. W. Carkeek, Haight Bldg., $33,900, all of Seattle.

Montrose, Col. — Following are bids opened Sept. 15 by U. S. Reclamation Service, for constructing Ironstone Canal extension, etc. Uncompahgre Valley project: Osman Constr. Co., $11,005, Schs. 1, 2, 4, 9, 10 and 11, and Holliday & Elledge, Schs. 7, 8 and 12, $8,365. Bidders of Montrose.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Trenton, N. J.—Benj. F. Cresson, Jr., ch. engr. State Bd. of Navigation, has asked Federal Bd. of Rivers and Harbors to dredge Delaware River between Cooper Point and Fisher Point, also remove dike at latter point.

Jacksonville, Fla.—Plans prepared by Isham Randolph & Co., Chicago, for proposed Upper St. Johns Drainage Dist. have been approved by War Dep., and provide for drainage of 265,000 acres lying in Brevard, Osceola, Orange and St. Lucie Counties; cost, about $2,500,000. Amos A. Barlow, Cocoa, is member bd. superv.; P. A. Vans Agnew, attorney, Jacksonville.

Jacksonville, Fla.—War Dept. approved plans prepared by Isham Randolph, Jacksonville, for upper St. Johns Drainage Dist. on east coast of Florida, between Cocoa and Fellsmere, to include upper St. Johns Valley and consist of about 265,000 acres, 40 miles long and 14 miles wide. F. Bills of Melbourne, chmn. dist.

New Roads, La. — Portage Drainage Comrs., New Roads, will issue $25,000 bonds for excavating 287,340 cu. yd. and improving 86,380 acres of land.

Arcola, Ill.—Surveys being made by W. E. Price, co. surveyor, Tuscola, and J. D. Allen, Chicago, for straightening, deepening and widening Okaw River from Coles County line to Taylor bridge, south of Atwood, for purpose of organizing a drainage district, W. Collier and L. G. Clark of Garrett and Ely Payne of Arcola, comrs. Craig & Craig, attys., Mattoon.

Benson, Minn.—Judicial Ditch No. 4 established and cost estimated at $73,298. The ditch is to consist of a channel 40 ft. wide at bottom and 60 ft. wide at top, straightening and deepening west branch of Chippewa River. Henry T. Ronning, of Glenwood, atty.

Mankato, Minn.—Bd. of Viewers estimate cost of County Ditch No. 16 at $14,200. C. D. Ott, Mankato, may be able to give information.

New Ulm, Minn.—Residents of Swan Lake petition Co. Comrs. to provide for drainage of the lake. Estimated cost, $40,000.

St. Peter, Minn.—Co. Comrs. contemplate selling $30,000 ditch bonds.

Madison, S. D.—Co. Comrs. of Lake and Miner Counties will soon let contract for constructing a drainage ditch. Estimated cost, $20,000. Address Co. Aud., Madison.

Corpus Christi, Tex.—Contract soon to be let by Co. Comrs. for reconstructing approach fills to Corpus Christi causeway to consist of dredging approximately 150,000 cu. yd. shell. Bartlett & Ranney, engrs., 108 E. Crockett St., San Antonio.

Salem, Ore.—R. W. Rea, ch. engr. Ochoco Irrigation Dist., asked State Engr. Lewis to approve plans for election for issuance of $1,000,000 bonds for irrigating 23,400 acres of land near Prineville.

Bellflower, Cal.—U. S. Storm Water Dist. organized and surveys made by O. E. Stewart of Anaheim on 9¾ miles of Santa Ana River. A dyke 50 ft. wide at bottom and 20 ft. wide at top is contemplated; also excavation of about 30,000 cu. yd. material, etc. Cost, $125,000.

Corcoran, Cal.—D. W. Lewis, Mgr. Tulare Lake Dredging Co. of Corcoran; J. H. Leavering, engr., and others reported interested in plan to organize Overflow Dist. No. 1, construct canal 80 miles long, 1000 ft. wide, with levee 10 ft. high, for carrying and storing flood waters of Kings and Kern Rivers for reclamation of about 190,000 acres of land.

Porterville, Cal.—City Trus., Bd. Sup., Southern Pacific Ry. and Atchison, Topeka & Santa Fe Ry. Co. considering plans for constructing flood protection works along Tule River on a co-operative basis.

San Bernardino, Cal.—Plans prepared by J. A. Sourwine, co. engr., for pile and plank dike protection work in Santa Ana River below Colton; cost, $20,000, for flood protection work.

BIDS DESIRED.

New London, Conn.—Until Oct. 13, at U. S. Engrs. Office, New London, for dredging in harbor of New Haven, Norwalk and Stamford.

Philadelphia, Pa.—Until Nov. 9 at U. S. Engineer Office, for dredging and rock excavation in Delaware river, Philadelphia Harbor, advertised in this issue.

Augusta, Ga.—For about 150,000 cu. yd. dry land dredge work, ditches, etc.; can be done with light drag line or dry land dredge which spans ditch. Address H. C. Morrison, 102 Ninth St.

Shreveport, La.—By Hall Nattin, 1129 Forster St., Shreveport, for 200,000 cu. yd. dredge work; will furnish floating dredge.

Lancaster, Ohio.—Until Oct. 26, by Co. Surveyor, for dredging Rushcreek, in Fairfield and Perry counties, 16.95 miles long, 1,252,000 cu. yd. excav.; cost $105,568. C. O. Brown, engr., Lancaster.

Columbia City, Ind.—Until Oct. 18 by J. E. Blummer, co. comn., for constructing main drain and four branches.

Fort Madison, Iowa.—Until Oct. 12, by A. P. Meyer, co. aud., for constructing levee and open ditches in Green Bay: Levee and Drainage Dist. No. 2, Green Bay Township, to consist of levee along roadway in Sect. 4 and 5, 12,000 cu. yd.; Skunk River and Lost Creek levee above elevation, 483,300 cu. yd.; Muck ditch under Mississippi levee ditches, below elevation, 242,700 cu. yd.; Lost Creek levee and Skunk River levee below elevation, 1,149,900 cu. yd.; Main A, as marked on plot, 66,900 cu. yd., etc. Engrs: Edmund T. Perkins Eng. Co., 1211 First National Bank Bldg., Chicago.

Sioux City, Iowa.—Reported desired until Oct. 10, by E. E. Hosmer, co. aud., for Boyer drainage ditch, tile and open work. Probable cost, $13,000. C. Monarby, engr., 619 United Bank Bldg.

St. Louis, Mo.—Until Oct. 30, by Secretary Mississippi River Comn., 1311 International Life Bldg., for about 49,000 cu. yd. earthwork in East Side levee and Sanitary Dist., Ill., advertised in this issue.

Colton, Cal. — Reported desired until Oct. 9, by L. R. Patty, clk. bd. superv., San Bernardino, for constructing protection work on Santa Ana River near Colton.

Modesto, Cal.—Until Oct. 12, by Bd. Directors of Modesto Irrig. Dist. (J. B. Trask, pres.), for constructing concrete lining in main canal of Modesto Irrigation district below Rariden fill

PRICES AND LETTINGS.

★*Indicates award of contract.*

Lynn, Mass.—Following are bids opened Sept. 28 by Comn. Waterways & Public Lands, State House, Boston, for dredging 40,000 cu. yd. of material in Saugus River: Gilbert & Harries, 262 Washington St., 49 cts. per cu. yd.; Boston Dredging Co., 40 Central St., 50 cts. per cu. yd.; Bay State Dredging Co., 247 Atlantic Ave., 83 cts. per cu. yd. (bidders all of Boston).

New London, Conn.—Following are the four lowest bids opened Sept. 23 by U. S. Engrs., for dredging about 480,000 cu. yd. in Harbor of Refuge, Duck Island Harbor: J. S. Packard Dredging Co., Turks Head Bldg., Providence, R. I., 7.7 cts.; Coastwise Dredging Co., Norfolk, Va., 8⅞ cts.; Bay State Dredging & Contracting Co., 247 Atlantic Ave., Boston, Mass., 9.47 cts., and Morris & Cummings Dredging Co., 17 State St., New York, 9.8 cts.

★**Albany, N. Y.**—Contract awarded Lupfer & Remick, Buffalo, at $51,654, by W. W. Wotherspoon, state supt. pub. wks., for Terminal Contract 31, barge canal terminal at Lyons (bids opened Sept. 6).

★**Lavonia, Ga.** — Contract awarded Thompson & Mosely, Greensboro, N. C., at $81,400, for ditching Broad River and draining about 3000 acres of swamp lands, involves digging of ditch 17.6 miles long on Broad River and about 10 miles of ditches on tributaries; about 700,000 cu. yd. excav.

★**Memphis, Tenn.**—Contract awarded R. L. Leonard for all four sections in the Upper St. Francis levee district, 700,000 cu. yd., at 21 cts. per cu. yd., and Bod-

gert Bros., White River levee district, Sect. No. 1, 400,000 cu. yd., Sect. No. 1, 21.3 cts., and Sect. No. 2, 29.7 cts. Bidders of Memphis. (Bids opened Sept. 19 by U. S. Engr., Memphis.)

St. Ignatius, Mont.—Following are three bids opened Sept. 20 by U. S. Reclamation Service, for constructing canals and structures on Flathead project, Mont., involving about 125,000 cu. yd. excav; (a) Sched. I; (b) Sched. II; (c) Sched. III; (d) Sched. IV; (e) total for all schedules: Pearson Constr. Co., Seattle, (a) $3,765, (b) $4,242, (c) $20,967, (d) $9,261, (e) $338,236; Welch Bros. & Hannaman, Kalispell, Mont., (a) $8,530, (b) $8,539, (c) $24,835, (d) $16,835, (e) $57,907; Nelson Rich, Dixon, Mont., (a) $5,980, (b) $9,393, (c) $22,557, (d) 20,-241, (e) $58,172.

Fort Laramie, Wyo.—Following are totals of three lowest bids opened Sept. 28, by U. S. Reclamation Service, for earthwork and structures, Fort Laramie Canal, North Platte Project (Engineer's estimate $304,942): (a) Sch. I, excav. 287,000 cu. yd. class 1, 8000 cu. yd. class 2, 100 cu. yd. class 3, 42,000 sta. yd. overhaul; (b) Sch. II, excav. 233,300 cu. yd. class 1; 35,000 cu. yd. class 2, 100 cu. yd. class 3, 59,000 sta. yd. overhaul; (c) Sch. III, excav. 200,000 cu. yd. class 1, 43,000 cu. yd. class 2, 100 cu. yd. class 3, 100,000 sta. yd. overhaul; (d) Sch. IV, excav. 210,000 cu. yd. class 1, 44,000 cu. yd. class 2, 100 cu. yd. class 3, 182,000 sta. yd. overhaul; (e) Sch. V, excav. 263,000 cu. yd. class 1, 25,000 cu. yd. class 2, 400 cu. yd. class 3, 161,000 sta. yd. overhaul; (f) Sch. VI, excav. 285,000 cu. yd. class 1, 22,000 cu. yd. class 2, 1000 cu. yd. class 3, 115,000 sta. yd. overhaul; (g) Sch. VII, excav. 15,000 cu. yd. class 1, 3500 cu. yd. class 2, 100 cu. yd. class 3, 1450 cu. yd. concrete, 127,000 lb. placing reinforcing steel, 690 lin. ft. placing 24-in. dia. vitr. pipe, 3000 sq. yd. 12-in. grouted paving, 7000 cu. yd. backfill; (h) grand totals: Winston Bros. Co., Minneapolis, Minn., (a) $33,960, (b) $42,532, (c) $38,287, (d) $42,582, (e) $40,785, (f) $39,767, (g) $32,147, (h) $270,061; MacArthur Bros. Co., 11 Pine St., New York City, (a) $42,154, (b) $44,076, (c) $43,327, (d) $46,837, (e) $50,806, (f) $52,020, (g) $32,259, (h) $311,479; Hayden Bros., Great Falls, Mont., (a) $43,675, (b) $49,615, (c) $44,960, (d) $48,400, (e) $50,095, (f) $51,705, (g) $41,080, (h) $329,530.

★**Medford, Ore.**—Contract awarded C. E. Bade, Portland, by Bd. Dir. Talent Irrigation Dist., for constructing irrigation system to water, 5000 acres.

TUNNELS AND SUBWAYS

PROPOSED WORK.

Rosedale, Kan.—City officials taking steps in connection with straightening Turkey Creek and diversion of stream into Kaw River, through a tunnel built through Greystone Heights. City of Rosedale will have charge of the work, but the cost is to be paid by Kansas City and steam railroads interested.

Fort Worth, Tex.—City reported planning constructing subway under Main St. Probable cost, $250,000.

Fort Worth, Tex.—Various railroads interested, including Houston & Texas Central RR. (H. H. Jonas, engr. of structures, Houston), and Santa Fe, are considering plans for subway under Main St., to cost, including additions and terminals and stations, $250,000.

Lakeview, Cal.—Surveys being made for tunnel to be constructed through Fandango Mountain, distance of three miles, in vicinity of Fandango Pass, for Oregon, California & Eastern RR. of which Robt. T. Strahorn, Heyerford Bldg., Lakeview, is promoter.

BIDS DESIRED.

Litchfield, Conn.—W. T. Ryan Constr. Co., 129 Barker St., Hartford, will sublet about 1500 ft. of rock tunnel at Litchfield, advertised in this issue.

Philadelphia, Pa.—Until Nov. 2 by Wm. S. Twining, dir. dept. city transit 754 Bourse Bldg., for constructing section of Broad St. subway known as cont. No. 102, advertised in this issue.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Dendron, N. C.**—Contract awarded Consolidated Engineering Co., 243 Calvert Bldg., Baltimore, at $250,000, for tunnel for Southern Ry. at Dendron.

MISCELLANEOUS

PROPOSED WORK.

Conduits—Elizabeth, N. J.—Permission has been granted Public Service Electric Ry. Co. by Bd. Wks. for laying underground conduits, manholes and service pipes in Bayway.

Incinerator—Summit, N. J.—Construction of an incinerating plant under consideration. Cost, about $25,000. Address city clk.

Electric Hoists—Mobile, Ala.—Louisville & Nashville RR. (W. H. Courtenay, ch. engr., Louisville, Ky.), Mobile, plans installing electrical hoists at the coal dock. Estimated cost, $78,600.

Hamilton, Ohio.—Reported that plans have been made for enlargements and improvements to city hall park. Address City Clerk.

Transmission Line—Omaha, Neb.—Nebraska Gas & Electric Co. (W. G. Ross, gen. mgr., 505 Karbach Bldg.) will extend transmission line from Tilden to Oakdale, a distance of about 10 miles.

BIDS DESIRED.

Waterproofing Bridge. — Lawrence, Mass.—Until Oct. 21 by Lawrence Bridge Comm. (John J. Donovan, Chmn.), 502-508 Bay State Bldg., for water proofing and protecting surface of Central bridge across Merrimac river, advertised in this issue. B. H. Davis, engr., 17 Battery Pl., New York.

Garbage Incinerator—Highland Park, Ill.—Until Oct. 13 (readvertisement), by E. A. Warner, city clk., for constructing a garbage incinerator. Samuel R. Lewis, engr., 910 S. Michigan Ave., Chicago.

Mail Lift—Miami, Fla.—Until Nov. 1, by Jas. A. Wetmore, act. superv. archt. Treas. Dept., Washington, D. C., for installing electric sidewalk, type mail lift new hoistway, etc., in U. S. post office, court house and custom house.

Engines, Generators, Etc.—Garretson, S. D.—Until Oct. 10, by City Auditor, for one or more internal combustion oil engines, aggregating a total 125 hp., together with A. C. generators, switchboard, building, cooling tower, line materials and transformers, advertised in this issue. Engrs., Electrical Development Co., Omaha, Neb.

Dragline Excavators—Denver, Colo.—Until Oct. 16 (readvertisement), by U. S. Reclamation Service, Denver, for furnishing dragline excavators, advertised in this issue. A. P. Davis, ch. engr.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Rock — New Orleans, La.—Following bids opened Sept. 20, at U. S. Engrs. Office, for 52,000 tons rock: Lester F. Alexander, Audubon Bldg., New Orleans, 17,000 tons delivered Vicksburg, 90 cts. per ton on cars at quarries and 50 cts. ton loading on barges; Big Rock Stone & Constr. Co., 111 Center St., Little Rock, 35,000 tons delivered Vidalia, $1.88; Zeb Ward, Altus, Ark., 17,000 tons delivered Vidalia $1.93.

★**Poles and Brush—Memphis, Tenn.**—Contract awarded Tennessee Contr. Co., Memphis, at $175,000, for furnishing about 100,000 cords brush and poles. Bids opened Sept. 6 by U. S. Engr., Memphis.

Needle Valves—Denver, Colo.—Following bids opened Sept. 20 by U. S. Reclamation Service, for furnishing needle valves for tunnel of Roosevelt Dam: Joshua Hendy Iron Wks., Sunnyside, Cal., $39,750; R. D. Wood & Co., Philadelphia, Pa., $58,000.

Proposals

For Proposals Advertised See Pages 45, 46 and 47.

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.		See Eng. Record.
Oct. 9.	East Orange, N. J. Adv. Sep. 16.	Sep. 16
Oct. 9.	Plainfield, N. J. Adv. Sep. 30.	Sep. 30
Oct. 10.	Port Clinton, Ohio	Sep. 16
Oct. 10.	Lebanon, Ohio	Sep. 16
Oct. 10.	Daytona, Fla.	Sep. 23
Oct. 10.	Ridgewood, N. J.	Sep. 30
Oct. 10.	Rogersville, Tenn.	Sep. 30
Oct. 10.	West St. Paul (P. O. St. Paul), Minn.	Sep. 30
Oct. 10.	St. Louis, Mo.	Oct. 7
Oct. 10.	Panora, Ia.	Oct. 7
Oct. 10.	Long Island City, N. Y.	Oct. 7
Oct. 11.	Bellwood, Pa. Adv. Sep. 16.	Sep. 16
Oct. 11.	Boston, Mass.	Sep. 23
Oct. 11.	Trenton, Mo.	Sep. 23
Oct. 11.	Chilton, Wis.	Sep. 30
Oct. 11.	Olean, N. Y. Adv. Sep. 30, Oct. 7.	Sep. 30
Oct. 11.	Richmond, Va.	Oct. 7
Oct. 12.	Hamilton, Ohio	Oct. 7
Oct. 12.	Tiffin, Ohio	Oct. 7
Oct. 12.	Norfolk, Va. Adv. Sept. 30, Oct. 7.	Sep. 30
Oct. 12.	Harrisburg, Pa.	Oct. 7
Oct. 13.	Kenyon, Minn.	Sep. 23
Oct. 13.	Garden City, Kans.	Oct. 7
Oct. 13.	Kirkville, Mo.	Oct. 7
Oct. 13.	Evanston, Ill. Adv. Oct. 7.	Oct. 7
Oct. 14.	Cleveland, Ohio	Oct. 7
Oct. 14.	Panama	Oct. 7
Oct. 15.	Hermosa Beach, Cal.	Aug. 26
Oct. 15.	Temple, Tex.	Oct. 7
Oct. 16.	Cleveland Heights (P. O. Warrensville), Ohio.	Sep. 16
Oct. 16.	Newark, Ohio	Sep. 23
Oct. 16.	Louisville, Ky.	Sep. 30
Oct. 17.	Tarboro, N. C.	Sep. 30
Oct. 17.	Hermosa Beach, Cal.	Sep. 30
Oct. 17.	Flint, Mich. Adv. Oct. 7.	Oct. 7
Oct. 17.	Pocatello, Idaho Adv. Oct. 7.	Oct. 7
Oct. 18.	Newark, N. Y. Adv. Oct. 7.	Oct. 7
Oct. 18.	South Jacksonville, Fla.	Oct. 7
Oct. 19.	Panama	Oct. 7
Oct. 21.	Cleveland, Ohio	Oct. 7
Oct. 23.	Havana, Fla.	Sep. 16
Oct. 23.	Fairview, N. J. Adv. Oct. 7.	Oct. 7
Oct. 23.	Minneapolis, Minn.	Oct. 7
Oct. 23.	Philipsburg, Pa. Adv. Oct. 7.	Oct. 7
Oct. 27.	Indianapolis, Ind.	Oct. 7
Oct. 30.	Front Royal, Va. Adv. Sep. 30, Oct. 7.	Sep. 30
Oct. 30.	Panama	Oct. 7
———	Granite City, Ill. Adv. Sep. 30.	Sep. 30

STRUCTURAL STEEL WORK

Bids Close.		See Eng. Record.
Oct. 10.	Ogden, Utah	Sep. 30
Oct. 10.	Jersey City, N. J.	Sep. 30
Oct. 11.	New Martinsville, W. Va. Adv. Sep. 23, 30.	Sep. 23
Oct. 13.	Cleveland, Ohio	Oct. 7
Oct. 17.	New Martinsville, W. Va. Adv. Sep. 23, 30.	Sep. 23
Oct. 17.	Buffalo, N. Y. Adv. Sep. 30.	Sep. 30
Oct. 17.	Eatonton, Ga.	Oct. 7
Oct. 19.	Spokane, Wash.	Oct. 7
Oct. 23.	Santa Rosa, N. M.	Oct. 7
Oct. 28.	Philadelphia, Pa.	Oct. 7
Jan. 1.	Mitchell, S. D.	Oct. 7

REINFORCED CONCRETE.

Bids Close.		See Eng. Record.
Oct. 10.	Circleville, Ohio.	Sep. 16
Oct. 10.	Fort Worth, Tex.	Sep. 30
Oct. 11.	Calhoun, Ga.	Sep. 30
Oct. 11.	DeKalb, Miss.	Oct. 7
Oct. 11.	Jersey City, N. J.	Oct. 7
Oct. 12.	Crown Point, Ind.	Oct. 7
Oct. 13.	Trenton, N. J.	Oct. 7
Oct. 14.	Ventura, Cal.	Sep. 30
Oct. 16.	Upland, Cal.	Sep. 30
Oct. 18.	Arcadia, Fla.	Sep. 16
Oct. 24.	Rolfe, Iowa	Sep. 30

ROADS AND PAVING.

Bids Close.		See Eng. Record.
Oct. 10.	Maryland Adv. Sep. 23, 30.	Sep. 23
Oct. 10.	Belvidere, N. J.	Sep. 30
Oct. 10.	Washington, D. C. Adv. Sep. 30.	Sep. 30
Oct. 10.	Chino, Cal.	Sep. 30
Oct. 10.	Greenville, S. C.	Oct. 7
Oct. 10.	St. Louis, Mo.	Oct. 7
Oct. 10.	Tallahassee, Fla.	Oct. 7
Oct. 10.	Tillamock, Ore.	Oct. 7
Oct. 10.	Massachusetts.	Oct. 7
Oct. 10.	Kansas City, Mo.	Oct. 7
Oct. 10.	Buffalo, N. Y.	Oct. 7
Oct. 11.	Hammondton, N. J.	Sep. 30
Oct. 11.	Columbus, Miss.	Sep. 30
Oct. 11.	New York, N. Y.	Oct. 7
Oct. 11.	Camden, N. J.	Oct. 7
Oct. 11.	Brooklyn, N. Y.	Oct. 7
Oct. 11.	DeKalb, Miss.	Oct. 7
Oct. 12.	Bedford, Ohio	Sep. 23
Oct. 12.	Hamilton, Ohio	Oct. 7
Oct. 12.	Steubenville, O.	Oct. 7
Oct. 13.	Lasalle, Que.	Sep. 16
Oct. 13.	Boston, Mass.	Oct. 7
Oct. 14.	Indiana	Sep. 23
Oct. 14.	Houghton Lake, Mich.	Sep. 30
Oct. 14.	Hueneme, Cal.	Sep. 30
Oct. 16.	Maryland Adv. Oct. 7.	Oct. 7
Oct. 17.	Woodbury, N. J.	Sep. 23
Oct. 17.	Omaha, Neb.	Sep. 30
Oct. 17.	Grove Hill, Okla.	Oct. 7
Oct. 18.	Grand Island, Neb.	Sep. 30
Oct. 18.	Baltimore, Md. Adv. Oct. 7.	Oct. 7
Oct. 19.	Newark, N. J.	Sep. 30
Oct. 19.	Brookville, Fla.	Oct. 7
Oct. 20.	Wellsburg, W. Va.	Oct. 7
Oct. 20.	Pennsboro, W. Va.	Oct. 7
Oct. 21.	Moundsville, W. Va.	Oct. 7
Oct. 25.	Indiana	Sep. 16
Oct. 26.	Albany, N. Y. Adv. Oct. 7.	Oct. 7
Oct. 28.	Philadelphia, Pa.	Oct. 7
Oct. 29.	Greensburg, Pa.	Oct. 7
Oct. 30.	Texarkana, Ark. Adv. Sep. 30, Oct. 7.	Sep. 30
Oct. 30.	Natchitoches, La.	Oct. 7

RAILWAYS

Bids Close.		See Eng. Record.
Dec. 6.	Portland, Ore. Adv. Sep. 30.	Sep. 23

BUILDINGS.
Public and Private.

Bids Close.		See Eng. Record.
Oct. 10.	Sonyea, N. Y. Adv. Sep. 23 to Oct. 7.	Sep. 23
Oct. 10.	Oshkosh, Wis.	Sep. 30
Oct. 10.	St. Paul, Minn.	Oct. 7
Oct. 10.	Newark, Ohio	Oct. 7
Oct. 11.	Ottawa, Kan.	Sep. 16
Oct. 11.	Pleasant City, Ohio	Sep. 16
Oct. 12.	Buckhannon, W. Va.	Sep. 9
Oct. 12.	San Bernardino, Cal.	Sep. 23
Oct. 12.	Springfield, Mass.	Oct. 7
Oct. 12.	Flint, Mich.	Oct. 7
Oct. 13.	Hudson, N. Y. Adv. Oct. 7.	Oct. 7
Oct. 13.	Springfield, Ohio	Oct. 7
Oct. 13.	Paterson, N. J.	Oct. 7
Oct. 13.	Wilmington, Ohio	Oct. 7
Oct. 15.	Chicago, Ill.	Sep. 30
Oct. 15.	Kenosha, Wis.	Oct. 7
Oct. 16.	Dickinson, N. D.	Sep. 9
Oct. 16.	Clear Lake, S. D.	Sep. 30
Oct. 16.	Munhall, Pa.	Oct. 7
Oct. 17.	New Orleans, La.	Sep. 2
Oct. 17.	Dunning, Ill.	Oct. 7
Oct. 18.	Wilmington, N. C.	Sep. 23
Oct. 18.	Waterloo, Iowa	Sep. 23
Oct. 18.	Elizabeth, N. J.	Sep. 30
Oct. 18.	Canby, Minn.	Sep. 30
Oct. 18.	Clear Lake, S. D.	Oct. 7
Oct. 19.	Du Bois, Pa. Adv. Sep. 16, 23.	Sep. 16
Oct. 19.	Theills, N. Y. Adv. Sep. 30, Oct. 7.	Sep. 30
Oct. 19.	Ypsilanti, Mich.	Sep. 30
Oct. 20.	Grand Rapids, Mich. Adv. Oct. 7.	Oct. 7
Oct. 21.	Mt. Pleasant, Iowa	Oct. 7
Oct. 23.	Kenmore, O.	Oct. 7
Oct. 23.	Boise, Idaho	Sep. 23
Oct. 23.	Kenmore, Ohio	Oct. 7
Oct. 24.	Valley Junction, Iowa	Sep. 30
Oct. 24.	Santo Domingo, D. R.	Sep. 30
Oct. 25.	Ypsilanti, Mich.	Oct. 7
Oct. 30.	Burlington, N. C.	Sep. 23
Oct. 30.	Ridgewood, N. J.	Sep. 30
Oct. 31.	Woodbury, N. J.	Sep. 30
Oct. 31.	Potsdam, N. Y. Adv. Oct. 7.	Oct. 7
Nov. 1.	Hartford, Conn.	Sep. 30
Nov. 1.	Mishawaka, Ind.	Sep. 30
Nov. 1.	Cincinnati, Ohio	Oct. 7
Nov. 10.	Wenatchee, Wash.	Oct. 7
Nov. 12.	St. Cloud, Minn.	Sep. 30
Nov. 13.	Birmingham, Ala.	Sep. 23
Nov. 14.	Media, Pa.	Oct. 7
Nov. 21.	Rockville, Conn. Adv. Oct. 7.	Oct. 7
Nov. 27.	East Orange, N. J.	Oct. 7
Jan. 1.	Webster, S. D.	Sep. 16

FOUNDATIONS, PIERS AND DAMS.

Bids Close.		See Eng. Record.
Oct. 10.	Gagetown, N. B.	Sep. 30
Oct. 10.	Augusta, Ga. Adv. Sep. 30.	Sep. 30
Oct. 12.	Huntington, W. Va.	Sep. 23
Oct. 13.	Boston, Mass.	Oct. 7
Oct. 17.	Chicago, Ill. Adv. Sep. 23 to Oct. 7.	Sep. 23
Oct. 18.	Rock Island, Ill. Adv. Sep. 23 to Oct. 7.	Sep. 23
Oct. 21.	Norfolk, Va.	Sep. 23
Oct. 21.	Boston, Mass.	Sep. 30
Oct. 21.	Wheeling, W. Va. Adv. Oct. 7.	Oct. 7
Oct. 31.	Washington, D. C. Adv. Oct. 7.	Oct. 7

EXCAVATION, DREDGING AND DRAINAGE.

Bids Close.		See Eng. Record.
Oct. 10.	St. Ignatius, Mont. Adv. Sep. 9.	Sep. 9
Oct. 10.	Albany, N. Y. Adv. Sep. 16 to Oct. 7.	Sep. 16
Oct. 10.	Humboldt, Neb.	Sep. 30
Oct. 10.	Vermilion, Ill.	Sep. 30
Oct. 10.	Sioux City, Ia.	Oct. 7
Oct. 11.	Morris, Minn.	Sep. 30
Oct. 12.	Morris, Minn.	Sep. 30
Oct. 12.	Fort Madison, Iowa	Oct. 7
Oct. 12.	Modesto, Cal.	Oct. 7
Oct. 13.	Roseau, Minn.	Oct. 7
Oct. 13.	New London, Conn.	Oct. 7
Oct. 16.	Olivia, Minn.	Sep. 30
Oct. 16.	Roseau, Minn.	Sep. 30
Oct. 17.	Albany, N. Y.	Sep. 30
Oct. 17.	Olivia, Minn. Adv. Sep. 30, Oct. 7.	Sep. 30
Oct. 17.	Norwalk, Ohio	Oct. 7
Oct. 18.	Columbia City, Ind.	Oct. 7
Oct. 23.	Providence, R. I. Adv. Sep. 30, Oct. 7.	Sep. 30
Oct. 23.	Seattle, Wash.	Oct. 7
Oct. 26.	Lancaster, Ohio	Oct. 7
Oct. 30.	St. Louis, Mo. Adv. Oct. 7.	Oct. 7
Oct. 31.	Tallahassee, Fla. Adv. Sep. 30, Oct. 7.	Sep. 30
Nov. 2.	Emmett, Idaho Adv. Sep. 30, Oct. 7.	Sep. 30
Nov. 9.	Philadelphia, Pa. Adv. Oct. 7.	Oct. 7

TUNNELS AND SUBWAYS.

Bids Close.		See Eng. Record.
Nov. 2.	Philadelphia, Pa. Adv. Oct. 7.	Oct. 7
———	Litchfield, Conn. Adv. Oct. 7.	Oct. 7

MISCELLANEOUS.

Bids Close.		See Eng. Record.
Oct. 9.	Metal work for gate operating machinery, Louisville, Ky. Adv. Sep. 16 to Oct. 7.	Sep. 16
Oct. 10.	Road Oil, Ventura, Cal.	Sep. 30
Oct. 10.	Engines, boilers, etc., Garretson, S. D. Adv. Oct. 7.	Oct. 7
Oct. 12.	Hydroelectric Equipment, Yosemite, Cal. Adv. Sep. 23, 30.	Sep. 23
Oct. 13.	Garbage Incinerator, Highland Park, Ill.	Oct. 7
Oct. 16.	Dragline, Denver, Colo. Adv. Oct. 7.	Oct. 7
Oct. 21.	Waterproofing bridge, Lawrence, Mass. Adv. Oct. 7.	Oct. 7
Oct. 28.	Cranes, New York, N.Y.	Sep. 30
Nov. 1.	Mail Lift, Miami, Fla.	Oct. 7
Nov. 11.	Crane, Pearl Harbor, T. H.	Sep. 30
Nov. 11.	Crane, Vallejo, Cal.	Sep. 30
Dec. 6.	Grade Crossings, Portland, Ore. Adv. Sep. 30, Oct. 7.	Sep. 30

Government Reports Slim Crops for 1916

Railroad Equipment Orders Reach Big Totals—Foreign Rail Demands Increase—Steel Prices Stiffen as Pig Iron Advances

THE DEPARTMENT OF AGRICULTURE, in its October report on crops this week, placed the indicated production of all wheat this year at 607,557,000 bu., against 1,011,505,000 bu. harvested in 1915 and 891,017,000 in 1914. The five-year average is 728,000,000 bu. The indicated production of corn is 2,717,934,000 bu. compared with 3,054,535,000 bu. last year.

With a carry-over of approximately 160,000,000 bu. from last year's record-breaking crop it is believed this year's short crop will be sufficient to meet domestic requirements and leave about 100,000,000 bu. available for export, to help supply the heavy demands of the warring European nations.

Other cereal crops also suffered from the adverse conditions of the last summer, and small production has resulted in most crops. White potatoes particularly will be short, the crop this year being the smallest in the last five years. Tobacco, hay and rice, however, promise record crops this year.

As pointed out by the Engineering Record in August, there is small chance, because of the financial strength of the country as a whole, that the short crops will seriously affect the borrowing power of rural communities.

Railroad Equipment Orders

Railroad equipment orders placed during the third quarter of this year included 560,000 tons of rails, 33,343 cars, 525 locomotives, 42,000 tons of bridge work and about 30,000 tons of miscellaneous work, including track supplies. To provide for this equipment about 975,000 tons of steel in various forms have been needed, about 75 per cent of which is understood to have been purchased by the merchant builders and by the railroads. The car orders in the last three months exceeded the contracts placed during the second quarter by about 40 per cent. The September orders were the largest for any month since January. Because of the phenomenal buying in April, May and June there was a heavy falling off in rail contracts in the third quarter. The orders for motive power during that quarter decreased about 35 per cent, as compared with the preceding quarter, but domestic railroads are again actively in the market for locomotives.

Many Rails Wanted Abroad

France and Italy have succeeded in placing contracts with American mills for about 50,000 tons of steel rails, running from 60 to 100 lb. to the yard, for shipment during the second half of 1917. New inquiries amounting to approximately 100,000 tons have come to the rail mills in the last few days for consignment to these countries. Russian and Canadian rail inquiries are still unsatisfied. In the aggregate probably from 175,000 to 200,000 tons are still under negotiation for foreign shipment. The difficulty is to secure shipments before the last quarter of next year.

Pig Iron Advances

The principal activity in the iron and steel trade has recently centered in pig iron. Enormous lots have been purchased, great amounts are pending, and all grades of iron have advanced. The tendency in all lines of iron and steel products is upward, although the swing is not so pronounced as in pig iron, for the reason that most steel producers are sold so far ahead that they are not actively after business and consumers are not willing, except for specific work, to place contracts subject to deferred deliveries.

Waterworks and Sewers

Among the larger items of proposed work noted in this week's issue is a new modern filtration system at Bay City, Mich., to cost about $1,000,000. Citizens of Higginsville, Mo., will make improvements to sewers and sewage-disposal plant amounting to $60,000, while a contract will be let about Feb. 1 for $100,000 worth of sewer construction in Grand Rapids, Mich. Galveston, Tex., has sold $100,000 bonds for water mains. Election will soon be held at Port Arthur, Tex., to vote $180,000 bonds. A large contract for sewer work is about to be let at Los Angeles, and the city council of St. Paul, Minn., has voted $100,000 to construct a sewer system.

Waterworks bonds have been sold by Cleveland, Ohio, for $480,000. Contracts for filtration plants and pumping stations costing about $550,000 will soon be let at Lima, Ohio. A 35,000,000-gal. reservoir is contemplated by Harrisburg, Pa., and about $100,000 will be spent by Fellsmere, Fla., for sewer construction. Bids are desired at Copperhill, Tenn., for a 200,000-gal. concrete reservoir, 4.2 miles of main and more than a mile of 8-in. sewer pipe. At Philadelphia bids are desired for schedule "A" branch sewers, and schedule "B" main sewers and schedule "C" test borings.

Roads and Pavings

Bids opened and contracts awarded:	Kind	Cost or amount
Atlanta, Ga.	Asphalt	$100,000
Boston, Mass.	Macadam	61,000
Boston, Mass.	Asphalt	173,187
Tucson, Ariz.	Gravel	65,000
Long Island City		51,376
Bids desired:		
Washington, D. C.	Grading	107,000 cu. yd.
Fort Lauderdale, Fla.	Highway	10 mi.
Birmingham, Ala.	Highway	15 mi.
Atlanta, Ga.	Paving	
Proposed work:		
Pittsburgh, Pa.	Paving	$120,000
Wellsburg, W. Va.	Highway	10½ mi.
Bedford, Va.	Highway	$75,000
Fellsmere, Fla.	Paving	
Arcadia, Fla.	Paving	90,000
Freeport, Ill.	Macadam	100,000
Rock Island, Ill.	Concrete	800,000
Princeton, Ill.	Concrete	80,000
Natchitoches, La.	Highway	250,000
Corsicana, Tex.	Bonds voted	280,000
Arkansas	Gravel	237,000

Buildings

Bids opened and contracts awarded:	Kind	Cost
Mason City, Ia.	School	$201,000
Huntington, W. Va.	Post Office	155,000
Proposed work:		
Altoona, Pa.	School	500,000
Erie, Pa.	Schools	650,000
Pittsburgh, Pa.	Asylum	250,000
Manistique, Mich.	Paper mill	1,000,000
Freeport, Ill.	Factory	500,000
Houston, Tex.	Warehouse	350,000
Duluth, Minn.	Factory	200,000

Miscellaneous Headings

The Great Northern Railroad plans spending about $1,000,000 in rebuilding an ore dock at Superior, Wis., and the Canadian Pacific Railroad will probably construct wharves at Vancouver, B. C., at an expenditure of $1,500,000. Contracts will soon be let at De Moines, Ia., for a concrete bridge costing about $165,000, while a $1,000,000 bridge over the Missouri River is proposed at Omaha, Neb. The commissioners at Johnstown, Pa., intend constructing a 2000-ft. bridge, the estimated cost of which is $625,000. Plans are being considered at Lima, Ohio, for a viaduct to cost about $85,000. Bids will be received at Washington, D. C., for a seven-span steel plate girder highway bridge, and at Denver, Col., the city council and officials of four railroads are planning a $250,000 viaduct. Plans are being prepared for a double-deck bridge at Watertown, N. Y., the estimated cost of which is $352,000.

A contract has been awarded at Hoboken, N. J., at $350,000 for constructing a steel pier. In New York City a $372,893 contract was recently awarded for railroad-yard construction. Of the bids recently opened at St. Louis, Mo., for constructing a municipal concrete dock the lowest was $187,251.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Niagara Falls, N. Y.—City Council sold $72,000 water bonds. Address City Clerk.

Spring Lake, N. J.—Plans for lifting pump for proposed Villa Park sewer system submitted to City Council; cost of tankhouse and pump $3,000.

Harrisburg, Pa.—Construction of 35,000,000-gal. reservoir contemplated. Harry Bowman, city comr.

Lancaster, Pa.—F. H. Shaw, Breneman Bldg., Lancaster, engaged as engineer for sewage disposal plant for Lancaster. Address City Clerk.

New Bethlehem, Pa.—Election to be held to vote bonds for constructing sanitary sewers in Dist. No. 1; cost, about $25,000. E. W. Hess, engr., Clearfield, and D. M. Geist, boro. clk.

Pittsburgh, Pa.—Contract will soon be let by city for piping and appurtenances for Brilliant pumping station; estimated cost $30,000.

Pottsville, Pa.—Construction of sewage disposal plant contemplated. Address City Clerk.

Greenville, S. C.—Citizens voted $25,000 bonds for constructing extension to sewerage system. Address City Clerk.

Manchester, Ga.—Citizens voted $45,000 bonds for constructing waterworks and sewerage system. Address City Clerk.

Fellsmere, Fla.—City contemplates spending about $100,000 for sewers, system storm drainage and constructing 6 miles paving. Isham Randolph & Co., 208 S. La Salle St., Chicago, Ill., engrs.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Arcadia, Fla.—See "Roads and Paving."

St. Cloud, Fla.—Contract will be let about Nov. 1 for constructing waterworks, pipe line system to be installed; $72,000 bonds recently voted for improvement. Fred B. Kenney, city clk.

Birmingham, Ala.—City Comn. voted to construct 15,000 lin. ft. 8-in. T. C. pipe, with necessary manholes and Y's in vicinity of Twelfth St. and Ave. E, estimated cost $14,000. Julian Kendrick, city engr.

Louisville, Ky.—Bd. of Pub. Wks. voted to reconstruct or realr 7-ft. sewer on Preston St. between Fulton St. and the river, cost about $30,000.

Alliance, Ohio.—Contract will soon be let for pumping station and clear water basin for waterworks. Chester & Fleming, engrs., Union Bank Bldg., Pittsburgh. Address City Clerk.

Cincinnati, Ohio.—High-pressure fire protection waterworks bonds for $100,000 will be sold Nov. 2 by Wm. Leimann, city aud.

Defiance, Ohio.—Waterworks bonds for $125,000 for purchase of present waterworks will be sold Nov. 2 by Chester O. Ensign, city aud.

Lima, Ohio.—Clark & Pratt, Cleveland, submitted to City Bd. of Control plans for proposed waterworks, cost $550,000. Contract soon to be let for filtration plant and pumping stations. Capacity of reservoir, 1,000,000,000 gal.

Lorain, Ohio.—City Council voted to spend $50,000 for improving waterworks to include new mains and high service pump from 6,000,00 to 8,000,000 gal. capacity. A. J. Horn, dir. public service.

Massillon, Ohio.—See "Roads and Paving."

Urichsville, O.—Plans being prepared by Geo. E. Arnold, New Philadelphia, for joint sewage disposal plant for Urichsville and Dennison.

Bay City, Mich.—Burns & McDonnell, Interstate Bldg., Kansas City, Mo., engaged by city to prepare plans and estimates and report on consolidating East Side and West Side waterworks plants, procuring new water supply by extension of intake to Saginaw Bay, and designing new modern filtration system of about 20,000,000 gal. capacity; cost about $1,000,000. Address City Clerk.

Aurora, Ill.—Plans being prepared for constructing 110 ft. circular reservoir, 1,500,000 gal. capacity; estimated cost, $20,000. Dabney H. Maury, engr., 53 W. Jackson Boule., Chicago. A. H. La Rue, supt. waterworks.

East St. Louis, Ill.—Plans prepared for constructing Winstanley sewer system in East St. Louis; cost, about $400,000. Address City Clerk.

Portage, Wis.—Plans being prepared for filtration plant for city, cost about $30,000. L. P. Wolff, engr., 1000 Germania Life Bldg., St. Paul. Address City Clerk.

Wauwatosa, Wis.—City Council voted to spend $10,000 for storm and sanitary sewers. Address City Clerk.

Corning, Ia.—E. T. Archer & Co., 406 New England Bldg., Kansas City, Mo., are engineers for proposed reservoir for waterworks; $30,000 bonds recently voted for improvement. Address City Clerk.

St. Paul, Minn.—City Council voted to construct sewerage system in Jefferson-Cretin Sewer Dist. No. 2; cost about $100,000. Address City Clerk.

City Council voted to lay water mains on Smith, Berkely, Jefferson Aves., St. Clair, Vine, Vance and Milton Sts. Address City Clerk.

Argonia, Kan.—Citizens Oct. 2 voted to construct waterworks costing $20,000. Bonds will be sold Oct. 18 by D. E. Tuaxel, city clk. W. B. Rollins & Co., engrs., Millard Bldg., Kansas City, Mo.

Moran, Kan.—Citizens voted $12,000 bonds for constructing waterworks and electric light plant. W. B. Rollins & Co., Railway Exchange Bldg., Kansas City, Mo., engrs. Address City Clerk.

Hastings, Neb.—City will soon let contracts for constructing 2000 ft. 4-ft. watermain and for sewer extending over several blocks. Address City Clerk.

Oxford, Neb.—Citizens voted to construct sewerage system, cost about $10,000. Grant & Fulton, engrs., Lincoln. Aaron Arnsburger, city clerk.

Big Timber, Mont.—City Council voted to construct sewerage system. Gerharz-Jaqueth Engineering Co., First National Bank Bldg., Great Falls, estimates cost at $40,000.

Higginsville, Mo.—Citizens voted to issue $21,000 bonds for main outlet sewer and sewage disposal plant. This improvement and sewer laterals will cost about $60,000. Contract will be let in about 30 days. Burns & McDonnell, Interstate Bldg., Kansas City, Mo., engrs.

Cameron, Tex.—Plans prepared by Hall Constr. Co. of Austin for constructing sewage treatment plant, to consist of settling tank, dosing tank, contact beds, chlorine apparatus for 200,000 gal. daily flow.

Frost, Tex.—Construction of sewer system and disposal plant contemplated; cost $10,500. J. S. Presnall, city secy.

Galveston, Tex.—City sold $100,000 bonds for water mains. Address City Clerk.

Port Arthur, Tex.—Election will be held to vote $180,000 bonds for extending waterworks and sewerage system. Address City Clerk.

Sherman, Tex.—Citizens voted $25,000 bonds for constructing sewage disposal plant and $30,000 for reinforced concrete reservoir. Address S. O. Ellingson, city engr.

Marlow, Okla.—Citizens voted to issue $25,000 waterworks and $25,000 sewer bonds. Address City Clerk. Benham Eng. Co., Oklahoma City, engrs.

Portland, Ore.—Dept. Pub. Wks. voted to construct and repair Tanner Creek sewer from point on 17th St. south of Taylor St. to Willamette River at Pettygrove and Front Sts., estimated cost, $273,369, to include 4,970 lin. ft. reinforced concrete sewer, 45,500 cu. yd. excav. and filling and 40,000 lin. ft. piling driven in place. Philip Dater, city engr.

Banning, Cal.—Morongo Valley Development Co. will soon construct 2 miles concrete pipe line.

Los Angeles, Cal.—Contract about to be let for constructing Florence Ave. sewer, 34,245 ft. long, involving about 122 ft. 42-in. concrete or 2 ring brick, 4048 ft. 38-in., 3593 ft. 34-in. and 5433 ft. 30-in. brick or concrete, 5229 ft. 20-in., 2654 ft. 16-in., 1216 ft. 8-in. and 5677 ft. 6-in. vitrified pipe, about 80 manholes, flush tanks, Ts, Ys, bends, lampholes, etc. Homer Hamlin, city engr.

Homer Hamlin, city engr., directed to prepare preliminary estimates for constructing sanitary sewer system in Bairdstown, Sierra Vista, Newton Park, Navarro, Mariposa, Garry and Baird Park, territory recently annexed to city.

San Francisco, Cal.—Bd. of Pub. Wks. voted to construct sewers in La Playa Ave. and Great Highway between Lincoln way and Noriega St., estimated cost $40,000.

Globe, Ariz.—Surveys completed of site for proposed reservoir in Pinal Mts. for gravity water system. Cost about $40,000. Geo. Cook, supt. water dept.

Arco, Idaho.—Construction work will soon begin on municipal waterworks and electric light plant; cost $21,000. R. Wood, engr., Weiser.

Moscow, Idaho.—Contract about to be let for constructing septic tank, auxiliary apparatus, sewerage and drainage lines for sewage disposal plant. Harvey J. Smith, city engr.

Hamilton, Ont.—Following waterworks improvements contemplated by city: Reservoir, cost $200,000; mains, $15,000; high-duty triple expansion steam unit and steam turbine and waterworks buildings, cost $300,000.

BIDS DESIRED.

Batavia, N. Y.—Until Oct. 25 by city for superstructure and appurtenances for waterworks pumping station. Chester & Fleming, engrs., Union Bank Bldg., Pittsburgh, Pa.

Long Island City, N. Y.—Until Oct. 20 by Maurice E. Connolly, pres. Queens Boro., for constructing sewer in Rust St., James St. and other streets, 1975 lin. ft. reinforced concrete sewer. Security $29,000. Also in portions of Twenty-fourth Street, Green and Emerson Aves., in all about 2814 lin. ft. 12 and 22-in. vitr. pipe. Total security $3,540.

Lyndhurst, N. J.—Until Oct. 27, by Bd. Comrs. Township of Union (John F. Woods, clk.), for constructing sewerage system and sewage disposal works.

Philadelphia, Pa.—Until Oct. 17, by Geo. E. Datesman, dir. pub. wks., for Schedule "A," branch sewers; until Oct. 19, for Schedule "A," branch sewers, Schedule "B," main sewers, and Schedule "C," test borings.

Philadelphia, Pa.—Until Oct. 24, at Department City Transit, 754 Bourse Bldg. (Wm. S. Twining, Dir.), for reconstructing and relocating about 3300 lin. ft. of brick or concrete sewer in portions of Thompson St.

Tarboro, N. C.—Until Oct. 17 by the city for 5 miles 8 to 12-in. vitr. pipe sewers. W. M. Platt, engr., Durham.

Jacksonville, Fla.—Until Oct. 20 by Bd. Bond Trustees (W. M. Bostwick, Jr., chmn.) for relining and waterproofing the aerating basin of the water works at Main and First Sts. Work consists of 1225 cu. yd. reinforced concrete, 450 cu. yd. cinders and 5000 sq. yd. cotton fabric and bitumen waterproofing.

Copperhill, Tenn.—Until Oct. 18, for 200,000-gal. concrete reservoir, 4.2 miles mains; hydrants valves (gravity water supply from Springs), 1.6 miles 8-in. sewer pipe, discharging by gravity into river. Walter G. Kikpatrick, engr., 704 Farley Bldg., Birmingham, Ala.

Cleveland, Ohio.—Until Oct. 21 (readvertisement) by Co. Comrs. (E. G. Krause, clk.) for constructing sewers in W. 25th, W. 28th Sts., Church and Vermont Aves. and other streets. W. A. Stinchcomb, co. surv.

Newburg Heights, Ohio.—Until Oct. 17 by J. A. Fitzgerald, village clerk, for constructing sewers in portions of E. Forty-ninth and E. Forty-second Sts.

Toledo, Ohio.—Reported deired until Oct. 24 by G. Cooper, co. aud., for 8-in. vitri. sewer, manholes and catch basins.

Lansing, Mich.—Until Nov. 1 by Guy C. Crane, mgr. Water and Electric Light Dept., for constructing two concrete reservoirs, advertised in this issue. Dabney H. Maury, engr., 1137 Monadnock Block, Chicago.

Marshall, Mich.—Until Oct. 23 by J. D. Wright, city recorder, for 7200 ft. of 10, 12, 15, 18 and 24-in. storm water sewers. L. A. Boulay Co., engrs., 1250 Nicholas Bldg., Toledo, Ohio.

Burlington, Iowa.—Reported desired until Oct. 19 by E. P. Wenestein, city clerk, for 4 miles of sewer system, 6-ft. concrete arch, on segment block, about 600 ft. long, involving about 20,000 ft. of both vitri. and concrete pipe, 10 to 36 in. C. E. Waterhouse, city engr., Burlington.

Clarinda, Iowa—Until Oct. 17 by city for constructing 3080 ft. 6-in. sanitary sewers, 8 manholes, 1 flushtank. M. G. Hall, engr., Centerville.

Primghar, Iowa.—Until Oct. 17 for constructing concrete or vitrified pipe sewers and sewage disposal plant. Total cost $37,000. Alex Stewart, town clerk.

Ferndale, Wash.—Until Oct. 17 by A. Barlindal, town clerk, for laying 4 to 12-in. tile, concrete or other suitable material, from bank of Nooksack River on Villard Ave., including manholes, lampholes, etc.

Wickenburg, Ariz.—Until Oct. 30 by H. P. Ward, town clerk, for extending water system.

Salt Lake City, Utah.—Reported desired until Oct. 17 by Gordon Snow, city recorder, for sewer extension No. 368, on Twenty-first South St.

Chateauguay Basin, Que.—At once for furnishing f.o.b. via New York Central R. R., second hand c.i. water mains, 1500 tons 3, 6 and 7-in., 150 fire hydrants, advertised in this issue. Address Box No. 8, Chateauguay Basin, Que.

Panama.—Until Oct. 25 by Major Earl I. Brown, corps engrs., U. S. A., general purchasing officer, the Panama Canal, Washington, D. C., for Cir. No. 1089, suction pipe and fittings, copper tubing, sheet brass., etc.

Buitenzorg, Java, Dutch East Indies.—By J. E. A. von Wolzogen Kuhr, civil engr., Government Railways, care of Paul Van Katwyk, 2937 Rutland Ave., Des Moines, Iowa, for all materials for a system of waterworks, advertised in this issue.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Long Island City, N. Y.—Following are 4 lowest bids opened Oct. 10 by Comr. Water Supply, Gas and Electricity, Municipal Bldg., Boro. Manhattan, for furnishing, delivering and laying water mains and appurtenances in Boro. Queens:

Sect. 1., in Franklin, Sound, Stone and Van Dam Sts. and Flushing, Nassau, Skillman, Stahl, Vandeventer, Wolcott, 5th, 9th and 12th Aves., First Ward; Jas. McAvoy, 303 E. 127th St., New York City, $63,103; Santor Constr. Co., Times Bldg., New York City, $66,112; Soraci Constr. Co., 170 Broadway, New York City, $67,866, and John Thatcher & Son, 60 Park Ave., Brooklyn, $73,233.

Sect. II., in Green, Storm, West, 1st, 2d, 3d, 4th, 5th, 6th and 22d sts. in Bayside, Bismarck, Lamirtine and Stratton Aves. and in Jamaica Rd., Third Ward, lowest bid submitted by Figliuolo Contr. Co., 719 Union Ave., Bronx.

New York, N. Y.—Lowest bid opened Oct. 9 by Marcus M. Marks, Pres. Manhattan Boro., for constructing tunnel relief sewer in W. 46th St., submitted by Old Colony Constr. Co., 103 Park Ave., at $294,957.

★**New York, N. Y.**—Contract for constructing alterations and improvements to outlet sewer on Dyckman St. and Hudson River, including construction of submerged outlet and screening chamber, awarded by Marcus M. Marks, pres. Boro. Manhattan (bids opened Sept. 8) to Harby Abrons & Melius, 30 E. 42d St., his bid being as follows: lump sum for all work except as specified under Item 2, $73,452; 550 cu. yd. rubble masonry in mortar, $6.50 per. cu. yd., and for total, $77,000.

★**North Tonawanda, N. Y.**—Contract for improving and extending North Tonawanda waterworks station on Tonawanda Island awarded by Bd. Pub. Wks. to Durolithic Co., Tonawanda, at $15,492.

★**Piermont, N. Y.**—Following bids opened Sept. 29 by A. D. Cornell, clk. Bd. Sewer Comrs., for contract A of sewerage system: C. S. Edwards Co., 1 Montgomery St., Jersey City, $31,935 (awarded contract); Leeds Constr. Co., Nyack, $35,990, and Martin, Miller & Pazimeetti, Hackensack, N. J., $38,875.

West Hoboken, N. J.—Lowest bid opened Oct. 3 by Joint Com. West Hoboken and Weehawken for constructing West Hoboken-Weehawken joint sewer submitted by Robt. Emmer, Weehawken, at about $10,000.

★**Red Bank, N. J.**—City Council awarded contract for constructing two sewers in West Red Bank to Monmouth Contr. Co., Red Bank, at $16,813.

★**Erie, Pa.**—Contract for constructing reinforced concrete settling basins for treating 20,000,000 gal. water per day awarded by Hammermill Paper Co., Erie, to Henry Shenk Co., Erie; Chester & Fleming, engrs., Pittsburgh.

Philadelphia, Pa.—Only bid received by Geo. E. Datesman, Dir. Dept. Pub. Wks., for two pumps for Water Bureau submitted by Dravo Doyle Co., Commercial Trust Bldg., as follows: 25 M. G. D. turbo-centrifugal for Queen Lane Pumping Station, $75,120, guaranteed duty 132,200,000 ft. lb. per 1000 lb. dry steam, and for 35 M. G. D. turbo-centrifugal for Lardners Point Pumping Station, $73,420, guaranteed duty 132,000,000 ft. lb. per 1000 lb. dry steam.

★**Zanesville, Ohio.**—Contract for drilling, casing, testing 20 new 10-in. wells awarded to Robt. H. Kersey, South Bend, Ind. (bids opened Oct. 2), W. W. Roach, dir. pub. service.

★**Rock Island, Ill.**—Contract awarded by city to P. F. Trenkenschuh, 1431 Fourteen and One-half St., for water mains in Ninth, Eleventh, Twelfth and Fourteenth Sts., at $11,356.

★**Red Cloud, Neb.**—Contract for constructing main sewer awarded by City Council to Elkhorn Constr. Co., Fremont, at $9,841.

★**Kansas City, Mo.**—Contract for furnishing 5000 ⅝-in. Badger water meters awarded to U. S. Water & Steam Supply Co., Kansas City, at $14,875. Bids opened Oct. 4 by W. C. Weaver, purchasing agent.

★**Slater, Mo.**—Contract for furnishing material and constructing 3½ miles sewers awarded (bids opened Oct. 5) to Lynch-McDonald Constr. Co., Moberly, at $10,364. J. A. Stern, city clerk.

Norwalk, Cal.—Lowest bid received Oct. 2 by Bd. Superv., Los Angeles, for constructing 32,000 ft. 6 in. and 16,000 ft. 4 in. banded wood stave or c. i. pipe line with 2-in. circulating line, 22-ft. diameter wood stave tank on 50-ft. timber tower, pumping plant to lift 90 ft., and sinking 12-in. well 400 ft. deep in Waterworks Dist. No. 2, near Norwalk, submitted by Thos. Haverty Co., 517 S. Los Angeles St., Los Angeles, at $14,395.

★**Hawkesbury, Ont.**—Contract for furnishing electric pump driven turbine awarded by city to John McDougall, Montreal, at $1,569. M. Gaream, town clerk.

STRUCTURAL STEEL WORK

PROPOSED WORK.

Cape May, N. J.—Co. Comrs. intend constructing three bridges 24 ft. wide on the Ocean City-Corson's Inlet road over Main Channel, Middle Thoroughfare and Weakfish Creek. One will be a bascule type draw bridge. Address County Clerk.

Rahway, N. J.—Bd. Chosen Freeholders, Elizabeth, rejected all bids for rebuilding Milton Ave. drawbridge. Lowest bid $21,433. Will readvertise. Fred. Bauer, co. engr., 120 Broad St., Elizabeth.

Canton, Pa.—See "Roads and Paving."

Richmond, Va.—Chas. E. Bolling, city engr., estimates new Southside bridge at $704,558, as follows: For excavating, $25,624; concrete foundations, $57,320; superstructure, $368,420; railings, $14,025; Durax paving, $50,885; ornamental lights and trolley poles, $5,750; contingencies, $52,212. Plans filed for further consideration.

Hamlin, W. Va.—County plans constructing 5 bridges. Address County Clerk.

Charlotte, N. C.—Comrs. Mecklenburg and Gaston Counties considering building bridge across Catawba River at Sloan's Ferry, and Morris McDonald, Charlotte, chm. Mecklenburg County Comrs., has been directed to confer with W. S. Fallis, state engr., at Austin, regarding plans.

Gaffney, S. C.—Supervs. of York, Chester and Cherokee Counties considering rebuilding Irene bridge destroyed by flood. Address County Clerk, Gaffney.

Crowley, La.—A two span bridge, 100 ft. draw and 200 ft. steel through truss in 10-20 ft. panels, will be constructed across Mermentau river at Crowley, at cost of $100,000. M. C. Huckaby, highway engr., Arcadia Parish, Baton Rouge; W. E. Atkinson, state engr., New Orleans.

Oskaloosa, Iowa.—See "Reinforced Concrete."

Mankato, Minn.—City of Mankato and Nicollet Co. will share expense of erecting new bridge in this city. Address County Clerk, St. Peter, Minn.

Alva, Okla.—Election Oct. 14 to vote on bridge work contemplated in McKinley township, Woods county; probable cost $15,800. Address County Clk.

Oklahoma City, Okla.—Plans for 15 bridges, one to cost $10,000, one $5,000 and others smaller. Harry Adams, co. engr.

Denver, Colo.—City Council and officials of four railroads planning reconstruction of Twenty-third St. viaduct. Cost about $250,000. John B. Hunter, city engr.

Seattle, Wash.—Contracts will soon be let by County for a $10,000 steel suspension bridge over Green river at Horton's Ranch. A. P. Denton, co. engr.

Bd. Pub. Wks. (C. B. Begley, secy.) approved plans for steel viaduct approach to Fremont Ave. bridge; cost $19,050. F. A. Rapp, city bridge engr.

Florence, Ariz.—Co. Supervs. contemplate constructing 6 new spans to bridge over Gila River. Cost, including new approaches and breakwater, about $65,000. Address E. S. Stafford, co. engr.

BIDS DESIRED.

New Castle, Pa.—Until Oct. 18 by Co. Comrs. (J. R. Lamoree, clk.) for grading and erecting bridges and culverts on certain highway in Lawrence County.

Philadelphia, Pa.—Until Oct. 18 by Wm. H. Connell, chief bureau highways, dept. pub. wks., for Schedule "A," repairing and painting bridges, Erie Ave., over Philadelphia & Reading R. R. (N. Penn Branch), Fortieth St. over Pennsylvania R. R. (Main Line), Green Lane over Schuylkill River (Inter-County).

Washington, D. C.—Until Nov. 2, by Bd. Comrs. D. C. (Oliver P. Newman, chmn.), for constructing seven-span steel plate girder highway bridge, on Benning Road; advertised in this issue.

Asheville, N. C.—Until Oct. 25 by Co. Comrs. (W. E. Johnson, chmn.) for constructing 3 steel bridges over French River. Cost about $30,000. Chas. H. Neal, county engr.

Arcadia, Fla.—See "Paving and Roads."

Dayton, Ohio—Until Nov. 4 by Co. Comrs. (Walter H. Aszling, clk.) for constructing a steel superstructure for bridge No. 76 to consist of one 240 ft. span and 18 ft. reinforced concrete roadway in Randolph Township, across Stillwater River.

Storm Lake, Iowa—Until Oct. 17 by W. W. Bennett, co. aud., for furnishing f.o.b. structural and reinforcing steel for 1917 bridge work.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Hoboken, N. J.**—Contract awarded Henry Steers, Inc., 17 Battery Place, N. Y. City, at $350,000, for constructing steel pier 600 ft. long and 120 ft. wide, at Sixteenth and Hoboken Sts., for Hoboken Land Improvement Co.

★**Norfolk, Va.**—Contract awarded Geo. E. Wyne, Washington, D. C., at $65,644, for erecting steel frame buildings on wood pile with concrete foundation for structural shop at Norfolk Navy Yard (bids oened Sept. 30 by Bureau of Yards & Docks, Washington, D. C.)

★**Franklin, W. Va.**—Contract awarded Farris Bridge Co., Charleston, W. Va., at $5,900, for Keles Mill bridge. Gordon Bogg, clerk co. court, Franklin.

Gastonia, N. C.—Contract awarded by Co. Comrs. to Virginia Iron & Bridge Co., Roanoke, Va., for two steel bridges across South Fork river. Bids opened Oct. 5. O. B. Carpenter, co. clk.

★**Fort Lauderdale, Fla.**—Contract awarded John Fritz & Son, Dania, Fla., at $5,800, for two steel bridges with concrete substructure at Hallandale and Deer Field, by Co. Comrs. H. C. Davis, co. engr., Fort Lauderdale.

★**Louisville, Ky.**—Contract awarded Alt Bldg. Co., Louisville, for erecting six-story steel and concrete annex to plant of Louisville Provision Co., Wenzel and Market Sts.

★**Illinois**—Contracts awarded by State Highway Comn., Springfield, for steel and concrete bridge at New Canton to Geo. Griffiths, Jr., St. Louis, Mo. He bid $9,343 for three 50-ft. concrete spans, or $11,950 for two 75-ft. steel spans. Contract for Cemetery Bridge in Bear Creek township awarded Decatur Bridge Co., Decatur, at $11,600.

★**Neodesha, Kan.**—Contract awarded Western Bridge Co., Harrisonville, Mo., at $7,744, for Bull Ford Bridge, between Neodesha and Cedar Townships. (Bids opened Sept. 29.) C. M. Westcott, township clk.

★**Fremont, Neb.**—Contract awarded Sept. 26 to Standard Bridge Co., Omaha, Neb., for repairing for one year superstructures and approaches of all bridges in county. John O'Connor, co. clk.

★**Iris, Mont.**—Contract awarded O. E. Peppard, Missoula, at $5,040 for constructing bridge over Hell Gate River, near Iris, for Comrs. of Granite and Missoula counties.

★**Victoria, B. C.**—Reported contract awarded by Canadian Northern Pacific Ry. Co., to MacDonald, Mettleton & Bruce Co., Victoria, B. C., for bascule bridge at Selkirk Water, Victoria.

REINFORCED CONCRETE

PROPOSED WORK.

Bronxville, N. Y.—See "Roads and Paving."

Conshohocken, Pa.—Co. Comrs. at Norristown engaged B. H. Davis, Whitehall Bldg., New York City, Pugh & Hubbard, Philadelphia, and Jas. Cresson, co. engr., Norristown, to prepare plans for concrete bridge over Schuylkill River between Conshohocken and West Conshohocken.

Greensburg, Pa.—Co. Comrs. will soon let contract for concrete bridge over Indian Creek in Donegal Township. Address County Clerk.

Harrisburg, Pa.—State Water Supply Comn. approved plans for 5 reinf. conc. & steel bridges in Fayette and Westmoreland counties.

Des Moines, Iowa.—Contracts will soon be let for a 5-span concrete bridge with a 56-ft. roadway at Grand Ave., costing $165,000. D. E. Thomas, asst. city engr.

Oskaloosa, Iowa.—State Highway Comn. at Ames preparing plans for three steel span bridges of 18-ft., 20-ft. and 32-ft. span, 20-ft. roadway with concrete floors and abutments; also three reinforced concrete slab span bridges, one 12-ft., two 14-ft. span, 20-ft. roadway. R. H. Tumy, co. engr., Oskaloosa.

Duluth, Minn.—Contract soon to be let for erecting 7-story concrete factory for Bridgeman Russell Co. (H. B. Bridgeman, pres.), 16 W. First St.; cost $200,000. J. R. deWaard, archt., 309 Glencoe Bldg.

Denver, Col.—City, tramway and railroad officials discussing reconstruction 23d St. viaduct with steel and concrete. Estimated cost $250,000. John B. Hunter, city engr.

Buffalo, Okla.—The following townships intend building bridges at a total cost of $33,000: Center township, F. G. Riemenachouder, pres.; Good township, A. E. Green, pres.; Little township, W. E. Barton, pres.; Saline township, Lotin Waits, pres.

Freedom, Okla.—Patterson township, I. Pierson, pres.; Penn township, Jos. Brickford, pres.; Obryan township, J. W. Day, pres.; intend spending $25,000 on bridges.

Salt Lake City, Utah—Plans and specifications prepared by Villadsen Bros., Inc., Dooly Bldg., for reinforced concrete and brick warehouse and machine shops to be erected at 5th W. and 8th S. Sts. for Galigher Machinery Co., 165 Pierpont St.

BIDS DESIRED.

Kingstown, W. Va.—Until Oct. 17 by S. Myers, clk. co. court, New Martinsville, for constructing a concrete bridge across Willey Fork of Fishing Creek, one-half mile above Kingstown, advertised in this issue.

Folkston, Ga.—Reported desired until Oct. 20, by Co. Comrs. for concrete bridge across St. Mary's River.

Knoxville, Tenn.—Until Dec. 1, by Bd. City Comrs., competitive plans for reinforced concrete viaduct on Gay St., extending from Vine Ave. to Depot Ave.; advertised in this issue. J. B. McCalla, city engr.

Independence, Iowa—Until Nov. 3, by E. A. Bordner, co. aud., for constructing Main St. bridge across Wapsipinicon River, three 80-ft. reinforced concrete arch spans, 40-ft. roadway, 6-ft. sidewalk on each side. Estimate cost $42,000; also separate price per ft. increase in roadway. R. W. Gearhart, co. engr.

Topeka, Kan.—Reported desired until Oct. 30 by Co. Comrs. for three concrete bridges of "Luten design." Estimated cost, $14,000, one, on Fourth St. over Deer Creek, another over Indian Creek near county farm, and third over Vassar Creek near Valencia.

Kansas City, Mo.—Reported desired until Nov. 1 for constructing a reinforced concrete bridge on Twenty-seventh St. Hedrick & Cochrane, engrs., 506 Interstate Bldg.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Greensburg, Pa.**—Contract awarded Farris Engr. Co., Pittsburgh, Pa., at $8,700 for concrete arch bridge over Little Puckety Creek. (Bids opened Oct. 3.) John S. Sell, co. compt.

★**Indiana, Pa.**—Contracts awarded McGovern Constr. Co., Punxsutawney, Pa., by Co. Comrs., for constructing reinforced concrete bridges at Sidney over Bear Run and at Stratford over Two Lick Creek.

★**Atlanta, Ga.**—Contract awarded Austin Bros., 156 Greenwood Ave., Sept. 20, at $11,890, for new approaches and abutments, reinforced concrete, to Garrett's bridge over Chattahoochee River, between Fulton and Cobb Counties.

★**Kansas City, Mo.**—Contracts awarded Sept. 28 to Fox-Redpath Constr. Co., Kansas City, for concrete bridge over Brush Creek at Troost Ave. at $16,675, and concrete bridge over McGee St., at Twenty-sixth St., at $13,133. J. Pearce Kane, secy. city comn.

★**Portland, Ore.**—Contract awarded Palmer-Ellison Co., Henry Bldg., at $5,616 for constructing reinforced concrete viaduct No. 7 on St. Helena Rd. C. H. Purcell, bridge engr.

★**Los Angeles, Cal.**—Contract awarded Richards-Neustadt Constr. Co., Wright & Callender Bldg., for erecting 7-story, 80 x 80-ft., reinforced concrete storage building at 1950 S. Vermont Ave., for Lyon Fireproof Storage Co.

★**Santa Barbara, Cal.**—Contract awarded by Bd. Superv. to M. R. Dominguez, Carpenteria, for reinforced concrete bridge across Cat Canyon at Sisquoc, and reinforced concrete culvert-bridge near Guadalupe; total $10,865.

ROADS AND PAVING

PROPOSED WORK.

Rochester, N. Y.—City council considering paving with asphalt S. Goodman St. between Park and Monroe Aves. Cost $25,000. Fred. T. Elwood, city engr.

Newark, N. J.—All bids opened Sept. 21st by Bd. Steel & Water Comrs. for repaving Jefferson St. rejected.

Morris R. Sherred, engr., Bd. Steel & Water Comrs., authorized to prepare plans for paving Shepard Ave. from Bergen St. with bitulithic on 6 inch concrete foundation.

Greenburg, Pa.—Supervisors intend spending $75,000 for permanent improvement of roads in North Huntington township.

Philadelphia, Pa.—Contracts for the further extension of Northeast Boulevard will soon be awarded. Geo. E. Datesman, director, Dept. Pub. Wks.

Baltimore, Md.—Election will be held Nov. 7th to vote on $3,000,000 annex paving and street work. Address City Clerk.

Bedford, Va.—Road improvement bonds for $75,000 will be sold Oct. 23 by S. M. Bolling, co. aud.

Buckingham, Va.—Bd. of Superv. appropriated $50,000 for road construction. Address County Clerk.

Greenville, S. C.—Co. Comrs. intend spending $500,000 in spring on road work. Address County Clerk.

Eustis, Fla.—$65,000 voted for sand-asphalt roads in Leesburg-Howey Special Road District. Address Clerk of District.

Arcadia, Fla.—City will sell Nov. 10 following bonds: $90,000 paving, curbing and bridges; $21,000 for sewers; $19,000 for extending waterworks.

Fellsmere, Fla.—See "Waterworks and Sewerage Systems."

Convent, La.—Citizens St. James Parish voted $200,000 road construction and maintenance bonds. Address Parish Clk.

Ellisville, Miss.—Bd. of Superv. intend issuing $300,000 road bonds. Address County Clerk.

Akron, Ohio.—Co. Comrs. will soon let contracts for paving with brick Kenmore section of Manchester Rd. Estimated cost, $10,000. Address County Clerk.

Boulder, Ohio.—Contracts will soon be awarded for paving 13 streets with reinforced concrete pavement. O. P. Clark, city clk.

Coshocton, Ohio.—Bonds for $10,000 for the improving of Fifteenth St. will be sold Oct. 30 by Hugh Gamble, city aud.

Xenia, Ohio.—Contracts will soon be let for paving East Main St. Dayton & Xenia Traction Company's share is $10,000. Address Chas. Witmer, service director.

Columbus, Ind.—All bids opened Sept. 27 for three concrete roads rejected. Work to be readvertised in November. Address County Clerk.

Big Rapids, Mich.—Contracts will soon be awarded for resurfacing 1 mile of street, 40 ft. wide, with bituminous macadam. Address City Clerk

E. St. Louis, Ill.—City intends spending $430,000 on wooden block paving. Address City Clerk.

Kewanee, Ill.—J. H. Reed, co. supt. highways, has completed preliminary survey of Kewanee-Cambridge State-Aid road. State appropriation $26,000.

McCarrol, Ill.—$40,000 brick paving work contemplated. C. S. Hepner, engr., Freeport.

Rockford, Ill.—Co. superv. considering election to vote for $1,500,000 good roads bonds.

Silvis, Ill.—Bd. local improv. contemplates paving 9th, 10th, 11th and 12th Sts., 1st to 2d Aves.

St. Paul, Minn.—City Council rejected bids opened recently for paving Mississippi River Blvd. from north city limits to Summit Ave., and will do the work, under city forces, at an estimated cost of $50,777. August Hohenstein, purchasing agt.

St. Paul, Minn.—City voted $124,850 for wooden block paving. Address City Clerk.

Butte, Mont.—City Council will soon let contracts for paving, curbing, gutters, crosswalks, parking, grading, sidewalks and sanitary sewer in Districts 199, 200, 201, 202, 203, 204, 206 and 214. A. A. Dickstader, city clk.

Newport, Ark.—Comrs. Road Improv. Dist. No. 1 intend improving 10 1-8 miles road. Cost $50,000. R. D. Wilmans comr.

Marble Falls, Tex.—Election soon to be held to vote $100,000 road bonds. Address Clerk.

Bartlesville, Okla.—Contracts for paving 30 blocks will soon be awarded. Address City Clerk.

Clinton, Okla.—Election will be held in this county to vote $600,000 road improvement bonds. Address County Clerk.

Lawton, Okla.—Election will be held to vote $225,000 county road improvement bonds. Address County Clerk.

Bellingham, Wash.—City Council will soon let contract for paving G St. from Ellsworth to Cornwall St. with asphalt. Estimated cost, $15,600. W. H. North, city engr.

Bothell, Wash.—Carl H. Reeves, Henry Bldg., Seattle, engaged by City Council as engineer for municipal improvements, principally paving.

Spokane, Wash.—County comrs. intend spending $197,500 for constructing permanent highways through county in 1917. J. W. Strack, co. engr.

Tacoma, Wash.—City Engr. authorized to prepare plans for paving Dock St. with brick or stone. W. D. Nickeus, city clk.

Washington.—State highway comm., Olympia, estimated cost for permanent highway improvements in 1917-18 as $3,105,000. Jas. Allen, Secy.

Hubbard, Ore.—City Council rejected only bid opened recently at $31,000 for paving streets. New bids will shortly be asked. Address City Clerk.

Portland, Ore.—Cost for grading, sidewalks, curbing, drainage and paving Greely St. extension estimated at $211,309. A. L. Barbour, city aud.

Santa Barbara, Cal.—City council contemplates paving Bath St. and grading, curbing and guttering 30 other blocks. Address City Clerk.

Ogden, Utah.—Contract will be let in the spring for paving in Dist. 123, 55,760 sq. yd. asphalt on Washington Ave. and Riverdale road and 1608 lin. ft. curb and guttering. Jos. M. Tracy, city engr.

City Comrs. will construct boulevard along Ogden river from 17th St. and Jefferson Ave. to Glenwood municipal park.

Pocatello, Idaho.—Ordinances passed for paving with sheet asphalt, wood block or bitulithic, N. Main St., cost $69,679, grading, graveling walks, etc., N. 9th St. and W. Bridge St., cost $51,848 and $28,968 respectively. A. R. Dawson, city clk.

Belleville, Ont.—Contracts will soon be let for paving Bridge Pinnacle and George Sts. J. W. Evans, city engr.

BIDS DESIRED.

New York, N. Y.—Until Oct. 17, by Armory Comn. (Franklin W. Ward, secy.), 158 State St., Albany, for relocation of metal fence and constructing a concrete sidewalk at State Arsenal, Seventh Ave., New York. Advertised in this issue.

Until Oct. 20 by Marcus M. Marks, president Boro. Manhattan, for paving with sheet asphalt on concrete foundation, Haven and Seamen Aves. and 218th St., in all about 6060 sq. yd.

Newark, N. J.—Until Oct. 19, by Bd. Freeholders (Wm. Cardwell, chmn.) for paving with reclipped granite block between rails of Public Service Railway Co. on Valley Road.

Until Oct. 19, by Bd. Street Water Comrs., for paving with bitulithic on portions of Porter Pl., Custer Ave. and Salem St., in all about 6200 sq. yd.

Wilmington, Del.—Until Oct. 18, by Jas. Wilson, highway comr., for reconstructing stone road, known as Concord Turnpike, a distance of 5900 ft., portion with hillside brick on concrete base, and portions with bitulithic on concrete or bitulithic base.

Wilmington, Del.—Until Oct. 31 by James Wilson, State highway comr., New Co. Bldg., 11th and King Sts., for reconstructing stone road known as Concord Turnpike, a distance of 5900 ft., advertised in this issue.

Washington, D. C.—Until Oct. 24, Comrs. D. C. (Oliver P. Newman, chmn.), grading certain streets, in all about 107,000 cu. yd., advertised in this issue.

Atlanta, Ga.—Until Oct. 28 by C. M. Holland, courty purchasing agent, 507 Court House, for paving with vitri. brick, concrete, bituminous concrete, bitulithic, vibrolithic, etc., 12,000 yd. on Virginia Ave., 10,000 sq. yd. paving on Tenth St., in all about 16,000 yd. gutter.

Birmingham, Ala.—Until Nov. 1 by Bd. Revenue for constructing Wylam-Mulgor Warrior River Road, about 15.2 miles, in all 204,575 cu. yd. earth excav., 57,850 cu. yd. loose rock, 64,850 cu. yd. solid rock, 7805 lin. ft. c. i. pipe, laid. Geo. H. Clark, co. engr.

Grove Hill, Ala.—Until Oct. 17, by Bd. Co. Comrs. for grading, draining and surfacing with gravel or sand clay, portions of Jackson and West Bend Road. Cost about $10,000. A. L. Smith, co. engr.

La Fayette, Ala.—Reported desired until Oct. 20 by Co. Comrs. for grading, draining and surfacing with top soil a portion of State Trunk Road No. 13, from Fairfax Cotton Mills to Lee County line.

Logan, W. Va.—Until Nov. 11 for 2 miles highway, in all about 20,000 sq. yd. Various materials considered. R. M. Wilson, co. road engr.

Wellsburg, W. Va.—Reported desired until Oct. 29 by C. A. Eickeilberger, co. engr., for constructing 10.5 miles of road.

Fort Lauderdale, Fla.—Until Oct. 23 by Co. Comrs. for about 10 miles of hard surfaced roads, portion of the Dixie Highway laterals.

Jacksonville, Fla.—Until Oct. 20 by Co. Comrs. (E. L. Meggs, chmn.) for furnishing one 45-hp. road tractor.

Cincinnati, Ohio—Until Oct. 20, by Co. Comrs. (Albert Reinhart, clk), for improving portions of Patterson Road No. 376 in Anderson Township; also reported desired for a portion of Mill Road.

Marion, Ohio—Until Oct. 19, by the City, for 12,000 sq. yd. sheet asphalt pavement on Bellefontaine Ave. Edward S. Ault, city engr.

Brazil, Ind.—Reported desired until Oct. 26, Wm. O. Graeser, co. aud., for a stone and gravel road on line between Posey and Perry Township.

Sidell, Ill.—Until Oct. 19 by Allen McKee, town clk., for 2571 cu. yd. of excav., 10,178 sq. yd. concrete pavement, 3500 sq. yd. to receive a 10 per cent hydrated lime, 8906 sq. yd. of earth shoulders.

Superior, Neb.—Reported desired until Oct. 23 by L. L. Carpenter, city clerk, for grading, guttering, asphalt paving and curbing in Paving Dist. No. 2.

Tacoma, Wash.—Until Oct. 21 by Thos. N. Norris, co. aud., for improving Chambers Creek Road by clearing, grading nad grubbing, etc. D. H. White, co. engr.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Boston, Mass.—Following are bids opened Oct. 2 by city for bituminous macadam roadways on various streets in Brighton, Dorchester, Roxbury and West Roxbury: M. DeMatteo, 146 Dudley Ave., Roslindale, $61,643; Jas. Doherty, 133 Calumet St., Roxbury, $62,318; and Coleman Bros., Chelsea, $65,466.

★Bids opened Oct. 2 by city for repaving with (a) sheet asphalt, (b) Topeka and (c) bitulithic pavement on 33 streets in Brighton, Dorchester, East Boston and West Roxbury, were: Central Constr. Co., 228 Southampton St., Boston, $173,187 on (a), (b) and (c), awarded contract on (a); D. M. Biggs & Co., 60 Marsh St., Dorchester, (a) $78,881, (b) $179,779; Quinlan & Robertson, Montreal, Que., (a) $175,644, (b) $173,849; Warren Bros. Co., 142 Berkeley St., Boston (c) $189,297.

Contract awarded T. A. Gillespie Co., 363 Dorchester Ave., South Boston, at $11,300 for repaving with granite block Dorchester Ave. between Andrews Sq. and Old Colony Ave., South Boston.

★**Massachusetts.**—Contract awarded by State Highway Comn., Boston, to Thos. McGovern, Southbridge, at $15,000, for constructing Dudley River State Road, from Dudley to Sandersdale.

Long Island City, L. I., N. Y.—Following are details of three bids opened Oct. 5 by Maurice E. Connolly, Pres. Queens Boro., for paving and laying sidewalks on 118th St., Fourth Ward: (a) Borough Asphalt Co., 1301 Metropolitan Ave., Brooklyn, $51,376; (b) Uvalde Asphalt Paving Co., 1 Bway., New York, $53,879; (c) Barber Asphalt Paving Co., 233 Bway., New York, $58,133.

	(a)	(b)	(c)
700 cu. yd. earth excav...	$0.65	$0.01	$0.85
1,900 cu. yd. embankment in excess of excav.....	0.65	0.25	0.25
10,500 lin. ft. cement curb with steel nosing (1 yr. maintenance)	0.65	0.65	0.70
16,500 sq. ft. old flagstone sidewalk retrimmed and relaid	0.10	0.05	0.05
30,500 sq. ft. cement sidewalk (1 yr. maintenance)	0.16	0.17	0.18
4,150 cu. yd. concrete in place	5.70	5.95	5.00
18,800 sq. yd. sheet asphalt pavement, including binder course (5 yr. maintenance)	1.02	1.15	1.46
8 catch basins adjusted..	25.00	25.00	25.00

Long Island City, L. I., N. Y.—Following are unit figures of Sicilian Asphalt Paving Co., 41 Park Row, New York, the lowest bid opened Oct. 5 by Maurice E. Connolly, Pres. Queens Boro., for paving portion of Ditmars Ave., Second Ward: 2300 cu. yd. concrete in place $5.50 per cu. yd., and 18,800 sq. yd. sheet asphalt pavement, including binder course, 5 yr. maintenance, $1.08 per sq. yd.; total, $27,554. Total of next three bidders: Uvalde Asphalt Paving Co., 1 Bway., New York, $28,520; Borough Asphalt Co., 1301 Metropolitan Ave., Brooklyn, $28,847, and Barber Asphalt Paving Co., 233 Bway., New York, $32,959.

★**Belmar, N. J.** — Contract awarded Jermings Laughlin Co., Asbury Park, at $27,602, for paving 15,150 sq. yd. concrete paving (bids opened Sept. 26). Chas. O. Hudnut, Boro. Clerk.

★**Cliffside Park, N. J.**—Contract awarded by Boro. Council, Sept. 26, for concrete sidewalks, curbs and gutters on Know Ave. to Bergen Contr. Co., Cliffside Park, N. J., at $10,000.

★**Newark, N. J.**—Contracts awarded by Bd. Street & Water Comrs. as follows: Paving Stengel Ave. and Porter Ave. with Bitulithic pavement to Standard Bitulithic at $15,672, also for paving Elm Road with asphalt on 6-in. concrete foundation at $15,338; repaving Roseville Ave. with wood block, to John S. Geiger Sons, 80 Hartford St., at $42,643.

★**Ridgefield Park, N. J.** — Contracts awarded to A. W. Gill, Leonia, N. J., for paving with waterbound macadam Gordon and Grove Sts. (bids opened Sept. 26). W. D. Carter, village clk.

★**Canton, Pa.**—Contract awarded MacWardell, Strasburg, at $14,219, for grading and constructing bridges and culverts on Canton-Dover Road.

★**Norwood, Pa.**—Contracts reported awarded by Prospect Park council for paving Tenth, Eleventh and Thirteenth Aves. and Amosland Road, at a total cost of $35,000, as follows: To Union Paving Co., Philadelphia, Pa., at $1.59 per sq. yd.: curbings and sidewalks to John L. Galloway, Norwood.

★**Pittsburgh, Pa.**—Contract awarded R. H. Cunningham Sons Co., Turtle Creek, Pa., by Co. Comrs. for improving portions Wilmerding and Monroeville Road extensions (bids opened Sept. 21), at $17,781. John P. Moore, co. compt.

★**Maryland.**—Contracts awarded by State Roads Com., Baltimore, for county roads as follows: To F. M. Duval, St. Margarets, at $21,079 for 1.94 miles, Anne Arundel County, between Glenburnie and Benfield, concrete, to Atlantic Bitulithic Co., Richmond, Va., at $32,529; for resurfacing 3.33 miles Liberty Road, between Old Court Road and Harrisonville, Baltimore County; to Peninsula Constr. Co., Preston, at $72,299 for 5.14 miles Dorchester County, between Berlin and Selbyville, concrete.

★**Piedmont, Md.**—Contract awarded Harry F. Smith, Piedmont, for new state road, 2½ miles, leading from Keyser to Piedmont.

★**Rockville, Md.**—Contract awarded by Co. Comrs. for 2 miles Dawsonville-Beallsville Road, Montgomery County, to G. B. Mullin Co., Washington, D. C.

★**Washington, D. C.**—Contract awarded Cranford Paving Co., Washington, D. C., for paving streets througnout district in fiscal year with sheet asphalt. Estimated cost $300,000. Daniel E. Garges, chief clerk paving dist.

★**Charleston, W. Va.**—Contract awarded F. J. McGuire, Norfolk, Va., at $17,000 for concrete roads in Kanawha County.

★**High Point, N. C.**—Contract awarded Robert G. Lasseter & Co, Oxford, N. C., for paving 40,000 to 100,000 sq. yd. A. Lyon, city mgr.

★**Atlanta, Ga.**—Contract awarded by 101 Wells St., for paving with sheet asphalt and between tracks with wood block, on Peachtree St., from Fifteenth St. to city limits; cost, $100,000.

★**Fort Lauderdale, Fla.** — Contract awarded by Co. Comrs. to Sturgis & Oliver, Fort Lauderdale, for 100,000 yd. of embankment on Everglades roads.

★**Laurel, Miss.** — Contract awarded Southern Paving Constr. Co., Chattanooga, Tenn., for 14,735 sq. yd. asphalt pavement at $1.60 per sq. yd., 3820 ft. concrete walks at 11 cts. per ft., etc.

★**Owensboro, Ky.**—Contract awarded by the Fiscal Court to Montgomery & Perkins Co., Dallas, Tex., for constructing West Second St., the Berry, River and Livermore Roads, paving with river gravel, at $50,167.

★**Paducah, Ky.** — Contract awarded Southern Bitulithic Co., Nashville, Tenn., for paving 27,500 yd. with bitulithic at $63,655. L. A. Washington, comr, pub. wks. Bids opened Sept. 21.

★**Newton Falls, Ohio.** — Contracts awarded by Co. Comrs. at Warren for 2 miles macadam road, between Lordstown and Newton Falls, to McDermott & Hannon, Niles, at $17,223.

Ohio.—Low bidders on work opened Sept. 28th by State Highway Comn., Clinton Cowen, chmn., Columbus, as follows:

Sect. A. West Union-Hillsboro Road—Thos. Dalton, Dayton, Ohio, $19,023. Sect. C. West Union-Sinking Springs Road—J. M. Day & Co., Peebles, Ohio, $19,040. Sect. E. Cincinnati-Chillico Road—Wilson Engr. & Constr. Co., Xenia, Ohio, $4,810. Sect. A. Cleveland Sandusky Road—For parts a and b, Hart & Kemp, Elyria, Ohio, $293,873; for parts c and d, Cleveland Trinidad Paving Co., Cleveland, Ohio, $311,530. Sect. D. Cadiz-Dennison Road—A. C. Morgan, Cadiz, Ohio, $10,913. Sect. B. Barberton-Greenwich Road. Hill & Hill, Elyria, Ohio, $12,822. Sect. D. Belefontaine-Richwood Road—O'Briant & Gregg, Marysville, Ohio, $5,995. Sect. A. Oberlin-Elyria Road—Contract I, C. E. Williams, Grand Rapids, Mich.; for brick $12,098; for bituminous concrete $10,288. Contract 2, Graves, Barrett & Leach, New London, Ohio, for brick $4,180. Sect. H. Toledo-Elmore Road—Muldon & Bergman, Canon, Ohio, $8,142. Sect. J-2, Mansfield-Shelby Road—P. M. Deetz, Millersburg, Ohio, $4,489. Sect. R. Youngstown-Sharon Road—McDermott & Hannon, Niles, Ohio, $21,362. Sect. A. Canton-Canal Dover Road—MacWardell, Strassburg, Ohio, $14,219. Sect. A. McArthur-Callipolis Road—For brick, Culbertson & Culbertson, Richmond, Ind., $19,350; same firm for concrete, $17,425; for waterbound macadam, Kuhner & King, Jackson, Ohio, $16,350. Sect. Ohio—Marietta-McConnelsville Road — Patton & Faust, Lowell, Ohio, $6,159. Sect. M. Hockingport-Powhatan Road—S. A. Palmet, Marietta, Ohio, $3,430. Sect. A. Bucyrus-Nevada Upper Sandusky Road, Baun & Ankney, Upper Sandusky, Ohio, $26,898.

Chicago, Ill.—Only two bids opened Sept. 20 by Comr. Pub. Wks. for resurfacing 200,000 sq. yd. were from Pacific Co., Inc., at $1.29 sq. yd. and Commonwealth Improvement Co., at $1.38 sq. yd.

★**Elgin, Ill.**—Contracts awarded Sept. 25 to McCarthy Improv. Co., Davenport, Iowa, at $11,362, for asphaltic concrete pavement on Bluff City Boule. and at $3,727 for brick pavement on Douglas Ave.; to Logan & Geirtz Constr. Co., Elgin, Ill., at $7,530 for brick and asphaltic concrete pavement on Dexter Ave.

★**Jacksonville, Ill.**—Contract awarded by H. L. Caldwell, Jacksonville, to Standard Paving Co., Chicago, Ill., at $27,000 (bids opened Sept. 27), for paving with sheet asphalt 11,672 sq. yd.

★**Garnett, Kan.**—Contract awarded to A. L. Cook, Ottawa, Kan., at $12,733, for paving and curbing Seventh St. Bids opened Oct. 5. Black & Veatch, engrs., Inter-State Bldg., Kansas City, Mo.

★**Houston, Tex.**—Contract awarded A. M. Chambers Co., Houston, at $14,000, for gravel paving portions of West, Gano, Chapman and Quitman Sts.

★**Derby, Col.**—Contract awarded Osner Constr. Co., Denver, for constructing 8 miles Omaha-Lincoln-Denver automobile road from Derby to Barr.

★**Sand Springs, Okla.**—Contract awarded by City Council, Sept. 27, to Standard Paving Co., San Antonio, Tex., at $104,283 for asphaltic concrete paving in Street Improvement District No. 1. Benham Eng. Co., engrs., Oklahoma City.

★**Pasco, Wash.**—Contracts awarded by Co. Comrs. to Tribo & Grebling, Walla Walla, at $15,690, for Kahlotus road work, and to Porter & Conley, Portland, at $10,700 for Eltopia road.

★**Seattle, Wash.**—Contract awarded by Co. Comrs. at $15,500 to Barbo Bros., Bellingham, for 3 miles of road between Wayne and Juanita bridge.

★**Portland, Ore.** — Contract awarded Warren Constr. Co., Journal Bldg., Portland, for paving approaches to Interstate bridge at $93,387.

★**Anaheim, Cal.**—Contract awarded by city to Los Angeles Paving Co., Anaheim, at $10,132, for 62,700 sq. ft. concrete and asphaltic concrete pavement on Philadelphia St. and 16,900 sq. ft. with Topeka top on two alleys (bids opened Sept. 28).

★**Bakersfield, Cal.**—Contract awarded Brashear-Burns Co., Los. Angeles, at $27,453, for grading and surfacing with broken stone 9.56 miles of Rio Bravo-Wasco road, Div. 4, Sect. I; 2640 ft. barbed wire fence included in contract. Bids opened by Bd. of Superv. Oct. 2d.

★**Los Angeles, Cal.**—Contracts awarded as follows: To S-C Contr. Co., 543 Title Insurance Bldg., for road work in Road Dist. No. 102, at $20,400, and curb, gutter and sidewalk work in Road Dist. No. 104, reinforced concrete and cement work, at $33,535; to E. A. Baker, 407 H. W. Hellman Bldg., for road work in Road Dist. No. 103, concrete, at $13,250. (Bids opened Sept. 18), and to R. H. McCray, 422 American Bank Bldg., for concrete road construction work in Road Dist. No. 94, at $19,338. (Bids opened Sept. 11.)

Following are four lowest bids opened Sept. 25 by Bd. Superv. for 7.53 miles concrete pavement: White-Gaskill, Long Beach, $48,237. Connor Contr. Co., 709 Higgins Bldg., Los Angeles, $49,045. H. E. Cox, Chamber of Commerce Bldg., Pasadena, $52,151, and Tyron & Brain, 501 Merchants' Trust Bldg., Los Angeles, $52,643.

Contract awarded White & Gaskill, Long Beach, at $48,237, for constructing 7.53 miles of Harbor Truck Boule., to include 105,885 sq. yd. concrete pavement. Bids opened by Bd. of Supervs. Sept. 25.

Tucson, Ariz.—Bd. Supervs. received bids as follows for Sect. A, Nogales Rd., 17.8 miles, about 12,312 cu. yd. unscreened gravel for road surface; Abrwray Constr. Co., Prescott, $64,222; S-O Contr. Co., 543 Title Insurance Bldg., Los Angeles, $65,747; Mesmer & Rice, Marsh-Strong Bldg., Los Angeles, $71,000, and J. Pacheco, Tucson, $76,474.

★**Moncton, N. B.**—Contract awarded Carette Patterson Co., 89 Water St., St. John, at $25,000 for constructing macadam roads.

RAILWAYS
Steam and Electric

PROPOSED WORK.

Philadelphia, Pa.—Philadelphia & Reading Ry. Co. (S. T. Wagner, ch. engr.) completed plans for electrification of Germantown and Chestnut Hill branch, Glenside and Jenkintown branch, and Norristown line.

BIDS DESIRED.

New York, N. Y.—See "Miscellaneous."

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**New York, N. Y.**—Contract for constructing 239th St. Yard Route No. 18, White Plains Road Rapid Transit R. R., awarded by Public Service Comn., First Dist., 120 Broadway, to Thos. J. Buckley Constr. Co., 303 Fifth Ave., at $372,893.

Following bids opened Oct. 9 at office of Chief Engineer, 85 Clinton St., Brooklyn, for New York Municipal Ry. Corp. erection of third rail and appurtenances and track rail bonding in connection with Broadway-4th Ave. line on Manhattan Bridge and Canal St. from South St. to 50th St.: Lewis H. Woods Constr. Co., 2355 Jerome Ave., Bronx, $220,000; Jobson-Gifford Co., 30 E. 42d St., $223,401; Thos. H. Reynolds Contr. Co., 13 Park Row, $228,600, and Thos. Crimmins Contr. Co., 444 E. 69th St., $240,360.

New York, N. Y.—See "Tunnels and Subways."

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Belleville, N. J.—Plans prepared by Marvin & Davis, 303 Fifth Ave., New York, for 1-story, 512 x 575-ft. steel and concrete plant, to be erected for Kent Motor Corp. (Frank H. Clarke, pres.), near Hillside Park; cost, about $1,000,000.

Erie, Pa.—Palace Hardware Co., 913 State St., plans erecting warehouse to cost about $60,000.

Cumberland, Md.—Reported Western Maryland R. R. (H. R. Pratt, ch. engr., Baltimore), contemplates erecting car shops here to cost $300,000

Cleveland, Ohio.—Baltimore & Ohio. R. R. (R. N. Begien, ch. engr., Baltimore), contemplates building early in the new year, a high level freight terminal and yard improvements under Central Viaduct; cost, about $2,000,000.

Raymond Realty Co., care Shauffler Realty Co., 318 Leader-News Bldg., intends erecting factory, to cost about $85,000, and a second unit, costing about $70,000, along Belt Line RR. near East Seventy-first St.

Superior, Wis.—See "Foundations, Piers and Dams."

Duluth, Minn.—See "Reinforced Concrete."

St. Paul, Minn.—Reported Soo Line (C. N. Kalk, ch. engr., Minneapolis), proposes erecting 6-story warehouse at Willius and Grove Sts., provided City Council passes ordinance for a spur track across Willius St.

Muskogee, Okla.—Plans approved by Missouri, Kansas & Texas Ry. Co. (L. F. Loonbladh, ch. engr., Dallas, Tex.), for new shops to be erected here, costing about $200,000

Tacoma, Wash.—J. W. Brokaw of Northwestern Woodenware Co., 2001 Dock St., reported recently purchased plant of Hague Box & Lumber Co. and intends improving and enlarging same extensively.

Salt Lake City, Utah—See "Reinforced Concrete."

Vancouver, B. C. — Reported Pacific Great Eastern RR. Co. (John Callaghan, ch. engr., Vancouver) intends erecting machine shops, store buildings, etc., at Squamish; also roundhouse and divisional headquarters at East Lillooet; total cost, about $150,000.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Pawtucket, R. I.**—Contract awarded Fred T. Ley & Co., Springfield, Mass., for erecting for Tamarack Co., 170 x 368 ft. brick manufacturing building and 2-story, 200 x 80 ft. storage building on Conant St.

Norfolk, Va.—See "Structural Steel Work."

Louisville, Ky.—See "Structural Steel Work."

★**Niles, Ohio**—Contract awarded H. L. Dixon Co., Pittsburgh, Pa., for erecting addition to Niles Glass Works; cost about $50,000.

★**Fort Worth, Tex.**—Contract awarded Southwest Eng. Co., Springfield, Mo., for erecting additional elevator and grain storage facilities for Fort Worth Elevators Co.; cost $85,000.

Los Angeles, Cal.—See "Reinforced Concrete."

BUILDINGS
Public and Private

PROPOSED WORK.

Bristol, Conn.—Erection of a recreation building, costing about $150,000, under consideration. Rev. E. L. Wismer, 31 Maple St., may be able to give information.

New York, N. Y.—No bids were received Oct. 2 by C. B. J. Snyder, supt. school bldgs., Manhattan Boro., for erecting Manhattan Trade School for Girls at Lexington Ave. and E. Twenty-second St.

Rahway, N. J.—Erection of Y. M. C. A. building, to cost about $50,000, contemplated. Address Secy. Y. M. C. A.

Altoona, Pa.—Board Education plans erecting junior high school between Fifth and Sixth Aves. and Fourteenth and Fifteenth Sts.; probable cost, $500,000.

Charleston, W. Va.—Citizens voted $150,000 bonds to erect new high school. Address Bd. of Educ.

Greenville, S. C.—Erection of $50,000 courthouse contemplated. Address County Clerk.

Citizens voted $60,000 bonds to erect hospital. Address City Clerk.

Macon, Ga.—Plans of Alexander Blair of Macon, selected by Mayor and Public Property Com. of Council for proposed city auditorium.

DeLand, Fla.—School Board rejected all bids opened Sept. 25 for erecting school; probable cost, $60,000.

Cincinnati, Ohio.—Plans being prepared by Leibold-Gott Bldg. Co., 505 Gwynne Bldg., for $50,000 apartment building to be erected for John M. Wendt at Madison Rd. and Besuden Ave.

Chas. Eisen of Dolly Varden Chocolate Co., 411 Laurel St., will erect $50,000 residence on Hamilton Ave., near Belmont Ave., College Hill.

Canoe City, Ohio.—Bethel Township school bonds amounting $60,000 sold. Address Township Clerk.

Terre Haute, Ind.—Architect engaged to prepare plans for 2-story, 16-room, fireproof school, to be erected at Ninth St. and Lincoln Ave; cost not to exceed $70,000. Address Bd. of Educ.

Milwaukee, Wis.—Plans being prepared by Martin Tullgren & Son, 133 Second St., for apartment house to be erected at Sixteenth St. and Grand Ave.; cost, about 890,000.

Vinton, Iowa.—All bids opened Oct. 2 by Board Education (W. E. Bickel, secy.) for erecting two-story, 140 x 48-ft school rejected.

Duluth, Minn.—Plans being prepared by Holstead & Sullivan, Palladio Bldg., for Star Theatre to be erected at Twenty-first Ave., W. and Superior St., for E. A. Nelson, 2107 W. Superior St.; cost $60,000.

Hibbing, Minn.—Plans being prepared by Holstead & Sullivan, Palladio Bldg., Duluth, for dentention hospital, to cost $60,000.

Mora, Minn.—Plans being prepared by E. F. Broomhall, 710 Alworth Bldg., Duluth, for school, to cost about $50,000. C. E. Williams, clk. school bd.

Owatonna, Minn.—Citizens, Sept. 30, voted $150,000 bonds to erect new Junior-Senior High School. Address Clerk School Board.

Two Harbors, Minn.—Plans being prepared by W. H. Beyer, 507 Lyceum Bldg., Duluth, for lavatory building to be erected for Duluth & Iron Range Ry. (W. A. Clark, ch. engr., Duluth); cost $50,000. Contract for construction will be let about Dec. 1.

Twin Valley, Minn.—Contract soon to be let for erecting city hall; cost, about $50,000. A. F. Fridlund, archt., Moorhead. Address City Clerk.

Virginia, Minn.—Plans being prepared by C. E. Nystrom, Palladio Bldg., Duluth, for technical high school, to cost $100,000.

Bozeman, Mont.—Plans being prepared for $80,000 addition to Bozeman Deaconess Hospital.

Little Rock, Ark.—Plans completed by Mann & Stern, Little Rock, for $65,000 building to be erected for Central Supply Co.

Pine Bluff, Ark.—Plans prepared for 24-stall round house to be erected here for St. Louis Southwestern Ry. (C. D. Purdon, ch. engr., Railway Exchange Bldg., St. Louis.)

Houston, Tex.—School Bd. recommended to City Council erection of 5-story Central High School, to cost about $500,000.

Erection of $350,000 municipal warehouse to form a part of Houston's port development contemplated. Address City Engineer.

Paris, Tex.—Among the buildings to be erected in rebuilding the city are the following: Repairs to First National Bank Building, cost $81,500; $50,000 edifice for Central Presbyterian Church; 3-story building for Crook-Record Dry Goods Co., cost $75,000; Wise theater, store and office building, cost $60,000; 5-story bank and office building for City National Bank, cost $90,000.

Waco, Tex.—Contract soon to be left for erecting Texas Baptist Sanitarium to cost $100,000. Geo. Burnett, archt., Cameron Bldg.

Pueblo, Col.—No bids received Sept. 30 for erecting municipal auditorium and city hall. Plans to be revised and new bids asked. J. Jackson, city clk.

Seattle, Wash.—Washington Securities Co. (J. W. Clise, pres.), Crary Bldg., plans erection of 11-story fireproof unit to present Securities Building.

Toronto, Ont.—All bids opened Oct. 2 by Toronto Electric Comn. for erecting store, office and garage building rejected as being too high. No further action taken.

BIDS DESIRED.

Farmingdale, L. I., N. Y.—Until Oct. 18, by Wm. Wirt Mills, secy. bd. trus., New York State School Agriculture, Woolworth Bldg., New York, for constructing chicken houses and hog houses at said school in Farmingdale, advertised in this issue. Lewis F. Pilcher, state acht., Albany.

West Haverstraw, N. Y.—Until Oct. 27 by Geo. Blagden, pres. bd. mgrs., New York State Hospital for Crippled and Deformed Children, West Haverstraw, for constructing main building at said hospital, including heating, plumbing, etc. Lewis F. Pilcher, state archt., Albany.

Portsmouth, Ohio.—Reported desired until Oct. 27, by Bd. Educ., for erecting school. Cost $60,000.

Wellsville, Ohio.—Reported desired until Nov. 1 by Bd. Educ. for erecting 2-story, 60 x 125 ft., high and grade school. Cost $100,000. Howard & Merriam, archts., 8 East Broad St., Columbus.

Lansing, Mich.—Until Oct. 20, by Bd. Trustees, M. E. Church, for erecting brick and tile church. Separate bids for heating, ventilating and plumbing, etc. Lee Black, archt., 523 Oakland Bldg., Lansing.

Ypsilanti, Mich.—Later official reports state until Oct. 18 (not Oct. 12, as previously stated), by Sumner Demon, city clk., for erecting hospital. E. R. Dunlap, archt., Hammond Bldg., Detroit.

Joplin, Mo.—Until Oct. 26, by Bd. Educ., for erecting high school. Cost about $250,000. Separate bids for heating, plumbing and ventilating, etc. Smith, Rea & Lovitt, archts., 602 Finance Bldg., Kansas City, Mo.

Tucson, Ariz.—Until Dec. 15 by Bd. Regents University of Ariz. (W. J. Bryan, Jr., secy.), for competitive plans for building College of Mines and Engineering; $150,000 available.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Worcester, Mass.**—Contract awarded E. J. Cross Co., 82 Foster St., for erecting 5-story additional wing to new administration building of Norton Co. on New Bond St.; cost, about $100,000.

New York, N. Y.—Lowest bid opened Oct. 6 by Public Service Commission for First Dist., 120 Bway., for constructing station finish on Route 43, Sects. 1 and 2, Routes 4 and 38, etc., of Seventh Ave.-Lexington Ave. subway, submitted by Louis Wechsler, 1133 Bway., at $382,521.

★**Newark, N. J.**—Essex Constr Co., Newark, and M. T. Burnett, 360 Halstead St., East Orange, will erect for Chas. and Thos. Goldingay a 4-story brick apartment building at Orchard and Tichenor Sts.; cost $100,000.

★**Huntington, W. Va.**—Contract awarded by Bd. of Educ. for erecting 12-room semi-fireproof grade school at Guyandotte to A. L. Shockey, Huntington, at $45,846 and heating and ventilating to Columbus Heating & Ventilating Co., 425 W. Town St., Columbus, Ohio, at $6,300.

Following are four lowest bids opened Oct. 3 by Supervising Architect, Washington, D. C., for constructing U. S. post office: Jas. Devault, Canton, Ohio, $155,000; V. E. Taylor, Huntington, $156,500; R. P. Farnsworth & Co., Owensboro, Ky., $161,390; John G. Unkefer & Co., Minerva, Ohio, $162,333.

Terre Haute, Ind.—Following are 4 lowest bids opened Oct. 7 by Bd. of Trus., Indiana State Normal School, for general construction of new Science Building: A. W. Stoolman, Champaign, Ill., $94,395; Ainsworth Constr. Co., Terre Haute, $100,200; Cullen & Vaughn, Terre Haute, $103,288; H. W. Clausman, Indianapolis, $112,318. Lowest bidder for plumbing, Prox & Burget, Terre Haute, at $10,400.

★**Eureka, Ill.**—Contract awarded Meneley Constr. Co., Peoria, at $57,995, for erecting Vennum Science Hall for Eureka College.

★**Appleton, Wis.**—Contract for erecting Russell Sage dormitory at Lawrence College awarded C. R. Meyer Sons, Oshkosh, and plumbing to W. S. Patterson & Co., Appleton; cost about $125,000.

★**Jefferson, Ia.**—Following are four lowest bids opened Sept. 25, by Bd. of Educ. (C. P. Lyon, secy.), for erecting school: Gerdes, Hintz & McKee, Creston, $70,200 (awarded contract); Reed McDonald-Brewster, Minneapolis, $72,474; G. N. Fairchild & Co., La Grande, Ia., $74,984; C. W. Ennis, Toledo, Ia., $75,000.

★**Mason City, Ia.**—Contract for erecting school (bids opened Oct. 2 by School Board, R. L. James, secy.) awarded H. F. Jones, Cedar Rapids, at $201,100; heating and plumbing, Healy Plumbing & Heating Co., St. Paul, $37,738.

★**Proctor, Minn.**—Contract reported awarded Farnam Bros., Minneapolis, for erecting school, costing $60,000.

★**St. Paul, Minn.**—Contract awarded P. M. Hennessy Constr. Co., Oppenheim Bldg., for erecting chapel at St. Thames' College; cost $75,000.

★**Okmulgee, Okla.**—Contract for erecting 4-story, 100 x 105 ft. brick, stone, terra cotta and reinforced concrete courthouse (bids opened Sept. 29) awarded Kriepke & Shafer, Okmulgee. C. E. Hair & Co., archts., Oklahoma.

Bremerton, Wash.—A. P. Bassett Plumbing & Heating Co., Everett, submitted lowest bid Sept. 30 to Bureau of Yards and Docks, Washington, D. C., for heating and power plant complete at Naval Torpedo Station, Puget Sound, Wash., at $47,679.

★**Tacoma, Wash.**—Contract awarded J. E. Bonnell, 760 Commerce St., for erecting first unit of additions to Tacoma General Hospital on S. Third and K Sts. Heath & Gove, archts., National Realty Bldg.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Dumas, Miss.—Plans being prepared by Caldwell Engineering Co., Booneville, for about 10 miles of open ditch contemplated by Big Hatchie Drainage Dist. (A. T. Hughey, pres. comrs.), recently organized.

Huntingdon, Tenn.—Surveys are being made by A. A. Oldfield, engr., as follows: For Drainage Dist. No. 1, over Beaver and Crooked Creeks; Dist. No. 2, Big Sandy River; Drainage Dist. No. 3, Rutherford Fork Ohio River; total length of ditches to exceed 100 miles, floating dredge and dry land machine work.

Muncie, Ind.—Surveys being made in Delaware and Henry Counties for improvements of drainage facilities of Brush Creek; cost about $100,000.

Quincy, Ill.—Plans of Edmund T. Perkins Engineering Co., Chicago, for Lima Lake and Hunt Dist. improvement, approved by Commissioners, to include canal system with levees and lateral canals, and three pumping stations; estimated cost, $500,000.

Albert Lea, Minn.—Contract soon to be let by Co. Comrs. for constructing Judicial Ditch No. 2, in Freeborn and Waseca Counties, Hartland Township; estimated cost $166,000. Address County Clerk, Albert Lea.

Springer, N. M.—The Spring Ditch Co. (R. O. Cottingham, secy.) are widening irrigation ditches and contemplate constructing reservoir. Part of work contracted for.

Long Beach, Cal.—Contracts will soon be let by Bd. Superv. (A. M. McPherrin, clk., Los Angeles) for drainage work in Signal Hill Drainage Dist., involving about 31,000 cu. yd. excav., 11,266 ft. 48-in. reinforced concrete pipe laid in trenches 14 ft. deep, greater part below water; probable cost, $96,000. R. V. Pearsall, engr., 329 First Natl. Bank Bldg.

Modesto, Cal.—Contract soon to be let by Modesto Irrigation Dist. for widening main canal. Probable cost, $254,000.

Ventura, Cal.—Plans for protection district have been submitted to Bd. Supervs. Total cost $25,500.

BIDS DESIRED.

New York, N. Y.—Until Oct. 19 by Comrs of Parks (Cabot Ward, chmn.) for filling in swamp lands in southerly portion of Van Cortlandt Park, Boro Bronx. Security $25,000.

Philadelphia, Pa.—Until Nov. 9, at U. S. Engrs. Office, for dredging in Delaware River, on Deep Water Point, New Castle, and Reedy Island lighthouse rangers.

Jacksonville, Fla.—Contract soon to be let by the International Improv. Bd. of De Soto Co., for constructing drainage canal from Lake Istapoga to Lake Okeechobee, a distance of about 20 miles, to drain 250,000 acres of land in Indian Prairie.

Dresden, Tenn.—Reported desired until Oct. 26 by Middle Fork and Spring Creek Drainage and Levee Dist. No. 1 (G. T. Mayo, chmn.) for 118 acres of floodway between Illinois Central R. R. right of way and Greenfield and Sharon old road levee. Engrs., Morgan Engineering Co., Memphis.

Paxton, Ill.—Reported desired Oct. 19, by County Clerk, for cleaning out, deepening and widening ditch, requiring 71,460 cu. yd. excav.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Lynn, Mass.**—Contract awarded by Waterways & Public Lands, State House, Boston (bids opened Sept. 28) to Gilbert H. Harries, 262 Washington St., Boston, for dredging 40,000 cu. yd. material in Saugus River Channel at 49 cts. per cu. yd. for dredging, and $5 per cu. yd. for boulders.

★**New London, Conn.**—Bid of J. S. Packard Dredging Co., Turks Head Bldg., Providence, at 7.7 cts. per cu. yd., total $36,960, for dredging in Harbor of Refuse, Duck Island Harbor, about 480,000 cu. yd., recommended for award.

Albany, N. Y.—Following are bids opened Oct. 3 by W. W. Wotherspoon, state supt. pub. wks., for (a) Contract 2-G, constructing spillway at Waterford; (b) Contract 44-A, constructing canal prism at New London; (c) Contract 132, constructing lighthouse, range towers and beacons on Oneida and Onondaga Lakes; (d) Contract 133, constructing junction lock at Mohawk; (e) Terminal Contract 48, constructing terminal Rochester; (a) A. A. Parker, Waterford, $10,779 (lowest bid); (b) Grant Smith & Co., Locher, and Scotts Bros. of Roem, each bid 46 cents per cu. yd.; total $52,486; Jos. F. Stabell Co., Inc., Buffalo, bid $54,197; (c) Lupfer & Remick, Buffalo, $72,185; (only bid); (d) Morrison & Quinn, Inc., Rochester, $48,910; E. Brown Baker, Herkimer, $52,116; (e) Chesley Earl & Leimbach, Inc., Buffalo, $97,968; Whitmore, Rauber & Vicinius, Inc., Rochester, $98,382; Dale Eng. Co., Utica, $98,814; I. R. Ludington's Sons, Inc., Rochester, $99,683.

Brooklyn, N. Y.—Following are bids opened Oct. 2, by R. A. C. Smith, comr. docks, N. Y. City, for Contract 1462, dredging at head of Mill Basin, Jamaica Bay, Brooklyn Borough (price given is per cu. yd): P. Sanford Ross, Inc., 277 Washington St., Jersey City, 11.3 cts.; Atlantic Gulf & Pacific Co., 13 Park Row, N. Y. City, 11.47 cts.; Walter H. Gaghagan, 189 Montague St., 13 cts.

★**New Orleans, La.**—Following bids opened Sept. 29, by Maj. W. G. Caples, Corps. Engrs., U. S. A., Fourth Dist., Mississippi River Comn., for 2,590,000 cu. yd. earthwork recommended for award; (a) per cu. yd., (b) totals: Lower Tensas Levee Dist., for White Oak Levee, 51,000 cu. yd; Jackson Construction Co., (a) 42.9 cts. per cu. yd, (b) $21,878; Kempe Levee, 150,000 cu. yd., Francis T. Constant, Alexandria, (a) 31.5 cts., (b) $47,250; L'Argent sub-levee, 38,000 cu. yd., H. T. Van Fossen, Lake Providence, (a) 16 cts., (b) $6,080; Atchafalaya Levee Dist., lower part of Red River Landing Levee, Smithland Levee and Henrietta Levee, in all 700,000 cu. yd. Grasser Contr. Co., New Orleans, (a) 13.47 cts., (b) $94,290.

★**Greenville, Miss.**—Lowest bid opened Oct. 2, by Mississippi Levee Comn. (W. L. Thompson, ch. engr.) for constructing concrete protection cap spur levee Station 3769, Crater's Neck Spur, in all about 25,000 sq. ft. about 7 miles from Greenville, submitted by Neal Dodd Lumber Co., Greenville, at 10.8 cts. per sq. ft.

★**Vicksburg, Miss.**—Contract for constructing about 680,000 cu. yd. new levee and enlargement, Upper Tensas Levee Dist., Arkansas River, Ark., awarded by Third Mississippi River Dist., P. O. Box 404, Vicksburg, to Roach & Stansell, Memphis, Tenn. (a) Sta. 530-15-592, 240,000 cu. yd., 17 cts. per cu. yd., $40,800; (b) Sta. 592-640, 146,250 cu. yd., 21 cts. per cu. yd., $30,712; (c) Sta. 640-690, 146,250 cu. yd., 28 cts. per cu. yd., $40,950; (d) Sta. 690-743, 147,500 cu. yd., 29 cts. per cu. yd., $42,775. (Bids opened Oct. 2.)

★**Vicksburg, Miss.**—Contract awarded W. T. & E. M. Lowrence & Co., Memphis, at $60,000, for constructing Sect. 3 of Lower Mississippi Levee. Bids opened Sept. 15, by U. S. Engineer, Vicksburg.

East St. Louis, Ill.—Contract awarded A. B. Wills & Sons, St. Louis, at $200,000, for dredging drainage canal, which was taken over by the East Side Levee and Sanitary Dist. Comrs. of Drainage Dist. No. 1.

★**Nevada, Iowa.**—Contract for labor, material and constructing Gilbert Drainage Ditch No. 70, awarded by County Supervisors (bids opened Sept. 29) to McComb Sewer Pipe Co., McComb, Ill, at $37,849, for tile; Chris. Haugsted, Webster City, labor, $18,220.

★**Mankato, Minn.**—Contract awarded North Star Concrete Co., Mankato, at $42,800, for constructing Judicial Ditch No. 9. (Bids opened Sept. 21, by C. L. Kennedy, co. aud.)

★**Hartington, Neb.**—Contract awarded W. Hoherson, Yankton, S. D., by H. J. Beaty, co. aud., for constructing Brookey Bottom Ditch. (Bids opened Oct. 3.)

St. Louis, Mo.—Lowest bid opened for constructing municipal dock at North Market St., was that of The Heman Constr. Co., Title Guarantee Trust Bldg., at $187,251. Recommended for award. (Bids opened Sept. 29, by Bd. Pub. Service.)

★**Marion, Ark.**—Contract awarded to Canal Constr. Co., Memphis, at 7½ cts. for dredge and 12 cts. for dragline, for constructing 40 miles of ditches in Drainage Dist. No. 8. Bids opened Sept. 21, by J. F. Foggleman, secy.

St. Maries, Idaho.—Following four lowest bids opened Aug. 31 by Court M. Sargent, Secy. Drainage Dist. No. 2, for constructing Drainage Dist. No. 2, involving 120,000 cu. yd. embankment, 23,000 cu. yd. ditches: Hans Peterson, Seattle, $22,600; Wood & De Camp, Spokane, $22,610; Geist & Craney, St. Maries, $22,300, and Carscaller Bros., Coeur D'Alene, $24,000.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Hoboken, N. J.—See "Structural Steel."

Sea Bright, N. J.—Lewis M. Haupt, of Cynwyd, Pa., member of U. S. Coast Survey, has been engaged to consider plans to reclaim beach front by constructing a curved line of jetty work.

Sparrows Point (P. O. Baltimore), Md.—Contract soon to be let by Bethlehem Steel Co. for constructing two 900-ft. piers of reinforced concrete at Sparrows Point.

Wheeling, W. Va.—Contract soon to be let by U. S. Engineer for constructing Dams Nos. 23, 25 and 27, on lower section of Ohio River, between Pittsburgh and Huntington.

Akron, Ohio—Plans being prepared by State Dept. Pub. Wks. for constructing reservoir to impound water of Tuscarawas River Valley to add to storage capacity of Portage Lake system, including dredging, retaining wall, etc.; estimated cost $875,000. Howard K. Klepinger, engr., Columbus.

Spokane, Wash.—Contracts will soon be awarded for repairs to north pier of Washington St. concrete bridge. Cost $5,000. Morton Macartney, city engr.

Oswego, Ore.—Oregon Portland Cement Co., Portland, contemplates constructing docks in connection with plant at Oswego.

Victorville, Cal.—F. E. Trask, 616 Union Oil Bldg., Los Angeles, is engineer for irrigation district proposed by land owners of Apple Valley. Two dams in Mohave River proposed, one 40,000 acre ft. and the other 22,000 acre ft., open concrete canal about 12 ft. long and bridges across Deep Creek, pumping plant, etc.

Vancouver, B. C.—Canadian Pacific R. R. Co. (J. G. Sullivan, ch. engr., western line, Winnipeg, Man.) planning constructing wharves at Vancouver; cost $1,500,000. City also contemplates expending $5,0000,000 for wharf extensions.

BIDS DESIRED.

Wheeling, W. Va.—Until Oct. 30, at U. S. Engineers Office, for furnishing and erecting lock gates for Dam No. 22, Ohio River, advertised in this issue.

Orange, Tex.—Until Oct. 20 by the City, for constructing creosoted timber wharf and bulkhead 600 ft long. E. U. Henry, city engr.

San Bernardino, Cal.—Reported desired until Oct. 30, by Bd. Superv. (L. R. Patty, clk.), for constructing protection work along Mojave River, Barstow; also repairs and additions to bridge now in place at Barstow crossing on the said Mojave River.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Albany, N. Y.—See "Excavation, Drainage and Dredging."

★**New York, N. Y.**—Contract awarded Underpinning & Foundation Co., 290 Broadway, for standard Hercules steel pile foundation for residence of Marie S. Livingston, 12 E. Ninety-sixth Street. Ogden Codman, archt., 340 Madison Ave.

★**Dayton, Ohio.**—Contract awarded by City Corp. to Price Bros., Grand Rapids, at $40,625 (which includes price of cement at $10,785) for constructing Steele Dam. Bids opened Sept. 15.

★**Houston, Tex.**—Contract awarded municipal wharfs 2 and 3 (bids opened Sept. 30 by City Comn.) to Horton & Horton, Houston, at $189,224.

★**Milwaukee, Wis.**—Contract awarded E. E. Gillen Co., Milwaukee, at $30,000, for constructing a concrete dock along Menominee River just west of Reed St. Bids opened Sept. 25 by Pub. Wks. Dept.

★**Sibley, Iowa.**—Following are bids opened Oct. 3 by D. W. Clayton, co. aud., for constructing Dickinson-Osceola Co.'s Joint Drainage Dist. No. 4, consisting of 65,800 ft. 6 to 24-in. tile, with bulkheads, etc.: Sibley Cement Co., Sibley, $18,894 (awarded contract); Wm. Imhoff, Melvin, Iowa, $20,000; Sioux City Concrete Pipe Co., Sioux City, $23,440; National Clay Wks., Mason City, bid $9,885 on tile only.

Malta, Mont.—Following are bids opened Sept. 27 by U. S. Reclamation Service for constructing structures on Milk River Project, Montana, in vicinity of Saco: Booth & Knipe, Saco, $28,284; C. M. McCaughin, Malta, $31,027.

St. Louis, Mo.—Following are bids opened Sept. 29, by Bd. Pub. Serv. for constructing municipal concrete dock at North Market St.: Heman Constr. Co., Title Guarantee & Trust Bldg., $187,251; List & Gifford Constr. Co., 520 N. Y. Life Bldg., Kansas City, $238,887; J. E. Lane & Co., Kansas City, $308,103.

★**Corpus Christi, Tex.**—Contract awarded by Co. Comrs. to Terrell Bartlett, San Antonio, at $31,500, for rebuilding section of causeway across Nueces Bay.

TUNNELS AND SUBWAYS

BIDS DESIRED.

Brooklyn, N. Y.—Until Oct. 19, by Pub. Service Comn., First Dist., 120 Bway., New York, for constructing concrete track floors and platforms over the mezzanines of 11 stations on the Culver Rapid Transit Railroad in Brooklyn Boro.

Philadelphia, Pa.—Until Dec. 7 (change of date from Nov. 2) by Wm. S. Twinning, dir. dept. city transit, 754 Bourse Bldg., for constructing section of Broad St. subway known as cont. No. 102, advertised in this issue.

PRICES AND LETTINGS.

★*Indicates award of contract.*

New York, N. Y.—Following are bids Opened Oct. 4, by Interborough Rapid Transit Co., 165 Broadway.: For constructing discharge tunnel from company's power house at Fifty-ninth St. and Twelfth Ave., Henry E. Fox Constr. Co., 81 E. 125th St., $116,187; Merrill & Ruckgaber Co., 50 Church St., $137,345; The Snare & Triest Co., 233 Broadway, $149,975; Jas. O'Leary, Pelham Manor, $176,975; Phoenix Constr. Co., 41 Park Row, $197,543. Supplying and installation of tracks for portion of rapid transit railroad from Webster Ave and 194th St. to Gun Hill and White Plains Road, Thos. Crimmins Contr. Co., 44 E. Sixty-ninth St., $225,000; Snare & Triest Co., 233 Broadway, $227,000. Supplying material and installation of tracks for portion of rapid transit railroad, Sect. No. 6 D, from Third Ave. and 143d St. to Willis and Bergen Aves., and 149th St., Walter S. Rae, $40,240; Snare & Triest Co., 233 Broadway, $41,946.

MISCELLANEOUS

PROPOSED WORK.

Incinerating Plant—Syracuse, N. Y.—Incinerating plant bonds for $10,000 will be sold by City Clerk.

Conduits—Trenton, N. J.—City Commission granted permission to Western Union Telegraph Co., to construct and maintain conduits and underground ways in, under and across streets and alleys of city.

Transmission Line—Heiberg, Minn.—J. F. Heiberg, owner of local electric light contemplates erecting a transmission line from Heiberg to Gary, a distance of about 6½ miles.

Transmission Line—Pine City, Minn.—Eastern Minnesota Power Co. contemplates extending its transmission line from Isanti to Bethel.

Transmission Line—Sterling, Neb.—Preliminary surveys completed by Sterling Light & Power Co. (W. W. Marks, gen'l. mgr.) for constructing three miles of three phase, 13,200 volt transmission line.

Transmission Line—Eugene, Ore.—Oregon Power Co. contemplates extending transmission line into Coquille River Valley, crossing river at Cedar Point, supplying power to Riverton and Lamp Creek mines.

Playground—Portland, Ore.—Plans are being considered for improving Marquam Gulch in S. Portland, by transforming it into a playground; cost $60,000. Philip Dater, city engr.

BIDS DESIRED.

Grand Stand—Syracuse, N. Y.—Until Oct. 23 by New York State Fair Comn., 428 S. Salina St., Syracuse (Albert E. Brown, secy.) for moving existing grand stand and erecting same in new location, advertised in this issue.

Race Track—Syracuse, N. Y.—Until Oct. 23 by New York State Fair Comn., 428 S. Salina St., Syracuse (Albert E. Brown, chmn.) for constructing one mile of race track, advertised in this issue.

Riprap — Tompkinsville, N. Y.—Until Oct. 19, by Lighthouse Inspector, for furnishing and placing riprap for Pamrapo Light, Newark Bay, N. J.

Signal Towers—New York, N. Y.—Until Oct. 23 by Public Service Comn. for First Dist., 120 Broadway, for constructing signal towers for parts of the Seventh Ave.-Lexington Ave., White Plains Road and Queens Boro. Subway, Rapid Transit Railroad.

Electric Lift—Washington, D. C.—Until Oct. 24 at office of Supt. U. S. Coast and Geodetic Survey, 205 New Jersey Ave. S. E., for furnishing and installing an electric lift.

Lock Gates—Louisville, Ky.—Until Nov. 6 at U. S. Engineer's office for erecting upper and lower mitering locks gates of two leaves each for Lock No. 41, Ohio River, advertised in this issue.

Underground Conduit—Cleveland, Ohio.—Until Oct. 18 by Comr. of Purchases and Supplies, City Hall, for underground conduit for electric wire cables for filtration plant at Division Ave. pumping station.

Cement—Galveston, Tex.—Until Nov. 2, by Lighthouse Inspector, New Orleans, La., for furnishing 1500 bbl. Portland cement to Galveston, prepaid.

Electric Crane—Seattle, Wash.—Until Oct. 25 by C. E. Dole, purchasing agent of Alaskan Engineering Comn., Bell St. dock, Seattle, for electric traveling shop crane and switch points.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Newport, R. I.—Following are bids opened Oct. 2, at U. S. Engrs. office for removing wreck of transport "Yankee" from Buzzard Bay, Mass.: Merritt & Chapman Derrick & Wrecking Co., 17 Battery Pl., New York, $11,890; T. A. Scott Co., Inc., New London, $47,300; Chas. W. Johnston, Lewes, Del., $26,500; Eugene Boehm, 23 N. Florida Ave., Atlantic City, $24,872.

Canal Prism—Albany, N. Y.—See "Excavation, Drainage and Dredging."

Removal of Snow—New York, N. Y.—Following are bids opened Oct. 5 by J. F. Fetherston, comr. street cleaning, for Contract No. 1, entire borough; furnishing labor, equipment and appliances required for removal of snow and ice during winter of 1916-1917, security $100,000: Celestine De Marco Co., 50 Spring St., .384 ct.; Snow Contr. Co., 1 Madison Ave., .39 ct.; Dan'l Rogge, 51 Chambers St., 47.85 cts. Contract No. 2 (divided in three sections), only bids for Sect. 2, Jos. J. La Marsh, Inc., Queensboro Plaza, L. I. City, .45 cts.

★**Rock—New Orleans, La.**—Contract awarded to L. F. Alexander, New Orleans, at $36,650, by U. S. Engrs., for furnishing 52,000 tons of rock (bids opened Sept. 20).

Iron Castings—Louisville, Ky.—Only bid opened Oct. 2 at U. S. Engrs. Office, for furnishing and delivering gray iron castings for Lock No. 41, Ohio River, submitted by J. & J. B. Millholland Co., 714 Fifth Ave., Pittsburgh, Pa., at $12,384.

★**Gate Valves—Louisville, Ky.**—Contract awarded Independent Bridge Co., Pittsburgh, at $27,528, by U. S. Engrs., for delivering Stoney gate valves and accessories for Lock No. 41, Ohio River. (Bids opened Sept. 23.)

★**Dipper Dredge, Etc.—Marion, Ark.**—Contract awarded Canal Constr. Co., Memphis, at $115,000, for three dipper dredges and one drag line for Drainage Dist. No. 8, Crittenden County. Morgan Eng. Co., engrs., Memphis.

Incinerator—Panama.—Only bid submitted for constructing incinerating plant of 180 tons capacity per day was from Decarie Incinerator Co., Minneapolis, $96,618. (Bids opened Sept. 21 by Genl. Purchasing Officer, Panama Canal, Washington, D. C.)

Proposals

For Proposals Advertised See Pages 41, 42, 43 and 44.

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.		See Eng. Record.
Oct. 17.	Tarboro, N. C.	Sep. 30
Oct. 17.	Hermosa Beach, Cal.	Sep. 30
Oct. 17.	Flint, Mich. Adv. Oct. 7.	Oct. 7
Oct. 17.	Pocatello, Idaho Adv. Oct. 7.	Oct. 7
Oct. 17.	Tarboro, N. C.	Oct. 14
Oct. 17.	Ferndale, Wash.	Oct. 14
Oct. 17.	Newburg Heights, Ohio.	Oct. 14
Oct. 17.	Philadelphia, Pa.	Oct. 14
Oct. 17.	Clarinda, Iowa	Oct. 14
Oct. 17.	Primghar, Iowa	Oct. 14
Oct. 17.	Salt Lake City, Utah	Oct. 14
Oct. 18.	Newark, N. Y. Adv. Oct. 7, 14.	Oct. 7
Oct. 18.	South Jacksonville, Fla.	Oct. 7
Oct. 18.	Copperhill, Tenn.	Oct. 14
Oct. 19.	Panama	Oct. 7
Oct. 19.	Burlington, Iowa	Oct. 14
Oct. 19.	Philadelphia, Pa.	Oct. 14
Oct. 20.	Long Island City, N. Y.	Oct. 14
Oct. 21.	Cleveland, Ohio	Oct. 7
Oct. 21.	Cleveland, Ohio	Oct. 14
Oct. 21.	Jacksonville, Fla.	Oct. 14
Oct. 23.	Havana, Fla.	Sep. 16
Oct. 23.	Fairview, N. J. Adv. Oct. 7, 14.	Oct. 7
Oct. 23.	Minneapolis, Minn.	Oct. 7
Oct. 23.	Philipsburg, Pa. Adv. Oct. 7.	Oct. 7
Oct. 23.	Marshall, Mich.	Oct. 14
Oct. 24.	Toledo, Ohio	Oct. 14
Oct. 24.	Philadelphia, Pa.	Oct. 14
Oct. 25.	Panama	Oct. 14
Oct. 25.	Batavia, N. Y.	Oct. 14
Oct. 27.	Indianapolis, Ind.	Oct. 7
Oct. 27.	Lyndhurst, N. J.	Oct. 14
Oct. 30.	Front Royal, Va. Adv. Sep. 30 to Oct. 14.	Sep. 30
Oct. 30.	Panama	Oct. 7
Oct. 30.	Wickenburg, Ariz.	Oct. 14
Nov. 1.	Lansing, Mich. Adv. Oct. 14.	Oct. 14
———	Granite City, Ill. Adv. Sep. 30.	Sep. 30
———	Chateauguay Basin, Que. Adv. Oct. 14.	Oct. 14
———	Buitenzorg, Java, Dutch East Indies Adv. Oct. 14.	Oct. 14

STRUCTURAL STEEL WORK

Oct. 17.	New Martinsville, W. Va. Adv. Sep. 23, 30.	Sep. 23
Oct. 17.	Buffalo, N. Y. Adv. Sep. 30.	Sep. 30
Oct. 17.	Eatonton, Ga.	Oct. 7
Oct. 17.	Storm Lake, Iowa	Oct. 14
Oct. 18.	New Castle, Pa.	Oct. 14
Oct. 18.	Philadelphia, Pa.	Oct. 14
Oct. 19.	Spokane, Wash.	Oct. 7
Oct. 23.	Santa Rosa, N. M.	Oct. 7
Oct. 23.	Philadelphia, Pa.	Oct. 7
Nov. 2.	Washington, D. C.	Oct. 14
Nov. 4.	Dayton, Ohio	Oct. 14
Jan. 1.	Mitchell, S. D.	Oct. 7

REINFORCED CONCRETE.

Oct. 17.	Kingston, W. Va. Adv. Oct. 14.	Oct. 14
Oct. 18.	Arcadia, Fla.	Sep. 16
Oct. 20.	Folkston, Ga.	Oct. 14
Oct. 24.	Rolfe, Iowa	Sep. 30
Oct. 30.	Topeka, Kan.	Oct. 14
Nov. 1.	Kansas City, Mo.	Oct. 14
Nov. 10.	Independence, Iowa	Oct. 14
Dec. 1.	Knoxville, Tenn. Adv. Oct. 14.	Oct. 14

ROADS AND PAVING.

Oct. 16.	Maryland Adv. Oct. 7, 14.	Oct. 7
Oct. 17.	Woodbury, N. J.	Sep. 23
Oct. 17.	Omaha, Neb.	Sep. 30
Oct. 17.	Grove Hill, Okla.	Oct. 7
Oct. 17.	Grove Hill, Ala.	Oct. 14
Oct. 17.	New York, N. Y. Adv. Oct. 14.	Oct. 14
Oct. 18.	Grand Island, Neb.	Sep. 30
Oct. 18.	Baltimore, Md. Adv. Oct. 7.	Oct. 7
Oct. 19.	Newark, N. J.	Sep. 30
Oct. 19.	Brookville, Fla.	Oct. 7
Oct. 19.	Newark, N. J.	Oct. 14
Oct. 19.	Marion, Ohio	Oct. 14
Oct. 19.	Sidell, Ill.	Oct. 14
Oct. 20.	Wellsburg, W. Va.	Oct. 7
Oct. 20.	Pennsboro, W. Va.	Oct. 7
Oct. 20.	Cincinnati, Ohio	Oct. 14
Oct. 20.	Jacksonville, Fla.	Oct. 14
Oct. 20.	Lafayette, Ala.	
Oct. 20.	New York, N. Y.	Oct. 14
Oct. 21.	Moundsville, W. Va.	Oct. 7
Oct. 21.	Tacoma, Wash.	Oct. 14
Oct. 23.	Fort Lauderdale, Fla.	Oct. 14
Oct. 23.	Superior Neb.	Oct. 14
Oct. 24.	Washington, D. C. Adv. Oct. 14.	Oct. 14
Oct. 25.	Indiana	Sep. 16
Oct. 26.	Albany, N. Y. Adv. Oct. 7, 14.	Oct. 7
Oct. 26.	Brazil, Ind.	Oct. 14
Oct. 28.	Philadelphia, Pa.	Oct. 7
Oct. 28.	Atlanta, Ga.	Oct. 14
Oct. 29.	Greensburg, Pa.	Oct. 7
Oct. 29.	Wellsburg, W. Va.	Oct. 14
Oct. 30.	Texarkana, Ark. Adv. Sep. 30 to Oct. 14.	Sep. 30
Oct. 30.	Natchitoches, La.	Oct. 7
Oct. 31.	Wilmington, Del Adv. Oct. 14.	Oct. 14
Nov. 1.	Birmingham, Ala.	Oct. 14
Nov. 10.	Arcadia, Fla.	Oct. 14
Nov. 11.	Logan, W. Va.	Oct. 14

RAILWAYS

Dec. 6.	Portland, Ore. Adv. Sep. 30 to Oct. 14.	Sep. 23

BUILDINGS.

Public and Private.

Oct. 17.	New Orleans, La.	Sep. 2
Oct. 17.	Dunning, Ill.	Oct. 7
Oct. 18.	Wilmington, N. C.	Sep. 23
Oct. 18.	Waterloo, Iowa	Sep. 23
Oct. 18.	Elizabeth, N. J.	Sep. 30
Oct. 18.	Canby, Minn.	Sep. 30
Oct. 18.	Clear Lake, S. D.	Oct. 7
Oct. 18.	Farmingdale, N. Y. Adv. Oct. 14.	Oct. 14
Oct. 18.	Ypsilanti, Mich.	Oct. 14
Oct. 19.	Du Bois, Pa. Adv. Sep. 16, 23.	Sep. 16
Oct. 19.	Theilis, N. Y. Adv. Sep. 30, Oct. 7.	Sep. 30
Oct. 19.	Ypsilanti, Mich.	Sep. 30
Oct. 20.	Grand Rapids, Mich. Adv. Oct. 7.	Oct. 7
Oct. 20.	Lansing, Mich.	Oct. 14
Oct. 21.	Mt. Pleasant, Iowa	Oct. 7
Oct. 23.	Kenmore, O.	Oct. 7
Oct. 23.	Boise, Idaho	Sep. 23
Oct. 23.	Kenmore, Ohio	Oct. 7
Oct. 24.	Valley Junction, Iowa	Sep. 30
Oct. 24.	Santo Domingo, D. R.	Sep. 30
Oct. 25.	Ypsilanti, Mich.	Oct. 7
Oct. 26.	Joplin, Mo.	Oct. 14
Oct. 27.	Portsmouth, Ohio	Oct. 14
Oct. 27.	West Haverstraw, N. Y.	Oct. 14
Oct. 30.	Burlington, N. C.	Sep. 23
Oct. 30.	Ridgewood, N. J.	Sep. 30
Oct. 31.	Woodbury, N. J.	Sep. 30
Oct. 31.	Potsdam, N. Y. Adv. Oct. 7, 14.	Oct. 7
Nov. 1.	Hartford, Conn.	Sep. 30
Nov. 1.	Mishawaka, Ind.	Sep. 30
Nov. 1.	Cincinnati, Ohio	Oct. 7
Nov. 1.	Wellsburg, Ohio	Oct. 14
Nov. 10.	Wenatchee, Wash.	Oct. 7
Nov. 12.	St. Cloud, Minn.	Sep. 30
Nov. 13.	Birmingham, Ala.	Sep. 23
Nov. 14.	Media, Pa.	Oct. 7
Dec. 15.	Tucson, Ariz.	Oct. 14
Nov. 21.	Rockville, Conn. Adv. Oct. 7, 14.	Oct. 7
Nov. 27.	East Orange, N. J.	Oct. 7
Jan. 1.	Webster, S. D.	Sep. 16

FOUNDATIONS, PIERS AND DAMS.

Oct. 17.	Chicago, Ill. Adv. Sep. 23 to Oct. 14.	Sep. 23
Oct. 18.	Rock Island, Ill. Adv. Sep. 23 to Oct. 14.	Sep. 23
Oct. 20.	Orange, Tex.	Oct. 14
Oct. 21.	Norfolk, Va.	Sep. 23
Oct. 21.	Boston, Mass.	Sep. 30
Oct. 21.	Wheeling, W. Va. Adv. Oct. 7, 14.	Oct. 7
Oct. 30.	San Bernadino, Cal.	Oct. 14
Oct. 30.	Wheeling, W. Va. Adv. Oct. 14.	Oct. 14
Oct. 31.	Washington, D. C. Adv. Oct. 7, 14.	Oct. 7

EXCAVATION, DREDGING AND DRAINAGE.

Oct. 17.	Albany, N. Y.	Sep. 30
Oct. 17.	Olivia, Minn. Adv. Sep. 30, Oct. 7.	Sep. 30
Oct. 17.	Norwalk, Ohio	Oct. 7
Oct. 18.	Columbia City, Ind.	Oct. 7
Oct. 19.	New York, N. Y.	Oct. 14
Oct. 19.	Paxton, Ill.	Oct. 14
Oct. 23.	Providence, R. I. Adv. Sep. 30 to Oct. 14.	Sep. 30
Oct. 23.	Seattle, Wash.	Oct. 7
Oct. 25.	Dresden, Tenn.	Oct. 14
Oct. 26.	Lancaster, Ohio	Oct. 7
Oct. 30.	St. Louis, Mo. Adv. Oct. 7, 14.	Oct. 7
Oct. 31.	Tallahassee, Fla. Adv. Sep. 30, Oct. 7.	Sep. 30
Nov. 2.	Emmett, Idaho Adv. Sep. 30 to Oct. 14.	Sep. 30
Nov. 9.	Philadelphia, Pa. Adv. Oct. 7, 14.	Oct. 7
Nov. 9.	Philadelphia, Pa.	Oct. 14

TUNNELS AND SUBWAYS.

Oct. 19.	Brooklyn, N. Y.	Oct. 14
Nov. 2.	Philadelphia, Pa. Adv. Oct. 7, 14.	Oct. 7
Dec. 7.	Philadelphia, Pa. Adv. Oct. 14.	Oct. 14
———	Litchfield, Conn. Adv. Oct. 7.	Oct. 7

MISCELLANEOUS.

Oct. 16.	Dragline, Denver, Colo. Adv. Oct. 7.	Oct. 7
Oct. 18.	Underground conduit, Cleveland, Ohio	Oct. 14
Oct. 19.	Riprap, Tompkinsville, N. Y.	Oct. 14
Oct. 21.	Waterproofing bridge, Lawrence, Mass. Adv. Oct. 7.	Oct. 7
Oct. 23.	Signal towers, New York, N. Y.	Oct. 14
Oct. 23.	Race track and grand stand, Syracuse, N. Y. Adv. Oct. 14.	Oct. 14
Oct. 24.	Electric lift, Washington, D. C. Adv. Oct. 14.	Oct. 14
Oct. 25.	Electric traveling crane, Seattle, Wash.	Oct. 14
Oct. 28.	Cranes, New York, N.Y.	Sep. 30
Nov. 1.	Mail Lift, Miami, Fla.	Oct. 7
Nov. 2.	Portland cement, Galveston, Tex.	Oct. 14
Nov. 6.	Lock gates, Louisville, Ky. Adv. Oct. 14.	Oct. 14
Nov. 11.	Crane, Pearl Harbor, T. H.	Sep. 30
Nov. 11.	Crane, Vallejo, Cal.	Sep. 30
Dec. 6.	Grade Crossings, Portland, Ore. Adv. Sep. 30 to Oct. 14.	Sep. 30

Large Waterworks and Road Jobs Noted This Week

Items of Proposed Work Summarized—Bonds Voted on Many Big Road Jobs

AMONG the large waterworks jobs contemplated is that at Lynchburg, W. Va., where $225,000 will be spent for improvements. Election to be held Nov. 7 will decide whether Marion, Ohio, will spend $218,000 for sewer construction, while at Cumberland, Md., $500,000 bonds have been voted for improvements. Reports state that McKeesport, Pa., may build new waterworks to cost $250,000. Improvements are contemplated at Elyria, Ohio, that will necessitate an expenditure of $150,000. The city council of Alliance, Ohio, has voted to issue $50,000 improvement bonds, and that of Pittsburgh has authorized $110,000 bonds for improvements. Contract will be let next month at Cleveland for a $200,000 sewage-disposal plant. Bids are invited by Union, N. J., for building a sewer system and disposal works. Six miles of main will be laid in Peoria, Ill., by the Public Utilities Commission. Bids on an $80,000 5-mile sewer are wanted at Kansas City, Mo. Wichita, Kan., contemplates sewer construction to cost $200,000. Bonds for a $100,000 waterworks extension have been approved for Beaumont, Tex., and at Tulsa, Okla., a big contract for pipe-line construction will be let. In California a $150,000 waterworks is to be built at Huntington Beach; election will be held soon at Coalinga to vote on $100,000 bonds for waterworks construction, and contract will be let at San Diego for a $60,000 sewer system. The city council of Portland, Ore., has voted to construct sewers involving an expenditure of $265,000. Unit figures on waterworks contracts recently awarded in Cincinnati, Long Island City and New York City are printed this week.

Roads and Paving

Bids are desired by Baltimore, Md., and Cambridge, Mass., intends to spend $63,000 for paving. In New Jersey, $92,000 road bonds have been sold by the board of freeholders at Cape May and various road improvements are contemplated at Trenton. At Centreville, Tenn., $225,000 bonds have been voted, and at Panama City, Fla., $375,000 bonds have been voted by the county. Tavares, Fla., will spend $65,000 on road construction, while paving costing $80,000 will be contracted for at Birmingham, Ala. Other proposed work is briefly outlined in the accompanying table.

PROPOSED ROAD AND PAVING WORK

Location	Kind	Cost or Amount
Lewisburg, W. Va.	Bonds voted	$103,000
Logan, W. Va.	Highway	.....
Greenville, S. C.	Bonds voted	150,000
Hickory, N. C.	Highway	12 miles
Cincinnati, Ohio	Brick	$129,000
Cincinnati, Ohio	Paving	100,000
Hamilton, Ohio	Highway	15 miles
Zeeland, Mich.	Paving	$80,000
Freeport, Ill.	Election to be held	850,000
Naperville, Ill.	Concrete	104,000
Minneapolis	———	150,000
Algona, Iowa	Paving	50,000 sq. yd.
Bartlesville, Okla.	Election to be held	$600,000
Laurel, Miss.	Bonds contemplated	200,000
Jackson, Miss.	Bonds contemplated	100,000
Lucedale, Miss.	Bonds voted	90,000
Greenwood, Miss.	Bonds sold	100,000
Crowley, La.	Election to be held	600,000
Pine City, Minn.	Road	160,000
Lincoln, Minn.	Bonds contemplated	800,000
Denton, Tex.	Election to be held	900,000
Quitman, Tex.	Bonds voted	150,000
Angleton, Tex.	Bonds voted	150,000
Port Arthur, Tex.	Bonds sold	64,000
Dallas, Tex.	Election to be held	500,000
Weatherford, Tex.	———	600,000
Sacramento, Cal.	Bonds voted	1,760,000
Seattle, Wash.	———	1,250,000

Miscellaneous Headings

One million dollars will be spent by the New York, New Haven & Hartford Railroad for new bridges. Bridge and road improvements costing $262,755 are intended at Montessano, Wash., and the Dover, Millersburg & Western Railway, Dover, Ohio, contemplates building six new bridges. The city council of Milwaukee is considering a new $400,000 concrete bridge, and an election Nov. 7 at Chicago will decide whether the city will spend almost $800,000 for incinerators and issue $2,450,000 playground bonds.

Irrigation of 40,000 acres near Herald, Cal., is contemplated. Bids are desired at Boise, Idaho, for 14 miles of open channel and 2 miles of tile drain work. Bids will be opened Nov. 13 at Terra Bella, Cal., for a $500,000 irrigation system and Nov. 11 at Quincy, Ill., for 1,154,000 cu. yd. of ditching. Otsego, Mich., desires bids on an elevated water tank. Contract for a 150,000-gal. tank at Plymouth, Mich., will be awarded Monday. Plans are being prepared for wharf construction at Beaumont, Tex., to cost about $230,000, and a ditch necessitating an expenditure of $206,000 is under consideration at Litchfield, Minn.

A $200,000 building will be contracted for at Cedar Rapids, Iowa, and at Beaumont, Tex., $300,000 school bonds have been approved. At Seattle tentative plans have been prepared for two schools to cost $275,000 each and for six grade schools at $75,000 each. A $200,000 factory will be erected at Long Beach, Cal. Plans are being prepared for a $1,500,000 hospital at Minneapolis, Minn., and for a $400,000 office building. A $475,000 hotel is also contemplated there. It is intended to erect a $400,000 factory at Monroe, Mich., a $250,000 assembly plant at Kansas City, Mo., and a $200,000 hospital at Little Rock, Ark. Plans are being prepared for a $250,000 building at Millvale, Pa.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Boston, Mass. — See "Miscellaneous Prices and Lettings."

Rochester, N. Y.—Pub. Wks. Com. of city council considering relaying water main and sewer; also paving with asphalt on S. Goodman St.; cost $25,000.

Irvington, N. J.—Town Comn. directed Isaac J. Casey, Jr., to prepare plans and specifications for constructing municipal water works.

Nutley, N. J.—Contract will soon be let for relaying 5000 ft. 6-in. water main. Probably 10 or 12 in. diameter. Eliot N. Smith, town engr.

Carbondale, Pa.—Clyde Potts, 30 Church St., New York City, has been retained to design outlet trunk sewers and sewage disposal works. J. A. Saxe, city engr.

Pennsylvania.—State Dept. Health, Harrisburg, granted permits for following improvements:
Oxford—Auxiliary well supply.
Lewisburg—(Lewisburg Water Co.) extend distribution system.
Milton—(Mountain Water Co.) extend distributing system.
Watsontown—(Watsontown Water Co.) extend distributing system.
White Deer Township—Union County—(White Deer Mountain Water Co.) new source of supply and disinfection.
Wilkinsburg—(Pennsylvania Water Co.) additional filter units.
Altoona—Approved plans for temporary treatment with chemical germicide.
McKeesport—Approved plans for auxiliary source of supply.
Winton—Sewer extensions.
Philadelphia—Lateral sewer extensions and approving district collecting sewer.
Johnstown — Intercepting sewer plans approved.
Williamsport—Lateral sewer extensions.

Pittsburgh, Pa.—City Council voted to issue $110,000 bonds for improvements to waterworks. Chas. A. Finley, supt. waterworks.

Cumberland, Md.—Citizens voted to issue $500,000 bonds for improvements to streets, sewers, waterworks and light plant. Address City Clerk.

Greenville, S. C.—See "Roads and Paving."

Brooksville, Fla.—Bids will be received in about 60 days for sale of $21,000 waterworks bonds. Contract for construction will be let in about 70 days. McElroy & Knight, engrs., Tampa. C. M. Price, pres. chamber commerce.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Rogersville, Tenn. — City sold $20,000 waterworks bonds. Address City Recorder.

Alliance, O.—City Council voted to issue $50,000 bonds for improving sewage disposal plant. Address Chas. O. Silver, city clerk.

Cincinnati, O.—Contract will soon be let for constructing sewer on Baymiller St., from outlet at Front St. to Ohio River, estimated cost $13,890. Frank S. Krug, city engr.

Cleveland, Ohio.—C. S. Neal, dir. finance, sold $480,000 waterworks bonds.
Contract will be let in Nov. for completing W. 58th St. sewage disposal plant. R. Winthrop Pratt, engr., 708 Hippodrome Bldg.; cost about $200,000.

Lima, O.—Contract will be let latter part of Nov. for constructing reservoir, 800,000,000 capacity. R. Winthrop Pratt, engr., Hippodrome Bldg. A. L. Metheany, dir. pub. serv.

Marion, O.—Election to be held Nov. 7 to construct 6-ft. arch sewer in Center St.; cost $218,000. E. Ault, engr. Jas. Makeevy, director bd. pub. service.

Salem, Ohio.—City Engineer directed to prepare plans for constructing third storage reservoir at waterworks pumping station on Main St., probable cost $20,000.

East Chicago, Ind.—Construction of filter plant for East Chicago & Indiana Harbor Water Co. contemplated, cost $175,000. Work held up pending rate adjustment by Indiana Utility Comn. Alvord & Burdick, engrs., 1417 Hartford Bldg., Chicago. L. R. Howson, asst. engr.

Grand Rapids, Mich.—Contract will be let about Feb. 1 for constructing 9 ft. to 36 ft. sanitary sewers; cost about $100,000. W. S. Moore, city engr.

Vasser, Mich.—Citizens voted $25,000 bonds for constructing waterworks and electric light plant. Address City Clerk.

Chicago, Ill.—Engineers of Sanitary Dist. will prepare plans for sewage disposal station, covering 25 acres, near Speedway race track. Address Secy. Sanitary Dist.

Peoria, Ill. — Illinois Utilities Comn. directed Peoria Waterworks Co. to lay 6 miles water mains, including 30-in. main, from Harvard Ave. to pumping station.

Iowa Falls, Iowa.—Construction of reservoir, pump house and installation of electric motors or oil engines for power contemplated. Address City Clerk.

Cambridge, Minn.—Election will be held to vote $15,000 bonds for improving waterworks. Address City Clerk.

Argonia, Kan.—Contract will be let in Nov. for constructing water system; cost $20,000. W. B. Rollins & Co., engrs., Millard Bldg., Kansas City, Mo.

Lawrence, Kan.—City will purchase and improve waterworks. Citizens voted $175,000 bonds for same. Address City Clerk.

Salina, Kan.—About $40,000 will be spent by city for installing sewer in north side, probably in February. P. G. Wakenhut, city engr.

Tonganoxie, Kan.—Citizens voted $40,000 bonds for constructing municipal waterworks. Supply will be secured from lake one-half mile from town. Address City Clerk.

Wichita, Kan.—Construction of sanitary sewer No. 20 running through city north and south from Twenty-first St. to south end contemplated by city; cost about $200,000. Address City Clerk.

Churchs Ferry, N. D.—Improvements to water system contemplated; cost $25,000. Address City Clerk.

Joplin, Mo.—Construction of storm sewer from 10th St. and Sergeant Ave. to 6th St. and Joplin Creek contemplated, cost $40,000. Address City Comn.

Liberty, Mo.—City contemplates constructing sewer extension, about 4000 ft. 8-in. pipe with 10 manholes required. E. K. Carter, city engr.

Beaumont, Tex.—Attorney General approved issue of $100,000 bonds for extensions to waterworks. Address City Clerk.

Beaumont, Tex. — See "Foundations, Piers and Dams."

Arnett, Okla.—Citizens voted $86,000 water bonds. Address Town Clerk.

Another Contractor Says:

"WE are down here putting in about two miles of concrete streets, and making some improvements to the waterworks and don't want to be without the 'Record.'
"We can get more good out of one issue of the Engineering Record than we can out of all the others." (Name and address on file in office.)

Letters like this—from men who depend on this contracting news service for new jobs—are the best proof of its quality and efficiency. They prove, without doubt, that the **Engineering Record** gives

***The Best* Contracting News Service**

Tulsa, Okla.—Sinclair Cudahy Pipe Line Co. will lay 780 miles oil pipe line, build pumping stations, etc., to include 230 miles 6-in. line, from Cushing, Okla., to Chanute, Kan., 6-in. line from El Dorado to Chanute, and 8-in. line from Chanute to Chicago.

Puyallup, Wash.—Contract about to be let by City Council for about 3000 ft. c. i. water pipe. J. L. La Plante, city clerk.

Seattle, Wash.—A. H. Dimock, city engr., submitted to Bd. Pub. Wks. (C. B. Bagley, secy.) estimates of cost for water mains and hydrants in Carleton Park Addition on Magnolia Bluff; cost $59,942. Streets and Sewers Com. of Council voted to lay water mains in Tenth Ave., N. E., cost $45,000. L. B. Youngs, supt. water.

Tacoma, Wash.—City will construct 30,500 ft. 8, 12 and 15-ft. pipe sewers, average cut 12 ft.; cost $35,000. L. A. Nicholson, city engr.

Portland, Ore.—City Council voted to construct sewers in E. Fiftieth and E. Sixteenth Sts. Philip H. Dater, city engr. City Council directed Philip H. Dater, city engr., to revise plans for proposed reconstruction of Tanner Creek sewer from Seventeenth and Alder Sts. to Willamette River; cost $265,000.

Coalinga, Cal.—Election will be held to vote $100,000 bonds for constructing waterworks system or purchasing and improving private waterworks. Address City Clerk.

Huntington Beach, Cal.—Geo. W. Spencer, city engr., estimates cost of constructing waterworks at $150,000.

Los Angeles, Cal.—Construction of sewage disposal plant at Hyperion Station contemplated. Homer Hamlin, city engr.

San Diego, Cal.—Contract will be let early in November for constructing sewer system in University Heights. Cement pipe will be used; probable cost $60,000. Allen H. Wright, city clerk.

Santa Monica, Cal.—Following improvements contemplated to waterworks plants recently purchased by city: 5 miles mains, 2000 meters, 3 wells, 6 deep well pumps and one reservoir, estimated cost $100,000. Address Supt. Waterworks.

Williams, Ariz.—Election will probably be held to vote on granting franchise to Coconino Water Development & Stock Co. Reported $50,000 has been spent by this company in developing a supply of mountain water. Address Town Clerk.

Ephraim, Utah.—Citizens voted $15,000 bonds for waterworks. Address City Clerk.

Twin Falls, Idaho.—Louis C. Kelsey, Selling Bldg., Portland, Ore., engineer for proposed waterworks.

Chambly Basin, Que.—Plans for filtration plant, to cost $30,000, will be prepared by J. Gravel, 17 Place D'Armes, Montreal.

Levis, Que.—City considering extending waterworks and installing new filtration system and constructing concrete reservoir, capacity 1,500,000 gal.; cost $50,000. C. Lessard, city engr.

Hamilton, Ont.—Contract about to be let by E. R. Gray, city engr., for 20-in. tile and 30-in. concrete sewers; cost $15,000.

London, Ont.—Hydroelectric Comn. of London is considering installing water wheel, electric generator and 250-hp. pump for waterworks; cost about $15,000. E. V. Buchanan, genl. mgr.

Smith's Falls, Ont.—City Council considering constructing filtration plant; cost $25,000. S. B. Code, city engr.

Victoria, B. C.—City Council considering repairing sewer on Cook St., cost $10,000. Address City Clerk.

BIDS DESIRED.

Hartford, Conn.—Until Oct. 31, by Joseph Buths, secy. bd. contract and supply, Municipal Bldg., Hartford, for constructing 1995 ft. 66 x 73½ in. sewer in Olds Pl. and South St., 1100 ft. of which will be built in tunnel, advertised in this issue.

New York, N. Y.—Until Oct. 24 by Douglas Mathewson, pres. Boro. Bronx, for constructing sewer in Westchester Ave., West 230th St., in all 1571 lin. ft. 12 to 24-in. vitri. pipe sewer. Security $9,000.

Atlantic City, N. J.—Until Oct. 26 by Bd. City Comrs. for laying c. i. high-pressure fire service main and appurtenances, in all 17,000 ft. 8, 12 and 20-in. c. i. pipe, 100 hydrants, etc., advertised in this issue. L. Van Gilder, engr and supt. water dept.

Newark, N. J.—Until Nov. 2 by Bd. Street and Water Comrs. (Morris B. Sherrerd, ch. engr.) for 1078 tons 6 to 12-in. c. i. pipe, 65 tons of 4 to 12-in. diam. ordinary special castings, 1043 tons 16 to 36-in. c. i. pipe and 50 tons 16 to 36-in. diam. for the low-pressure system. All f.o.b. cars Newark; advertised in this issue.

Union, N. J.—Until Oct. 27 by Bd. Comrs., Odd Fellows Hall, Lyndhurst, for constructing sewer system and sewage disposal works for Township of Union, Bergen Co., advertised in this issue. Thomas F. Bowe, engr., East Rutherford.

Washington, D. C.—By Bureau Supplies and Accounts, Navy Dept., Washington, D. C., for following supplies at Navy Yards: Washington, D. C., Sched. 277, 2-in. suction centrifugal pump; Mare Island, Cal., Sched. 276, miscellaneous steam and water pipe fittings, and 204 low-pressure steam and water valves.

Durham, N. C.—Until Oct. 31 by B. S. Skinner, mayor, for steam and water piping, valves, traps, etc., setting up auxiliaries, etc., between three 100 hp. boilers, two 3,000,000-gal. pumping engines, two 150-hp. boilers, and two 4,000,000-gal. pumps, etc., in waterworks pumping station, advertised in this issue. Gilbert C. White, engr., Durham.

St. Cloud, Fla.—Until Dec. 1 by Fred. B. Kenny, city clerk, for constructing waterworks, sewer system, sewage disposal plant and street paving, advertised in this issue.

Alliance, O.—Until Oct. 27, for 1000 ⅝ and ¾ in. disc. meters for the Waterworks Dept. Chester & Fleming, engrs., Pittsburgh.

Zanesville, Ohio.—Until Oct. 30 by W. W. Roach, dir. pub. serv., for brick pumping station, pump well, suction well and intake, force mains, etc., for waterworks system. J. R. Kommer, engr., 1116 House Bldg., Pittsburgh, Pa.

Otsego, Mich.—See "Structural Steel Work."

Brainerd, Minn.—Until Nov. 6, by Louis Knudson, city engr., for constructing lateral sewers in Dists. 1, 4, 5 and 8.

Crystal Lake, Minn.—Until Oct. 27, for about 31,000 ft. 4 to 8 in. Class B c.-i. water main. W. F. Druar, engr., St. Paul; W. P. Cobb, city clk.

Gaylord, Minn.—Until Nov. 6, for about 17,000 ft. 8 to 12 in. vitr. pipe sewer, disposal tank, sludge beds and pumping equipment. Also about 10,000 ft. water main, 60,000 or a 75,000 gal. steel tank on 100 ft. tower, 12 in. drilled well 360 ft. deep. Alternate proposition on concrete reservoir for pressure system and brick pump house. J. F. Druar, engr., St. Paul. A. H. Kuehner, village recorder.

Kansas City, Mo.—Until Oct. 27, by Bd. Pub. Wks., for constructing 5-mile sewer. Bids desired on plain monolithic concrete, vitri. clay and vitri. segment block, reinfroced concrete pipe, etc. Cost $80,000. Curtis Hill, city engr.

Miami, Tex.—Until Oct. 25 for complete waterworks distribution system and electric light plant. Address Henry E. Elrod, engr., 505 Interurban Bldg., Dallas.

York, Ont.—Until Oct. 30 for 20,500 ft. 12 to 24-in. pipe and special castings, venturi meters, etc. Separate bids to close same date for laying 12-in. and 24-in. mains and for hydrants. Frank Barber, engr., York.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Boston, Mass.—See "Miscellaneous."

Olean, N. Y.—Following bids opened by W. W. Wotherspoon, state supt. pub. wks., at Albany, on Oct. 11, for Contract No. 2 of Olean Flood Abatement work, providing for construction of sewers and furnishing, erecting and testing and placing in operation pumping plants along Allegany River and Olean Creek at or near Olean: Lord Constr. Co., 105 W. 40th St.; New York City, $64,716; Jos. F Leary Constr. Co., Rochester, $77,099, and Lupfer & Remick, Ellicott Sq., Buffalo, $80,566.

★**Watervliet, N. Y.**—Contract for constructing water system for Fairview and St. Colman's Home awarded by Joint Com. Trus. Fairview and Colman's Home to Ablett & Bowes, Cohoes, at $18,840.

★**New Brunswick, N. J.**—Contract for constructing trunk sewer from reservoir to Miller's Brook and easterly along stream to Burnet St. awarded by City Comn. to Utility Constr. Co. of New Brunswick, at $10,593.

★**New Castle, Pa.**—Contract for constructing east side sewer awarded by city to J. E. Welland Co. of Pittsburgh at $19,026.

★**Shepherdstown, W. Va.**—Contract for constructing waterworks and electric light plant awarded by Shepherdstown Electric Light & Water Co. to Ensign Co., Harrisburg, Pa., at $25,000 and $18,000 respectively.

Lexington, Ky.—Lowest bid opened Oct. 4 by Bd. City Comrs. for constructing north side storm water sewer submitted by Carey-Reed Co., Lexington, at $43,089.

★**Ottawa, Ohio.**—Contract for 7949 lin. ft. 4-in. sewers awarded to Goetschim & McDowell, Ottawa. Bids opened Sept. 26 by Chas. F. Heckman, village clerk.

★**Tiffin, O.**—Contract for constructing combined storm and sanitary sewer awarded to John E. King, Tiffin, at $18,554. Bids opened Oct. 3 by Wm. Heller, dir. pub. service.

★**Toledo, Ohio.**—Contract for constructing sewerage system and sewage disposal plant in Ottawa Hill, Toledo, awarded to E. H. Close Realty Co., Toledo; cost $36,000. John J. Watson in charge of work. J. W. Bollman, engr., Toledo.

New York, N. Y.—Following are unit figures of four lowest bids opened Oct. 9 by Marcus M. Marks, pres. Boro. Manhattan, for furnishing labor and material for constructing tunnel relief sewer and appurtenances in W. 46th St. from Hudson River to 7th Ave. with all work incidental thereto: (a) Old Colony Constr. Co., 103 Park Ave., $294,957; (b) Smith, Hauser & McIsaacs, 18 E. 41st St., $321,648; (c) Martin J. Mulligan, 233 E. 238th St., $350,520; (d) N. Y. & N. J. Constr. Co., 30 E. 42d St., $440,385.

	(a)	(b)	(c)	(d)
100 cu. yd. excav. shafts in earth	$10.00	$5.00	$0.10	$10.00
229 cu. yd. excav. shafts in rock	15.00	5.00	0.10	15.00
9,400 cu. yd. excav. tunnels	14.00	16.00	16.00	16.00
197 cu. yd. excav. backfilling shafts	3.00	1.00	0.10	2.00
54 cu. yd. Class A concrete in shafts and manholes	12.00	15.00	15.00	15.00
3,900 cu. yd. Class A concrete in tunnels	11.00	9.00	15.00	15.00
600 cu. yd. dry packing in tunnels and shafts	0.50	3.00	0.01	2.50
100 sq. yd. additional trimming in shafts	2.00	5.00	0.10	3.00
1,000 sq. yd. additional trimming in tunnels	2.00	5.00	0.10	3.00
2,210 bbl. cement, grout of Portland cement in tunnels and shafts	4.00	3.00	2.00	8.00
23,090 sq. ft. vitr. shale hollow tile invert blocks in tunnels	0.30	0.40	0.30	0.40
442,000 lb. permanent structural steel roof support in tunnels	0.01	0.01	0.005	0.0025
46,000 ft. b. m. permanent timber and lumber in tunnels and shafts	50.00	50.00	50.00	100.00
504 lin. ft. double 6 ft. 6 in. x 8 ft. 6 in. con. sewer complete	70.00	75.00	70.00	120.00
348 lin. ft. double 6 ft. 6 in. x 8 ft. 6 in. con. sewer sta. 0+04 to 3+52, fully complete	10.00	10.00	70.00	25.00
118 lin. ft. double 6 ft. 6 in. x 8 ft. 6 in. con. sewer sta. 3+52 to 4+70, fully complete	60.00	70.00	70.00	100.00
243 lin. ft. double 5 ft. 6 in. x 7 ft. 6 in. con. sewer sta., complete	70.00	75.00	70.00	140.00
45 lin. ft. double 6 ft. 6 in. x 7 ft. 6 in. con. sewer sta. 11+65 to 12+10, fully complete	10.00	50.00	70.00	20.00
65 lin. ft. double 7 ft. 6 in. x 7 ft. 6 in. con. sewer sta. 11+42 to 11+65, sta. 12+10 to 12+22, sta. 12+58 to 12+88, to fully complete	60.00	75.00	70.00	80.00
25 lin. ft. 4 ft. x 2 ft. 8 in. elliptical brick sewer, complete	12.00	30.00	20.00	15.00
25 lin. ft. 4 ft. x 2 ft. 8 in. egg shape brick sewer, complete	12.00	30.00	25.00	15.00
75 lin. ft. 15 in. vitr. pipe sewer, complete	6.00	10.00	5.00	5.00
50 lin. ft. 12 in. vitr. pipe sewer, complete	6.00	10.00	5.00	4.00
1 transition section and sanitary branch, including manhole No. 10 at sta. 9+94, complete	3,000.00	3,500.00	3,000.00	25,000.00
1 transition section at sta. 12+88, to fully complete	2,000.00	1,000.00	3,000.00	20,000.00
11 manholes, complete	75.00	85.00	75.00	80.00
5 manholes, to fully complete	35.00	50.00	75.00	30.00
50 cu. yd. Class B concrete	8.00	9.00	5.00	10.00
25 cu. yd. dry rubble masonry	2.00	9.00	1.00	5.00
2,000 cu. yd. rock excav.	5.00	2.75	7.00	4.00
100 lin. ft. 12 in. vitr. drain pipe	1.00	2.00	4.00	3.00
36,100 ft. b. m. timber and flooring in foundation	0.01	50.00	50.00	50.00
100,000 ft. b. m. sheeting and bracing	0.01	40.00	40.00	30.00
1,000 lin. ft. piles in place	0.01	1.00	0.01	0.30
45 cu. yd. brick masonry	16.00	25.00	15.00	20.00
10 cu. yd. vitrified brick masonry	16.00	35.00	20.00	30.00
25 cu. yd. rubble masonry in mortar	5.00	12.00	1.00	6.00
90 cu. yd. stone ballast other than that used in concrete	2.00	3.00	0.01	2.00
6,000 bbl. structural steel beams and shapes with or without connections	0.04	0.06	0.04	0.06
5,000 lb. miscellaneous cast iron, wrought iron and steel	0.04	0.10	0.04	0.07
20,000 lb. additional steel reinforcement rods embedded in concrete	0.04	0.06	0.05	0.06
900 lin. ft. 8 in. vitr. drain pipe	0.80	1.00	0.10	1.00
900 lin. ft. 6 in. vitr. drain pipe for house connections	0.60	1.00	0.25	1.00
500 lin. ft. 3 in. vitr. drain pipe for weepers	0.40	1.00	0.10	0.20
200 cu. yd. earth excavation in test pits and temporary outlet	4.00	3.00	0.10	3.00

★**Plainfield, N. J.**—Following are detail figures of 4 lowest bidders for constructing storm sewers and appurtenances (bids opened Oct. 9 by Common Council): (a) John M. Kelley Contr. Co., Camden, $56,998 (awarded contract); (b) Jas. Ferry & Sons, Inc., Baltimore, $59,240; (c) T. Foster Callahan, Elizabeth, $65,806; (d) J. H. Ferguson, Dorchester, Mass., $69,211. Andrew J. Gavett, engr., 151 North Ave.

	*(a)	(b)	(c)	(d)
520 lin. ft. rectangular concrete sewer, 4 ft. 6 in. x 3 ft. 6 in., 6 to 8 ft. deep	$7.33	$8.60	$8.75	$8.30
150 lin. ft. rectangular concrete sewer, 4 ft. 6 in. x 3 ft. 6 ft., 8 to 10 ft. deep	8.29	9.00	10.00	9.00
50 lin. ft. rectangular concrete sewer, 4 ft. 6 in. x 3 ft. 6 in., 10 to 12 ft. deep	9.00	10.00	12.00	11.00
560 lin. ft. 45-in. circular sewer, 10 to 12 ft. deep	8.07	6.70	8.25	9.30
400 lin. ft. 42-in. circular sewer, 10 to 12 ft. deep	7.55	6.25	7.50	8.40
450 lin. ft. 39-in. circular sewer, 8 to 10 ft. deep	6.22	5.50	6.75	7.50
740 lin. ft. 36-in. circular sewer, 8 to 10 ft. deep	6.01	4 80	5.85	7.16
70 lin. ft. 36-in. circular sewer, 10 to 12 ft. deep	6.50	5.50	6.29	9.00
40 lin. ft. 36-in. circular sewer, 12 to 14 ft. deep	7.29	8.00	7.21	11.00
40 lin. ft. 36-in. circular sewer, 14 to 16 ft. deep	8.82	10.00	9.56	15.00
90 lin. ft. 36-in. circular sewer, 16 to 18 ft. deep	10.38	12.00	11.06	20.00
310 lin. ft. 33-in. circular sewer, 6 to 8 ft. deep	4.78	4.00	4.58	5.10
390 lin. ft. 33-in. circular sewer, 8 to 10 ft. deep	5.51	4.30	5.00	6.20
20 lin. ft. 27-in. circular sewer, under 6 ft. deep	3.04	3.00	3.40	4.00
270 lin. ft. 27-in. circular sewer, 10 to 12 ft. deep	4.53	3.90	5.12	6.50
1,710 lin. ft. 24-in. circular sewer, under 6 ft. deep	2.12	2.50	2.80	2.80
1,200 lin. ft. 24-in. circular sewer, 6 to 8 ft. deep	2.05	2.80	3.10	2.90
820 lin. ft. 22-in. circular sewer, under 6 ft. deep	1.84	2.20	2.40	2.50
20 lin. ft. 22-in. circular sewer, 6 to 8 ft. deep	1.98	2.50	2.70	2.75
20 lin. ft. 22-in. circular sewer, 10 to 12 ft. deep	2.37	3.00	3.83	4.00
830 lin. ft. 20-in. circular sewer, under 6 ft. deep	1.45	2.00	2.00	2.25
550 lin. ft. 20-in. circular sewer, 6 to 8 ft. deep	1.61	2.30	2.30	2.50
380 lin. ft. 20-in. circular sewer, 8 to 10 ft. deep	1.89	2.60	3.00	2.70
550 lin. ft. 18-in. circular sewer, under 6 ft. deep	1.25	1.85	1.80	2.15
480 lin. ft. 18-in. circular sewer, 6 to 8 ft. deep	1.43	2.10	2.10	2.40
240 lin. ft. 18-in. circular sewer, 8 to 10 ft. deep	1.64	2.25	2.60	2.90
400 lin. ft. 15-in. circular sewer, under 6 ft. deep	1.00	1.70	1.50	1.65
240 lin. ft. 15-in. vitrified inlet connections	1.41	1.50	1.61	1.65
3,700 lin. ft. 12-in. vitrified inlet connections	1.25	1.25	1.40	1.20
1 manhole on rectangular sewer, 6 to 8 ft. deep	69.30	45.00	35.00	65.00
2 manholes on rectangular sewer, 10 to 12 ft. deep	53.17	55.00	45.00	80.00
14 manholes on circular sewer, under 6 ft. deep	54.84	40.00	36.00	50.00
9 manholes on circular sewer, 6 to 8 ft. deep	59.45	45.00	42.00	65.00
7 manholes on circular sewer, 8 to 10 ft. deep	69.66	55.00	48.00	70.00
5 manholes on circular sewer, 10 to 12 ft. deep	74.93	65.00	60.00	75.00
2 manholes on circular sewer, 16 to 18 ft. deep	110.34	100.00	75.00	90.00
1 special manhole, E. Fifth and Richmond Sts	50.49	50.00	60.00	90.00
132 sewer inlets	33.68	40.00	40.00	38.00
1 connection with brook Park Ave	14.91	100.00	15.00	50.00
1 connection with brook Grove St	20.14	100.00	15.00	50.00
10 sq. yd. brick pavement (restored)	2.00	3.00	4.00	4.00
400 sq. yd. bituminous macadam (restored)	1.25	1.25	1.00	1.00
4,360 sq. yd. waterbound macadam (restored)	0.65	0.60	1.00	0.60
100 cu. yd. concrete for foundations, etc	8.00	10.00	8.00	8.00
100 cu. yd. foundations of screened gravel	1.85	3.50	0.75	2.50
100 sq. yd. rock excavation	2.50	2.00	4.00	4.00
10 M ft. lumber for sheeting, etc., left in place	30.00	30.00	40.00	30.00
1 M ft. lumber for platforms and foundations	50.00	50.00	55.00	50.00
1,800 steel I-beams used in manholes	0.06	0.07	0.05	0.05

Long Island City, N. Y.—Following are unit figures of four lowest bids opened Oct. 10 by Comr. Water Supply, Gas and Electricity, Municipal Bldg., New York City, for furnishing, delivering and laying water mains and appurtenances, Sect. 1, in Franklin, Sound, Stone and Van Dam Sts., Flushing, Nassau, Skillman, Stahl, Vandeventer, Wolcott, Fifth, Ninth and Twelfth Aves.: (a) Jas McAvoy, 303 E. 127th St., New York City, $63,104; (b) Santor Constr. Co., Times Bldg., New York City, $65,112; (c) Soraci Constr. Co., 170 Bway., New York City, $67,866; (d) John Thatcher & Son, 60 Park Ave., Brooklyn, $73,233.

	(a)	(b)	(c)	(d)
910 tons straight c.-i. pipe, furnishing and delivering	$31.50	$30.50	$42.00	$48.72
38 tons c.-i. special castings, furnishing and delivering	70.00	71.00	100.00	83.51
45 tons c.-i. castings for valve boxes, manhole heads and covers	50.00	52.50	50.00	52.97
6 20-in. valves	250.00	135.00	200.00	156.73
27 12-in. valves	100.00	33.50	150.00	44.62
17 8-in. valves	100.00	19.50	20.00	23.45
66 6-in. valves	100.00	13.50	100.00	16.58
60 fire hydrants	100.00	29.50	100.00	37.18
000 cu. yd. earth excav. and backfilling	0.001	0.00001	0.001	0.58
200 cu. yd. rock excav. and backfilling	0.001	0.0001	0.001	0.01
400 cu. yd. masonry excav. and backfilling	0.001	0.0001	0.001	2.86
600 lin. ft. laying 20-in. pipe	0.37	1.12	0.001	0.53
000 lin. ft. laying 12-in. pipe	0.37	0.29	0.001	0.30
800 lin. ft. laying 8-in. pipe	0.37	0.42	0.001	0.21
500 lin. ft. laying 6-in. pipe	0.37	0.15	0.001	0.18
6 20-in. valves, setting	28.00	2,302.50	100.00	11.50
27 12-in. valves, setting	29.00	53.20	80.00	8.00
17 8-in. valves, setting	28.00	52.80	5.00	5.00
66 6-in. valves, setting	28.00	17.75	20.00	4.57
60 fire hydrants, setting	0.001	17.75	20.00	20.65
000 lin. ft. ¾-in. lead lined galv. iron pipe, including fittings, furnishing, delivering and laying	0.001	0.0001	0.001	0.01
5 cu. yd. brick masonry	0.001	0.01	0.001	0.01
5 cu. yd. concrete	0.001	0.01	0.001	0.01
1 M ft. lumber	0.001	0.001	0.001	0.01
000 lb. wrought iron and steel	0.001	0.0001	0.001	0.01
500 lb. lead pipe for extending house service connections, furnishing, delivering and connecting	0.001	0.0001	0.001	0.01
250 sq. ft. flagging, relaying, including sand found. and cement joints	0.001	0.0001	0.001	0.01
250 sq. ft. cement concrete sidewalk, laying, including cinder found.	0.001	0.0001	0.001	0.01
100 lin. ft. curbing, resetting	0.001	0.0001	0.001	0.01
20 sq. yd. granite block pavement, relaying, including concrete found. and tar and gravel or cement joints	0.001	0.001	0.001	0.01
40 sq. yd. granite block pavement, relaying, including sand found.	0.001	0.001	0.001	0.01
,500 sheet asphalt pavement, laying, including concrete found.	0.001	0.0001	0.001	0.01
775 sq. yd. asphalt block pavement, relaying, including concrete found.	0.001	0.0001	0.001	0.01
10 sq. yd. brick pavement, relaying, including sand found. and cement joints	0.001	0.001	0.001	0.01
10 macadam pavement, relaying	0.001	0.001	0.001	0.01
200 lin. ft. vitrified or cement pipe sewer, 3 to 18 in. in diameter, relaying and restoring	0.001	0.001	0.001	0.01
75 ton loading and unloading pipe, castings, valves and hydrants	0.001	0.001	0.001	0.01
150 ton-miles hauling pipe, castings, valves and hydrants	0.001	0.001	0.001	0.01
8 ⅝-in. or ¾-in. house connections, withdrawing and replacing	0.001	5.00	0.001	0.01

Cincinnati, Ohio.—Following are unit figures of four lowest bids opened Oct. 4 by Chas. F. Hornberger, serv. dir., for constructing sewers under Avondale Relief Sewer, Contract No. 5: (a) M. J. McCarthy, 2910 Woodburn Ave., $60,807; (b) Thurber & Browning Co., 4312 Spring Grove Ave., $62,710; (c) Franklin County Constr. & Equipment Co., Columbus, $72,785; (d) Thos. Maloney, 1858 Humboldt Ave., $73,400.

	(a)	(b)	(c)	(d)
540 lin. ft. 33-in. brick sewer, complete	$7.00	$4.80	....	$8.00
370 lin. ft. 36-in. brick sewer, complete	5.00	4.00	....	5.00
645 lin. ft. 39-in. brick sewer, complete	7.00	4.50	....	10.00
610 lin. ft. 42-in. brick sewer, complete	5.00	4.30	....	5.80
,035 lin. ft. 48-in. brick sewer, complete	4.00	5.30	....	6.50
,070 lin. ft. 51-in. brick sewer, complete	4.00	6.00	....	6.75
,070 lin. ft. 54-in. brick sewer, complete	5.00	8.40	....	8.00
,020 lin. ft. 60-in. brick sewer, complete	9.00	12.90	....	7.00
100 lin. ft. 33-in. brick sewer, complete, in tunnel	15.00	10.00	....	18.00
140 lin. ft. 42-in. brick sewer, complete, in tunnel	20.00	11.00	....	20.00
13 manholes (std.) on brick sewers, 4 ft. diam. or less	60.00	40.00	....	70.00
9 manholes (std.) on brick sewers, over 4 ft. diam	60.00	40.00	....	55.00
1 manhole, special drop	400.00	200.00	....	275.00
2 manholes, regular drop	100.00	50.00	....	100.00
100 cu. yd. concrete masonry, Class 3 (haunches)	1.00	6.00	....	6.00
540 lin. ft. 33-in. segmental block sewer, complete	....	....	$7.50	....
370 lin. ft. 36-in. segmental block sewer, complete	....	....	6.00	....
645 lin. ft. 39-in. segmental block sewer, complete	....	....	8.00	....
610 lin. ft. 42-in. segmental block sewer, complete	....	....	6.50	....
610 lin. ft. 48-in. segmental block sewer, complete	....	....	6.30	....
425 lin. ft. 48-in. brick or concrete sewer, complete	....	....	6.30	....
,070 lin. ft. 51-in. brick or concrete sewer, complete	....	....	6.80	....
370 lin. ft. 54-in. segmental block sewer, complete	....	....	6.35	....
700 lin. ft. 54-in. brick or concrete sewer complete	....	....	7.40	....
,020 lin. ft. 60-in. brick or concrete sewer complete	....	....	9.50	....
100 lin. ft. 33-in. segmental block sewer, comp., in tunnel	....	....	13.00	....
140 lin. ft. 42-in. segmental block sewer, comp., in tunnel	....	....	14.00	....
13 manholes (std.) on seg. block sws., 4 ft. diam. or less	....	....	90.00	....
9 manholes (std.) on seg. block sws., over 4 ft. diam.	....	....	80.00	....
1 manhole, special drop	....	....	200.00	....
2 manholes, regular drop	....	....	150.00	....
100 cu. yd. concrete masonry, Class 3 (haunches)	....	....	5.00	....
10 lin. ft. 8-in. vitr. pipe sewer, complete	1.00	1.00	2.00	1.00
25 lin. ft. 12-in. vitr. pipe sewer, complete	2.00	1.70	2.00	2.00
80 lin. ft. 15-in. vitr. pipe sewer, complete	2.00	2.30	3.50	2.50
35 lin. ft. 18-in. vitr. pipe sewer, complete	2.00	2.00	3.50	3.00
870 lin. ft. 20-in. vitr. pipe sewer, complete	4.00	2.10	4.00	3.40
485 lin. ft. 22-in. vitr. pipe sewer, complete	4.00	2.50	5.00	4.25
530 lin. ft. 24-in. vitr. pipe sewer, complete	4.00	3.25	5.00	4.75
740 lin. ft. 27-in. vitr. pipe sewer, complete	6.00	4.20	6.00	6.00
15 manholes (standard) on pipe sewer	60.00	50.00	60.00	75.00
1 manhole, drop	100.00	55.00	100.00	90.00
20 street inlets, complete, Plan 1	30.00	22.00	30.00	37.50
2 street inlets, complete, Plan 3	45.00	29.00	30.00	45.00
1 street inlet, complete, Type B	20.00	20.00	30.00	25.00
4 T-branches on 15-in. pipe sewer	1.00	0.60	1.00	0.60
25 T-branches on 20-in. pipe sewer	1.00	1.50	2.00	1.50
15 T-branches on 22-in. pipe sewer	2.00	2.00	3.50	2.00
10 T-branches on 24-in. pipe sewer	2.50	2.40	3.50	2.50
15 T-branches on 27-in. pipe sewer	3.00	5.00	5.00	4.00
50 6-in. stubs in trunk sewer	0.50	0.15	0.50	0.30
5 8-in. stubs in trunk sewer	1.00	0.20	1.00	0.40
200 lin. ft. 6-in. vitr. pipe for chimney or house conn'ns.	0.80	0.20	0.50	0.20
20 6-in. vitr. bends	0.50	0.30	1.00	0.30
500 lin. ft. 12-in. vitr. pipe inlet connections	1.00	1.50	1.00	2.00
80 lin. ft. 15-in. vitr. pipe inlet connections	0.60	1.60	1.50	0.90
150 lin. ft. 18-in. vitr. pipe inlet connections	1.00	1.70	2.00	1.50
,000 lin. ft. 8-in. underdrain, complete	0.05	0.20	0.30	0.02
80 M ft. sheeting left in place	1.00	4.00	1.00	15.00
50 cu. yd. special excavation	1.00	1.00	2.00	1.00
20 cu. yd. concrete masonry, Class 2	1.00	8.00	5.00	8.00
10 cu. yd. conc. masonry, Class 3 (other than haunches)	5.00	6.00	5.00	6.00
5 cu. yd. brick masonry	12.00	14.00	25.00	12.00

★**Cincinnati, Ohio.**—Following is detail bid of Kirchner Constr. Co., 221 W. Ninth St., for trunk sewer construction work under Avondale Relief Sewers Contract. No. 6 (bids opened Oct. 3 by Chas. F. Hornberger, service director): Vitrified pipe sewer, complete, 160 lin. ft. 12-in., $1.75; 60 lin. ft. 18-in., $2.75; 245 lin. ft. 20-in., $3; 470 lin. ft. 24-in., $5.10; 470 lin ft. 27-in., $7.40; 6 manholes (Std.) on pipe sewer, $70; 10 street inlets, complete, Plan 1, $37.50; one street inlet, complete, Plan 3, $45; T-branches on pipe sewer, eight 12-in., 60 cts.; six 20-in., $1.50; twelve 24-in., $2.50; fifteen 27-in., $4; fifty 6-in. stubbs in trunk sewer, 30 cts.; five 8-in. stubbs in trunk sewer, 40 cts.; 100 lin. ft. 6-in. vitr. pipe sewer for chimney and house, 20 cts.; ten 6-in. vitr. bends sewer connections, 30 cts.; 300 lin. ft. 12-in. vitr. pipe inlet connections, $2.25; 20 lin. ft. 15-in. vitr. pipe inlet connections, $2.50; 1000 lin. ft. 8-in. underdrain, complete, 40 cts.; 100 M ft. sheeting left in place, $20; 4 sq. yd. vitr. brick paving (old inlets), $3; 25 cu. yd. special excav., 50 cts.; 2 old inlets sealed, $5; 5 cu. yd. concrete masonry Cl. 3 (other than haunches), $6; 2 cu. yd. brick masonry, $12; Segmental block sewer, 780 lin. ft., 33-in., complete, $7.40; 814 lin. ft. 39-in., $8.50; 7 manholes (Std.) on Segmental block sewer, 4 ft. diam. or less, $75; 20 cu. yd. concrete masonry Cl. 3 (haunches), $6; total, $23,436 (awarded contract). Other low bidders: Thurber & Browning Co., 4312 Spring Grove Ave., Cincinnati, $24,258; Thos. P. Strack, Goodall Bldg., Cincinnati, $26,360; Franklin County Constr. & Equipment Co., Columbus, $28,511.

★Contract for constructing trunk sewers under Avondale Relief Sewers, Contract No. 5, awarded to M. T. McCarthy, 2910 Woodburn Ave., at $60,808.

★**Wauwatosa, Wis.**—Contract for constructing storm and sanitary sewer system awarded by city to Hermann Hohensee, Milwaukee, at $18,114. J. E. Lowther, city engr. W. Brigham, city clerk.

★**Anthon, Ia.**—Contract for constructing two filter beds, sanitary sewer and disposal works, 13,585 ft. 8 and 10-in. pipe, awarded to W. B. Carter, Sioux City. Bids opened Oct. 3 by Town Clerk.

★**Panora, Iowa.**—Contract for constructing sewer system awarded to P. E. Wylie, Guthrie Center, at $24,000. Bruce & Standevan, engrs., Omaha, Neb.

★**Rockwell City, Iowa.**—Contract for constructing Drain No. 215 in Greenfield Township awarded as follows: Tile, to Arthur McHose, Boone, and labor, to C. F. Gerbracht, Manson; cost $10,194.

Houston, Tex.—Lowest bid opened by City Council Oct. 6 for constructing storm sewers on W. Main St. submitted by Hunter & Hunter, Houston, at $10,348.

★**Sweetwater, Tex.**—Contract for extending and completing sewer system awarded by City Comn. to J. H. Meyer, Sweetwater, at about $40,000.

★**Norwalk, Cal.**—Contracts for constructing water plant in Los Angeles County Water Dist. No. 2 near Norwalk awarded by Bd. Supervs. at Los Angeles to Thos. Haverty Co., 517 S. Los Angeles St., Los Angeles, at $1,118 for drilling 12-in. well, 400 ft., and $1,420 for deep well turbine pump and piping; Municipal & Industrial Equipment Co., Story Bldg., Los Angeles, $11,300 for 32,000 ft. 4-in. and 16,000 ft. 64-in. pipe and 2-in. circulating piping.

STRUCTURAL STEEL WORK

PROPOSED WORK.

Lawrence, Mass.—City Council has been petitioned to construct bridge over Boston & Maine R.R. in South Lawrence. Address City Clerk.

New Haven, Conn.—New York, New Haven & Hartford RR. (Edw. Gagel, ch. engr., New Haven), intends spending $1,000,000 for new bridges, chiefly on Shore Line divisions.

Lockport, N. Y.—W. W. Wotherspoon, state supt. pub. wks., Albany, will shortly let contract for steel lift bridge at Adams St., over canal and removal of existing bridge at Chapel St., and completion of canal prism. Frank M. Williams, state engr., Albany, estimates cost at $77,497.

Plans being prepared by Chester & Philps, Gluck Bldg., Niagara Falls, for brick and steel tuberculosis hospital to be erected here. Address F. A. Carlton, chmn. bd. supervs., Lockport.

Watertown, N. Y.—Wm. Mueser of Concrete Steel Engr. Co., Park Row Bldg., New York City, preparing plans for double deck bridge to be constructed on Court St. by city, state and railroad. Estimated cost, $352,000. City voted $88,000 toward cost.

Stone Harbor, N. J.—Bd. Freeholders intend constructing bridges over Main Channel, Middle Thoroughfare and Weakfish Creek. Approval War Dept. required. Address County Clerk.

Greensburg, Pa.—Comrs. State Water Board have given Co. Comrs. permission to construct bridge over Indian Creek in Dongal Township. Address County Clerk, Greensburg.

Johnstown, Pa.—Co. Comrs. and City Council intend constructing a 2000-ft. bridge between Johnstown and Conemaugh on the Wm. Penn Highway. Estimated cost, $625,000. O. P. Thomas, co. engr., Ebensburg.

Natrona, Pa.—Co. Comrs., Pittsburgh, contemplating constructing bridge from Natrona to Braeburn. Address County Clerk.

New Castle, Pa.—City Council intends repairing South Mill St. bridge, later constructing new one with aid of Mahoning & Shenango Ry. & Light Co. and county. T. A. Gilkey, co. engr., New Castle.

Georgetown, Del.—Sussex Levy Court rejected bids opened for constructing bridge at Milford.

Molino, Fla.—Co. Comrs. at Pensacola authorized plans for $15,000 bridge across Escambia River at Molino. Appropriation $15,000.

Lima, Ohio.—City Council and L. E. & W. RR. considering constructing viaduct over tracks at Metcalf St. Estimated cost $85,000. Address City Clerk.

Steubenville, Ohio.—City officials and P. C. C. & St. L. Ry. (W. C. Cushing, chief engr., Pittsburgh, Pa.) will construct bridge and trestle over Sixth Ave. City Council also contemplates constructing two other bridges known as C. & P. and No. 43. J. N. Leech, city engr.

Union, Ohio.—Co. Comrs., Dayton, having plans prepared for $18,000 bridge over Stillwater River at Union. Victor C. Smith, co. engr.

Cedar Rapids, Iowa.—Henry Ives Cobb, 527 5th Ave., New York City, is architect for 10-story and basement steel, brick and fireproof office building to be erected here for Col. W. C. Dow; cost $200,000.

Macedonia, Iowa.—Co. Comrs. rejected all bids for 198-ft. steel and concrete bridge with 18-ft. roadway over Nishnabotna River, $12,500. H. M. Howard, engr., Council Bluffs.

Aitken, Minn.—Co. Comrs. will construct seven bridges from State Highway Comn. plans, C. E. Nagel, deputy state highway engr., St. Paul. Address County Clerk.

Brainerd, Minn.—Co. Comrs. intend constructing two bridges in Perry Lake and Camp Creek townships. Address County Clerk.

Minneapolis, Minn.—Reinhard Bros., 14 S. Eighth St., will erect on Ninth St. and Mary Pl., a 4-story concrete and steel building with foundation providing for four additional stories; cost, $70,000.

Sartell, Minn.—Village Board intends constructing $10,000 bridge. F. N. Sartell, village clerk.

Fairbury, Neb.—Co. Comrs. intend constructing 5-span, 100 ft. wide bridge over Blue River. Material undecided. Address County Clerk.

Omaha, Neb.—Comrs. Pottawattamie, Ia., and Douglas counties, Neb., and State Engrs., Nebraska and Iowa, conferring with officials of Council Bluff and Omaha as to procedure for the construction of "Free Bridge" over Missouri River, between Omaha and Council Bluffs. Probable cost $1,000,000. Address County Clk., Omaha.

Florence, Tex.—Bd. Supervs. Tucson intend constructing 6-span bridge across Gila River at Florence, cost $65,000. Address County Clerk.

League City, Tex.—Co. Comrs. Galveston will soon let contract for Clear Creek bridge. R. M. Sias, co. engr.

Waco, Tex.—Election Nov. 7 on proposed $25,000 bridge. Address City Clerk.

Claremore, Okla.—Co. Comrs. approved plans for $21,000 steel bridge. Address County Clerk.

Riverside, Cal.—Contract will soon be let by Bd. Supervs. for Ordway steel girder and truss bridge at mouth of Live Oak Canyon. Address County Clerk.

Preston, Ont.—See "Tunnels and Subways."

Burquitlam, B. C. — See "Reinforced Concrete."

BIDS DESIRED.

Franklin, Vt.—Until Oct. 28, by Stoddard B. Bates, state highway comr., Franklin, for repairs on the North Hero-Alburg drawbridge.

Rahway, N. J.—Until Oct. 24, for repairs to Milton Ave. drawbridge across Rahway River. Jacob L. Bauer, co. engr.

Plymouth, Mich.—Until Oct. 23, by C. A. Hearn, village clk., for constructing 150,000-gal. circular tank and six-post steel tower 70 ft. high, with concrete foundation, advertised in this issue. Hoad & Decker, engrs., Ann Arbor.

Otsego, Mich.—Until Oct. 30, by William G. Conlan, village clk., for erecting one 150,000-gal. water tank on 125-ft. tower. A. H. Smith, co. engr.

Wilburton, Okla.—Until Oct. 27, by County Clk, for improvement of two-faced, native stone piers 27 ft. high for 70-ft. steel bridge on Gains Creek in Sec. 14-4-17, and for erection of steel which is now on ground. Plans may be had from the Co. Engr.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Narrows, W. Va.**—Contract awarded by Bd. Superv. to Champion Bridge Co., Wilmington, O., at $30,970, for bridge across New River, at Narrows.

★**Calhoun, Ga.**—Contract awarded by Co. Comrs. for bridge over Coosawattee River to Austin Bros., Atlanta, $6,240. W. L. Swain, chm. bd. roads and revenues.

★**Cleveland, Ohio.**—Contract awarded King Bridge Co., E. 69th St. and N. Y. Central tracks, by City Bd. of Control, for new span to replace one over B. & O. tracks at West 3d St., which collapsed Oct. 3. Cost, $25,000. Allowance for extras and repairs to abutments $5,000.

★**Coshocton, O.**—W. S. Tish, Coshocton, reported contractor for brick, steel and fireproof factory to be erected for Coshocton Glass Co., according to plans of H. L. Dixon Co., Rosslyn Rd., Pittsburgh; probable cost $100,000.

★**Broadwell, Ill.**—See "Reinforced Concrete."

★**Clinton, Iowa.**—Contract awarded Oct. 6 to J. R. Kane, Clinton, at $11,461, for constructing two bridges, one 80-ft. pony truss, 18-ft. roadway, and one 70-ft. pony truss, 18-ft. roadway, concrete floors and substructure.

★**Medford, Okla.**—Contract awarded by Co. Comrs. to Canton Bridge Co., Canton, Ohio, for ten bridges to be erected throughout county. Total cost, $15,450.

★**Haileybury, Ont.**—Contracts in connection with erecting new $75,000 School of Mines awarded as follows: Steel, Canadian Bridge Co., Walkerville; cut stone, Ritchie Cut Stone Co., 191 Grant Ave., Hamilton; reinforcing and steel sash, Trussed Concrete Steel Co., Walkerville.

REINFORCED CONCRETE

PROPOSED WORK.

Boston, Mass.—See "Miscl. Prices and Lettings."

Providence, R. I.—Monahan Vehicle Co., Eagle St. and Kinsley Ave., purchased site on Elmwood and Reservoir Aves. and will erect new plant, 2 stories, concrete and brick construction, including power plant, mill, forge shop and offices.

North Tonawanda, N. Y.—Plans being prepared by Durolithic Co., Ellicott Bldg., Buffalo, for 4-story, 60 x 165 ft. concrete factory to be erected on Sweeney St. for Herschell-Spillman Co. (E. O. Spillman, pres.); estimated cost $50,000.

Petersburg, Va.—City, Norfolk & Western, and Atlantic Coast Line RR. considering plans for concrete viaduct across Appomattox River. Address City Clerk.

Bethany, W. Va.—Co. Comrs. have been petitioned by citizens of Bethany and the Buffalo Dist. to construct a new concrete bridge over Buffalo Creek at Main St. Address County Clerk, Wellsburg.

Montgomery, Ind. — City Comn. and Louisville and Nashville RR. will construct concrete bridge at Bell St. Estimated cost, $16,000.

Sayre, Okla.—Co. Comrs. intend constructing two reinforced concrete arch bridges. Carl R. Reid, co. engr.

Pueblo, Col.—Armour & Co., 208 S. La Salle St., Chicago, plans erecting 4-story, 50 x 140 ft., reinforced concrete branch building here. L. T. Brandner, archt., care of Armour & Co., U. S. Yards, Chicago.

Santa Barbara, Cal.—Contract will soon be let by Bd. Supervs. for concrete bridge across Cat Canyon near Sisquoc, $8,500, and 90-ft. reinforced concrete arch over Gaviota Creek, cost $10,000. Address County Clerk.

Burquitlam, B. C.—Great Northern RR. (A. H. Hogeland, ch. engr., St. Paul, Minn.) intends constructing high level steel and concrete bridge in connection with diversion of North Road.

BIDS DESIRED.

Elizabeth, N. J.—Until Oct. 24, by Bd. Freeholders for reinforced concrete culvert across North Broad St., between Elizabeth and Hillside Township, and one on Burney and Hunt Aves. Jacob L. Bauer, co. engr.

Philadelphia, Pa.—Until Oct. 26, by A. C. Shand, ch. engr., Pennsylvania R. R., Broad St. Station, for constructing concrete culverts under tracks of Pennsylvania R. R., west of Thirty-third St.

Kingston, W. Va.—Until Nov. 17 (readvertisement) by S. Myers, clk. co. court, New Martinsville, for constructing a concrete bridge across Willey Fork of Fishing Creek, one-half mile above Kingstown, advertised in this issue.

Tecumseh, Okla.—Until Nov. 9, by Co. Comrs. (J. Krouch, chmn.), for constructing two concrete bridges and one concrete culvert.

San Luis Obispo, Cal.—Until Nov. 9, by Bd. of Superv. (F. J. Rodeiguez, clk.), for constructing a 50-ft. timber bridge on reinforced concrete abutments across Stenner Creek.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Boston, Mass.—See "Miscellaneous."

Millers Falls, Mass.—See "Foundation, Piers and Dams."

★**Jersey City, N. J.**—Contract awarded John N. Gill & Co., 1215 Filbert St., Philadelphia, for erecting 2-story, 70 x 200 ft., reinforced concrete addition to factory of Davis-Bournonville Co.; cost $50,000. Neff & Thames, archts., 1213 Filbert St., Philadelphia.

★**Passaic, N. J.** — Contract awarded Stone & Webster Eng. Corp., 120 Bway., New York, for constructing 5-story, 300 x 100 ft. mill and 4-story, 350 x 80 ft. warehouse of reinforced concrete construction, for Manhattan Rubber Mfg. Co.

★**Indiana, Pa.**—Contract awarded Whitaker & Diehl, Harrisburg, $10,419, by Co. Comrs., for concrete bridge over Twolick Creek near Lower Twolick, two 67-ft. spans, 18-ft. roadway. Thos. Peelor, co. engr., Indiana.

★**Trucksville, Pa.**—Contract awarded by Co. Comrs. (J. Durling, ch. clk.), at Mauch Chunk, to Whittaker & Diche, Harrisburg, at $4,415 for concrete arch bridge over Big Creek, near Trucksville.

★**Broadwell, Ill.**—Contract awarded by Broadwell Township Comrs. to Decatur Bridge Co., Decatur, Ill., at $11,600, for steel and concrete bridge over Salt Creek.

★**Moline, Ill.**—Contract awarded C. E. Heaps, Moline, for erecting 3-story reinforced concrete store and office building; cost $116,000.

★**Glenwood, Iowa.**—Contract awarded Iowa Bridge Co., Des Moines, at $3,450 for constructing two concrete piers, and to the Morrison Constr. Co., Des Moines, at $2,685 for constructing three reinforced concrete box culverts. H. H. Dean, city engr.

★**Toronto, Ont.**—Peter Lyall Constr. Co., genl. contrs., for new $3,000,000 Union Station, has sublet contract for reinforced concrete work to Crescent Concrete Co., Toronto, at $100,000.

ROADS AND PAVING

PROPOSED WORK.

Cambridge, Mass.—City Council intends spending $63,000 for paving Cambridge St. from Inman sq. to RR. crossing with wood blocks, and $9,000 for constructing Cogswell Ave., Pacific St., and approach to Walden St. bridge. Address City Clerk.

Enfield, Conn.—Town Selectmen appropriated $25,000 for highway construction and repairs. Albert J. Epstein, first selectman.

Albany, N. Y.—Common Council intends paving with vitrified shale blocks, asphalt on concrete foundations, laying concrete walks, etc., in Bradford, Rawson, Kehoe and Benjamin Sts. David E. Pugh, city clerk.

Bronxville, N. Y. — Bronx Parkway Comn. intends constructing park driveway 40 ft. wide from Palmer Ave., Yonkers, to White Plains, building dam at Lake Ave., Tuckahoe and erecting numerous bridges.

New York, N. Y.—All bids opened Oct. 2 by Marcus M. Marks, pres. Manhattan Boro., for repaving with granite block Transverse Road No. 2 through Central Park, rejected. Security $12,000.

Norwich, N. Y.—Bd. of Supervs. intend constructing 5¼ miles road from Cherry Valley Junction to Cobleskill and the village of Seward. Also road from Sloansville to Montgomery Co. line. Address County Clerk.

Rochester, N. Y.—See "Waterworks and Sewer Systems."

Annandale, N. J. — Bd. Freeholders Flemington intends improving 2 miles Annandale-Allerton Rd. Address County Clerk, Flemington.

Cape May C. H., N. J.—Bd. Freeholders sold $17,000 bridge bonds and $92,000 road bonds. Address County Clerk.

Elizabeth, N. J.—City Council intends selling $25,000 street grading and $42,000 street improvement bonds. Address City Clerk.

Florence, N. J.—Township Comn. rejected all bids for concrete pavements and curbs throughout town. Lowest bid $53,000; estimated cost $50,000. Address Town Clerk.

Newton, N. J.—Bd. Freeholders intend macadamizing Newton-Sparta road, cost $25,000, and impoving 1¼ miles on Newton-Stanhope road. Address County Clerk.

Trenton, N. J.—City Comn. intends to widen portion Sanhican Drive and to relocate and continue same from center of city to a course along Delaware River. Leon D. Hirsch, City Clerk.

Woodbridge, N. J. — Bd. Freeholders New Brunswick intend repairing Colonia-Avenel Rd., between Cranbury and Woodbridge. Address County Clerk, New Brunswick.

Ferndale, Pa.—Boro. Council intends paving and laying sanitary sewer in Henry St. and Glenwood Ave. C. P. Collins & Co., engrs., 1st Natl. Bank Bldg., Johnstown, Pa. Address City Clerk.

New Castle, Pa.—Co. Comrs. will soon let contract for several miles highway between New Castle and New Brighton. Address County Clerk.

Pittsburgh, Pa.—City Council intends paving, grading, curbing and laying sidewalks in numerous streets at a cost over $120,000, including Spencer St. at $65,000 and Estella Ave. at $25,000. E. J. Martin, City Clk.

West Chester, Pa.—Surveys for road leading from Toughkenmon to Delaware in New Garden Township line being made. Address N. R. Rambo, West Chester, in charge.

Cumberland, Md.—See "Waterworks and Sewerage Systems."

Wilmington, Del.—Co. Comrs. intend resurfacing Concord Turnpike from city line to Rockland Road. Address County Clerk.

Wilmington, Del.—See "Foundation Piers and Dams."

Charleston, W. Va.—Road engrs. of Raleigh, Fayette and Logan counties and A. D. Williams, of Charleston, state road engr., considering road construction in said counties.

Lewisburg, W. Va.—County voted $103,000 bonds recently for 15 miles road improvement work. John S. Crawford, co. clk

Hickory, N. C.—Bonds for 12-mile highway from here to Asheville have been voted by Lovelady, Silver Creek and Icard townships. Address County Clerk, Morgantown.

Greenville, S. C.—$150,000 city bond issue voted, $65,000 for street work, $60,000 for a new city hospital, $25,000 for sewerage extensions. Address City Clerk.

Atlanta, Ga.—Pub. Wks. and Finance Committees of the Co. Comrs. considering further paving of Peachtree Ave., from Whitehall St. viaduct to Pine St. Estimated cost $31,000. Address County Clerk.

Bradentown, Fla.—Co. Comrs. will let contract about Nov. 1 for rock or marl road in Englewood Special Road Dist. Bonds sold. Address Chas. A. Browne, Sarasota.

Fellsmere, Fla.—Isham Randolph & Co., Jacksonville, surveying for municipal improvements costing $100,000; paving, sewers and storm water drainage included. Address City Clerk.

Panama City, Fla.—County voted $375,000 Good Roads bonds. Address County Clerk.

Tavares, Fla.—Leesburg-Howey Special Road Dist. voted $65,000 sand-asphalt road construction bonds for road connecting Howey, Leesburg and Tavares. Address County Clerk.

Birmingham, Ala.—City Comn. intends paving Ave. F with sheet asphalt; estimated cost $45,000; grading and paving Eleventh Ave. with asphaltic concrete, estimated cost, $10,000. Julian Kendrick, city engr.

Calcasieu, La.—Calcasieu Parish sold $900,000 road bonds. Address Clerk of the Parish.

Hammond, La.—Tangipahoa Parisn voted $169,000 road bonds. Address Pres. Police Jury.

Jackson, Miss.—Bd. Supervs. contemplate $100,000 road bond issue for First and Fifth Superv. Dists. W. W. Downing, co. clerk.

Natchitoches, La.—Police Jury will sell about Nov. 1, $250,000 road bonds. Contract will be let about January for constructing the Natchitoches link of Jefferson Highway, which is about 42 miles long. Address Clk. Police Jury.

Greenwood, Miss.—Co. Comrs. sold $100,000 road bonds. $500,000 more to be sold. Address County Clerk.

Lucedale, Miss.—Citizens of county voted $90,000 bond issue for constructing roads. Bonds sold. Address County Clerk.

Centreville, Tenn.—$225,000 road construction bonds voted. I. A. Hunter, co. engr.

Chattanooga, Tenn. — County Court voted $50,000 for Suck Creek section of Dixie Highway, 5 miles long. Address County Clerk.

Memphis, Tenn.—City Comrs. intend paving with 8000 sq. yd. granite block on Calhoun Ave.; estimated cost, $9,271. C. C. Pashby, city clk.

Cleveland, Ohio.—Bonds for $45,018 will be sold Nov. 1 by Co. Momrs. (E. G. Krause, clk.) for improving West Lake Road.

Hamilton, Ohio.—Co. Comrs. contemplate improving 15 miles road in 1917. Waterbound macadam, reinforced concrete, brick and bituminous macadam. Fred. M. Hammerle, co. engr.

Massillon, Ohio. — City Council has passed following bond issues, aggregating $58,890, same to be submitted to citizens at November election: $39,100 for repaving East Main St., and $19,890 for trunk-line sanitary sewer in southwest section of city, and in Sippo Valley.

Niles, Ohio.—Street improvement bonds for $18,000 will be sold Oct. 30 by Homer Thomas, city aud.

North Lewisburg, Ohio.—Village Council intends improving various streets. Cost, $10,000. Address Village Clerk.

Zeeland, Mich.—L. A. Boulay Co., engrs., Toledo, Ohio, engaged to prepare plans for Main, Central and Church St. paving; cost, $80,000.

Chicago, Ill.—South Park Comrs. contemplate improving South Shore Boule.

Freeport, Ill.—$100,000 brick and tar macadam paving work contemplated in spring. C. S. Hepner, city engr.

Mt. Carroll, Ill.—City Council intends improving portions Market, Clay and Rapp Sts.; brick, concrete foundation and concrete curb and gutter. Chas. S. Hepner, engr., Freeport, Ill.

Rock Island, Ill.—Co. Supervs. considering construction about 128 miles of 10 ft. and 15 ft. wide concrete highways with state aid. Estimated cost, $800,000. John Lipton, chm. co. highway board.

Princeton, Ill.—Bd. Supervs. propose improving roads in Greenville, Neponset, Hall, Princeton and Ohio Townships, in all about 7 miles and 2 miles in town of Princeton of 16 ft. concrete roads. Cost, $80,000.

Milwaukee, Wis.—Co. Comrs. intend paving Beloit road from West Allis to 60th Ave. Address County Clerk.

City Council intends paving Greenfield Ave. from 74th Ave. to Woodlawn Ave. Address City Clerk.

Co. Comrs. and Comrs. Town of Greenfield intend paving Woodlawn Ave. Address County Clerk.

West Allis, Wis.—City Council intends paving 68th Ave. Address City Clerk.

Grundy Centre, Iowa.—Contracts for paving 40 blocks will be let in spring. Undecided as to material. C. E. Butler, mayor.

Lewiston, Minn.—$12,000 paving bond issue carried at recent election. Address City Clk.

Rochester, Minn.—City Council intends paving 2 miles Central St. with creosote blocks. Address City Clerk.

St. Paul, Minn.—City Council intend paving with creosoted wood blocks Prior Ave. and Minnehaha St. Estimated cost $35,694. Address City Clerk.

Fairburg, Neb.—City voted $50,000 paving bonds at Oct. 10 election. E. O. Wunder, city clk.

Hastings, Neb.—Contracts for 3 to 4 miles asphalt paving will be let in spring. Address city engr.

Independence, Mo.—City Council contemplates paving, curbing and laying sidewalks on 4 miles streets. H. H. Pendleton, city engr.

Arkansas.—State Highway Comn. (Hugh R. Carter, engr.), Little Rock, has completed plans for gravel road in Desha County from Arthur to Chicot County line, estimated cost $50,000; 10 miles hard surfaced road in Saline County, estimated cost $17,000; 50 miles gravel road in Sharp County, from Wirth to Hardy and Clay City, estimated cost $95,000; graded road in Poinsett County, from Marked Tree north to county line, estimated cost $38,000. Also, gravel road in Faulkner County, from Conway to Saltillo, with steel bridge over Calarm creek, estimated cost $37,480.

Forrest City, Ark.—City Council intends spending $40,000 on 6 miles asphalt-macadam paving.

Texarkana, Ark.—Co. Comrs. intend constructing 60 miles good roads in Miller Co. Highway and Bridge Special Improvement Dist. and a bridge over Red River near Fulton; $250,000 sold. Address County Clerk.

Walnut Ridge, Ark.—Construction of 30 miles rock road contemplated. G. W. Prider, recorder.

Angleton, Tex. — Citizens of county voted Sept. 23 $150,000 bonds for road improvement in Brazoria Dist. R. C. Shirley, co. clk.

Bonham, Tex.—Co. Comrs. intend improving and constructing about 300 miles of roads throughout county. Address County Clerk.

Corsicanna, Tex.—Attorney General's Dept. approved Navarro County road districts No. 4 and 5 bond issues of $180,000 and $100,000 respectively.

Dallas, Tex.—City Council intends paving portions of Word, McCoy and Gould Sts. with bitulithic and vibrolithic paving. Address City Street Comr.
Election Nov. 7 on $500,000 good road bonds. Address County Clerk.

Franklin, Tex.—$125,000 road bonds to be voted upon Oct. 24. Address Co. Comr.

Port Arthur, Tex.—City Comrs. sold $64,000 street paving bonds. Address City Clerk.

Port Arthur, Tex.—Attorney General, Austin, approved $64,000 street paving bond issue. Address City Clerk.

Quitman, Tex.—Citizens of Road Dist. No. 6, Wood County, voted $150,000 road bonds. Address County Clerk.

Victoria, Tex.—City Council intends paving streets in main business section with asphaltic concrete; $35,000 available for paving. Address City Clerk.

Weatherford, Tex.—Geo. D. Marshall, state highway engr., Austin, estimates 120 miles new road construction work in Parker County at $600,000. Address County Clerk.

Depew, Okla.—Depew Township intends spending $16,000 on road improvements. Address Township Clerk.

Wilburton, Okla.—Red Oak Township voted $35,000 good road bonds. Address Township Clerk.

Everett, Wash.—City Council passed ordinance to pave Wall, Nassau and 25th Sts. Hans Munn, Jr., city engr.

Montesano, Wash.—Co. Comrs. intend spending $262,755 on road and bridge improvements in 1917. Geo. D. Robertson, co. engr.

Mt. Vernon, Wash.—City Council intends paving Fourth Avenue from viaduct north to city limits. Cost, $11,000. Address City Clerk.

North Yakima, Wash.—O. E. Brashears, co. engr., estimates contemplated 1917 road and bridge work, to cost $177,250.

Pomeroy, Wash.—Bids opened Oct. 2 for constructing Permanent Highway No. 3, rejected. E. E. Powell, co. aud.

Prosser, Wash.—Co. Comrs. will soon let contract for grading and graveling Hanford-Richland road, cost $18,000. T. J. Wright, co. engr.

Seattle, Wash.—City Council intends paving Roy St. with asphalt, 5-in. base, on 5-in. concrete foundation; estimated cost $10,380, and five other avenues with brick block on 6-in. concrete foundation. Estimated cost $130,600. A. H. Dimock, city engr.

Vancouver, Wash.—Co. Comrs. intend spending $150,000 on road and bridge construction in 1917. W. A. Schwarz, co. engr.

Astoria, Ore.—Co. Comrs. intend to hardsurface 60 miles of roads. Estimated cost $700,000. G. F. Parker, co. engr.

Coquille, Ore. — Co. Comrs. intend awarding contracts for 1917 road work in February. $602,000 available. C. S. McCulloch, co. engr.

Cornelius, Ore.—City Council intends grading and paving with macadam and concrete, Pine and Fourth Sts., and constructing walks and curbs. Geo. A. Wilcox, city recorder.

Modesto, Cal.—Election to be held on Nov. 7 for $1,482,000 bonds to construct 126 miles of roads. Address Co. Clk.

Sacramento, Cal. — City Comrs. have been petitioned to pave McIntyre Ave. from E to J Sts. Address City Clerk.

San Diego, Cal.—City Council intends paving Kalmia and Lewis Sts and Fort Stockton Drive with concrete and asphaltic oil surface and reinforced concrete culverts, catch basins, etc. Allen H. Wright, city clerk.

San Rafael, Cal.—Bd. Supervs. Marin County intend widening Bolinas-San Rafael highway at cost of $10,000.

Sacramento, Cal.—Citizens of county voted $1,760,000 road bonds. Address Co. Clerk.

Visalia, Cal.—Bd. Superv. intend constructing roads leading into national parks in county with federal aid, $130,000. Address County Clerk.

Montreal, Canada.—City Council contemplates spending $250,000 on asphalt and block pavements. Day labor. P. Mercier, city engr.

BIDS DESIRED.

Williamstown, Mass.—Until Oct. 24, by Massachusetts Highway Comn., State House, Boston, for constructing section of State Highway, about 10,900 ft. long.

Brooklyn, N. Y.—Until Oct. 26 by L. H. Pounds, boro. pres., for regulating and repaving portions of Ashland Pl., Bay 34th and Fulton Sts., in all 13,565 sq. yd. pavement; portions of 58th St. with asphalt block pavement, in all about 2310 sq. yd., together with curbing, etc. Total security $12,200.

New York, N. Y.—Until Oct. 24, by Douglas Mathewson, pres. Boro. Bronx, for grading sidewalks, crosswalks, etc., on W. 238th St. from Bway to Riverdale Ave., 10,500 sq. ft. two-course concrete. Security, $18,000.
Also in W. 238th St., from Canton Pl. to Ft. Independence St. and Newbold Ave., in all 18,090 sq. ft. two-course concrete sidewalks. Security, $6,000.

Bayonne, N. J.—Until Oct. 24, by Bd. Comrs., for 5100 sq. yd. asphalt pavement on Evergreen St. Wm. P. Lee, city clk.

Baltimore, Md.—Until Oct. 25, for paving and grading with cement concrete sections of 27 alleys and streets. Address Bd. Awards, care city register.

Logan, W. Va.—Until Nov. 11, by J. B. Wilkinson, Jr., deputy co. clk., for constructing roads and bridges on line of proposed roads, advertised in this issue. R. M. Wilson, engr., Logan.

Iuka, Miss.—Until Nov. 4 by E. F. Parnell, secy., for 6-mile gravel roads in Tishomingo Co.

Indiana.—By Co. Comrs. for constructing roads as follows:
Until Oct. 25:
Columbus, for constructing 3 roads in Columbus township, W. H. Scott, co. aud
Until Oct. 26:
New Albany, 4375 ft. of roadway in New Albany township, Joseph P. Hammond, co. aud.
Until Nov. 7:
Rensselear stone road in Jordan and Marion townships, Emile Dupaquier, co. aud.
Until Nov. 8:
Corydon, macadam road on line between Taylor and Boone townships, J. L. O'Bannon, co. aud.
Until Nov. 8:
Shelbyville, two gravel roads in Moral township, about 20,043 ft. long. Frank W. Fagel, co. aud.
Until Nov. 9:
Winchester, concrete road in Ward and Jackson townships, about 13,553 ft. long; also concrete road in Saratoga, 10,553 ft. Chas. E. Tillson, co. aud.

Illinois.—Until Oct. 25 by State Highway Comn., Springfield, for following state road work:
Eureka, Sect. C, length 15,910 ft., oiled earth; estimated cost $5,493.
Metamora, Sect. D, length 28,840 ft., oiled earth; estimated cost $10,702.
El Paso, Sect. E, 47,600 ft., oiled earth; estimated cost $15,994; all in Woodford County.

Waverly, Iowa.—Until Oct. 31, by Co. Aud. for constructing superstructure of Harmon St. bridge, consisting of three 120-ft. steel truss span, 18-ft. roadway, one 5-ft. sidewalk. Estimate quantities, 4600 lb. reinforcing, 301,000 lb. structural steel, 24.4 M ft. creosoted blocks. Estimated cost, $20,144. C. A. Cool, co. engr.

Kansas City, Mo.—Until Oct. 24, by J. Pearce Kane, secy. bd. pub. wks., for paving and curbing portions of Terrace pl. and Westwood Terrace.

Oklahoma, Okla.—Until Oct. 24 for paving Lincoln Boulevard and Shartel Ave. Address C. F. Semmelbeck, city clerk.

Ventura, Cal.—Until Oct. 28, by J. B. McCloskey, clk. bd. supervs., for paving six county bridges with macadam oil pavement, 47,798 sq. ft.

Pocatello, Idaho.—Reported desired until Oct. 26, by city for improving Third St. and paving in Dist. 14; cost, about $42,000. J. H. Giles, city engr.
Until Oct. 26, by City Council for 20,570 sq. yd. sheet asphalt, bitulithic or wood block pavement in Local Street Improvement Dist. 20, advertised in this issue. J. H. Giles, city engr.

PRICES AND LETTINGS.

★Indicates award of contract.

Boston, Mass.—See "Miscellaneous."

★Massachusetts.—Following are bids opened Oct. 10 by Massachusetts Highway Comn., Boston, for constructing state roads:
★Town of Pelham, Cordna & Montague, Springfield, $13,223 (awarded contract); Lane Constr. Corp., Meriden, Conn., $13,-982, and Perini Constr. Co., Ashland, $16,501.
★Town of Gloucester, Perini Constr. Co., Ashland, $17,786 (awarded contract), and T. A. Moynihan, South Hamilton, $24,684.

★Atlantic City, N. J.—Contract awarded by City Council to Warren-Quinlan Asphalt Co., Syracuse, N. Y., at $193,509, for sheet asphalt paving on New Hampshire and other streets. J. W. Hackney, city engr.

★Belvidere, N. J.—Contract awarded Smith Bros. & Co., Hackensack, by Bd. Freeholders, for 4 miles bituminous macadam on Hope-Bridgeville road No. 1.

★Hackettstown, N. J.—Contract awarded by Bd. Freeholders to Smith Bros., Hackettstown, at $60,524, for constructing Sect. I, 4 1-8 miles, Hope-Bridgeville road with bituminous macadam.

South Amboy, N. J.—Bd. Freeholders, New Brunswick, opened bids as follows for paving with Warrenite on concrete base Washington Ave. and Main St.: Liddle & Pfeiffer, Perth Amboy, $57,499; Geo. Gundrum, South Amboy, $57,567; T. H. Riddle, New Brunswick, $57,750.

★Allentown, Pa.—Contracts for paving with sheet asphalt and constructing concrete gutters in Sixth, Seventh and Linden Sts. awarded to Barber Asphalt Co., Allentown, at $53,138.

★Archbald, Pa.—Contract awarded by Council to Sweeney Bros., Scranton, for paving with Tarvia 2½ miles Main St., between here and Eynon, $1.78 sq. yd.

★Carbondale, Pa.—Contract awarded by Delaware & Hudson RR. (Jas. MacMartin, ch. engr., Albany, N. Y.) to Phoenix Constr. Co., Phoenixville, at $20,000, for viaduct across Dundaff St.

★Philadelphia, Pa.—Contract awarded by City Highway Bureau (G. E. Datesman, director) to Mack Paving Co., Twentieth St. and Sedgley Ave., for asphalt paving on Tenth St. from Louden to Rockland Sts., Thirteenth St. from Louden to Rockland Sts., Venango St. from K to Kensington Sts., Clifford St. from Twenty-fourth to Twenty-fifth Sts., at $15,452.

★Vandergrift, Pa.—Contract awarded Duster Contr. Co., Tarentum, by Boro Council, for paving business street in East Vandergrift. Probable cost $16,000.

★Baltimore, Md.—Contract awarded by Bd. Awards to Baltimore Asphalt Block & Tile Co., Monroe and Lorman Sts., at $111,849, for paving on Gay St. from Baltimore St. to North Ave., and to P. Flanigan & Sons, 120 N. Lexington St., at $19,775, for paving Lexington St.

★Frederick, Md.—Contract awarded H. W. Kaylor, Hagerstown, Md., at $14,719, by City Council, for road work.

★Washington, D. C.—Contract awarded by Comrs. D. C. to Warren F. Brenizer Co., Washington, D. C., at $73,000 (bids opened Oct. 10) for improving various streets and roads in the District. Daniel E. Garges, chief clk., engr. dept.

★Jacksonville, Fal.—Contract awarded to Wilson Constr. Co., Jacksonville, by city, for 1974 sq. yd. brick paving, and to Bryson Bros., Jacksonville, for 3849 sq. yd. asphaltic concrete paving. Bids opened Oct. 2.

New Orleans, La.—Following are the lowest bids on paving and drain work opened by the city comrs. Sept. 29: Paving—Hampton Reynolds, 823 Maison Blanche Bldg. (bituminous concrete) on So. Broad St., $34,173.40; Thalia St., $11,-912; St. Bernard Ave., $43,524.50. Jamison & Hallowell, Chandler Bldg., Atlanta, Ga. (oil manufactured asphalt) on N. N. Villere St., $9,586; Julia St., $6,358.80; Poydras St., $17,440 (creosoted wood blocks) on Constance St., $4,880.40. Subsurface drains—Mike Mitchell, 2646 Bank St., in S. Broad St., $16,343.58; in Thalia St., $10,247.13; St. Bernard Ave., $22,-308.60; N. Villere St., $10,800.89. Craven & Lang, 1015 Hibernia Bank Bldg., Julia St., $3,721.20; Poydras St., $6,679.
Following are the lowest bids opened Sept. 30th: Paving—Hampton Reynolds, 823 Maison Blanche Bldg. (bituminous concrete), St. Peter St., $27,039; Orleans St., $8,025.75; (creosoted wood blocks) Dauphine St., $20,770.50; Burgundy St., $20,895.50; N. Peters St., $26.794. Theo. O. Hotard, 338 Bermuda St. (creosoted wood block), Conti St., $4,130.40; St. Louis St., $2,790.10; Bienville St., $2,686.90; Toulouse St., $2,790.10. Sub-surface drains—J. H. Coats Co., 540 Lopez St., in St. Peter St., $29,902.25; Orleans St., $8,890 30; Burgundy St., $9,793.00; N. Peter St., $5,666.65; St. Louis St., $1,180.10; Bienville St., $1,888.90; Toulouse St., $1,193.60; Zacharie St. (bids open Sept. 29), $1,-110.70. Craven & Lang, 1015 Hibernia Bank Bldg., in Dauphine St., $9,925.

★Lenoir City, Tenn.—Contract awarded Murray Constr. Co., Knoxville, by City Council for paving Broadway; $35,000 bonds sold for this improvement.

★Hopkinsville, Ky.—Montgomery, Perkins & Co., Hopkinsville, secured road improvement contract in this county costing $28,339 (bids opened Oct. 3). Chas. Folsom, co. engr.

★Canton, Ohio.—Contracts awarded by Co. Comrs. as follows: Beach City-Justus Road, about 3½ miles long, with macadam, to J. C. Devine Co., Alliance, at $36,035, and Pigeon Run Road, with brick with mastic filler, to Philip Dieffenpacher & Sons, Massillon, at $21,000.

★Cincinnati, O.—Contract awarded by city to Henkel & Sullivan, 703 Mercantile Library Bldg., at $13,428, for paving with brick and laying water main in Coro Ave. (bids opened Oct. 2). F. S. Krug, city engr.

★Defiance, Ohio.—Contracts awarded by Co. Comrs. as follows for improving Evansport Road (bids opened Oct. 3): Sect. "A" to Tarritan & Erman, at $16,-069, and Sect. "B" to Spangler & Erman, at $8,333 (contractors of Evansport). Roger Daoust, co. aud.

★Sebring, Ohio.—Following are bids opened Oct. 9 by Village Bd. for paving with brick block on Oregon Ave., Eighteenth and other streets: G. B. Herring & Son, Mansfield, $53,465 (awarded contract); Hahen Constr. Co., Canton, $54,-907, and J. C. Devine, Alliance, $57,567.

★Huntington, Ind.—Contract awarded by Co. Comrs. to W. S. Gordon & Son, Bluffton, for constructing Miller and Berkfield stone roads, about 5 miles long, at $22,188.

★Illinois.—Contracts awarded by State Highway Comn., Springfield, as follows: In Scott County., Sects. C, D and E (earth) to Cameron-Joyce & Co., Keokuk, Ia., at $14,925; in Lawrence County, Sect. C (concrete), to Stanley, Dees & Co., Robinson, Ill., at $9,988; in Sangamon County, Sect. H (brick), to Henry Nelch & Son, Springfield, Ill., at $13,239; Sect. J (brick), to John E. Bretz, Springfield, Ill., at $13,-163; in Madison County, Sect. D (concrete), to G. R. Hyten, Edwardsville, Ill., at $8,100; in Montgomery County, Sects. C and E (earth), to Cameron-Joyce & Co., at $13,202.

Rossville, Ill.—F. P. Coughlin Co., Chicago, Ill., submitted only bid to Bd. Local Improv. for paving Gilbert, Maple and Benton Sts., at $26,127.

★Miles City, Mont.—Contract awarded by City Council to Hanlon & Oakes Co., Miles City, for paving with bitulithic Main St., $66,792.

★St. Louis, Mo.—Contract awarded by Bd. Pub. Serv. to Trinidad Asphalt Paving Co., Title Guarantee Trust Bldg., at $65,000, for Locust St. widening.

★Joplin, Mo.—Contract awarded by city to J. J. Underwood, Springfield, to pave Main St., from A to F Sts., with concrete.

★Eldorado, Ark.—Contract awarded by City Council to McEachin Constr. Co., McAlester, Okla., for paving 40 blocks in Improv. Dist. No. 4.

★Newton, Tex.—Contract awarded by Co. Comrs. to N. A. Dawson, Newton, at $60,000 for improving 80 miles road.

★Seattle, Wash.—Contract awarded by Co. Comrs. to L. H. Goerig, 3611 East Terrace St., for constructing Kirkland-Bothell road, $18,750. A. P. Denton, co. engr.

★Alameda, Cal.—Contract awarded Clark & Henry Co., Alameda, by City Council for paving Central Ave., at $25,000.

★California. — Contract awarded by State Highway Comn. (W. R. Ellis, secy., Forum Bldg., Sacramento) to W. C. Price & Co., 209 Clay St., San Francisco, at $12,225, for road work in Sonoma Co., Div. 4, Route I, Sect. C. Materials furnished by state.

★Los Angeles, Cal.—Contract awarded Los Angeles Paving Co., 2900 Santa Fe Ave., at $29,438, for 187,200 sq. ft. asphalt paving, 7770 sq. ft. vit. block gutter, etc., on Boyle Ave.

Pasadena, Cal.—Low bid opened Oct. 10 by City Comrs. for constructing about 115,000 sq. ft. macadam pavement on Glenarm St.: S-C Contr. Co., 543 Title Ins. Bldg., Los Angeles, $11,385.

★San Bernardino, Cal. — Contract awarded Highway Constr. Co., Redlands, $26,455, for constructing concrete pavement with oil screenings surface, concrete gutters, etc., on B St.

Santa Ana, Cal.—Brashear-Burns Co., La Brea Road, near Wilshire Boule., Los Angeles, submitted low bid at $16,728 on 25,000 cu. yd. sand excav., 7500 sq. yd. clay surfacing and 1160 ft. pile trestle on road extending northwest 3 miles from Huntington Beach. (Bids opened Oct. 4 by Bd. Supervs.)

RAILWAYS
Steam and Electric

PROPOSED WORK.

New Jersey.—Reported Pennsylvania RR. Co. (A. C. Shand, ch. engr., Broad St. Sta., Philadelphia) will spend $1,000,-000 for additional freight handling facilities on Newark Meadows.

Morrisville, Pa.—Reported Pennsylvania RR. Co. (A. C. Shand, ch. engr., Broad St. Sta., Philadelphia) will spend about $1,000,000 for additional yards and locomotive-handling facilities at Morrisville, where low grade division ends.

Tamaqua, Pa.—Wilkes-Barre & Hazleton RR. will extend line to Tamaqua. A. Markle, pres., Hazleton.

Wilmington, Del.—Extensive improvements contemplated for Delaware RR. When completed main line will be double track, distance of 97 miles, between Wilmington and Delmar. For further information address Alex. Shand, ch. engr., Broad St. Sta., Philadelphia.

Washington, D. C.—Capital Traction Co. (J. H. Hanna, ch. engr., Thirty-sixth and M Sts.) applied to public Utilities Comn. for permission to extend lines south on Eighteenth St. to C St., where it is proposed to construct a terminal loop around the triangle between Eighteenth St., C St. and Virginia Ave.; cost about $100,000.

Alexandria, Va.—Western Maryland RR. (H. R. Pratt, ch. engr., Baltimore) and Old Dominion Ry. have decided to construct a connecting link between the two roads. About 40 miles of tracks will be laid.

Hopewell, Va.—Hopewell & City Point Ry. incorporated to construct 2½-mile line. Jas. C. Rees, Jr., pres., and T. Tyler Ellis., secy. and treas., both of Petersburg.

Clarksdale, Miss.—Arizona Hydraulic Power Co. organized to construct railroad from Clarksdale to Miami and Globe, Ariz.; also develop hydroelectric power from Verde River. E. Meek, Prescott, Ariz., interested.

Chattanooga, Tenn.—Construction of extension to Tennessee Central R. R. (Rutledge Smith, supt., Nashville) from Harriman to Chattanooga contemplated.

Knoxville, Tenn.—Knoxville Interurban Ry. will construct a line from Vestal south of Knoxville to Marysville, about 13 miles. Capital, $10,000; incorporators, M. T. De Vault, Norman B. Morrell, and others.

Dover, O.—Dover, Millersburg & Western Ry. will construct electric railway between Dover and Millersburg, power house and two sub-stations. D. F. A. Wheelock, engr., Woodward Bldg., Warren, Pa.

Nelson, Ill.—Chicago & Northwestern Ry. Co. (W. H. Finley, ch. engr., Chicago), to spend $60,000 for enlarging track facilities, including 4 sidetracks at Nelson, each 1½ miles long.

Bemidji, Minn.—Red Lake Northern Ry. Co. will commence next spring construction work on proposed line from Bemidji to Warroad.

Lincoln, Neb.—Omaha, Lincoln & Beatrice Interurban Ry. Co. will construct line from Lincoln to Omaha.

Omaha, Neb.—Construction work about to begin on elevation of tracks of Missouri Pacific RR. (E. A. Hadley, ch. engr., St. Louis, Mo.) at Dodge, Douglas and Farnam Sts., cost about $200,000. Elevation of Belt Line tracks south and north of Dodge St. contemplated.

Great Falls, Mont.—Reported Great Northern Ry. Co. (A. H. Hogeland, ch. engr., St. Paul, Minn.) plans to construct branch line from Great Falls to Chester.

Paris, Tex.—Paris Transit Co. (W. G. Moore, mgr., Paris) increased capital stock $20,000 and plans to improve and extend railway system.

San Antonio, Tex.—Right-of-way being secured for constructing Eagle Pass & Gulf R. R. through Maverick County. A. L. Matlock, attorney, 518 Bedell Bldg.

Ardmore, Okla.—Surveys being made by Atchison, Topeka & Santa Fe Ry. (C. F. W. Felt, ch. engr., Chicago), for a line from Lindsay in Garvin County to Carter County oil fields west of Ardmore, distance 55 miles.

Oklahoma, Okla.—Reported Atchison, Topeka & Santa Fe Ry. (C. F. W. Felt, ch. engr., Chicago), considering constructing line from Oklahoma City to Woodward.

Steilacoom, Wash.—City Council granted franchise to Pacific Traction Co. (Geo. W. Rounds, genl. supt., Tacoma), to construct, maintain and operate single or double track street railway on Steilacoom Boule. between town limits of Steilacoom and Starling St.

Eugene, Ore.—Southern Pacific Ry. Co., Wm. Hood, ch. engr., San Francisco, Cal., will relay 7½ miles track and other improvements on Wendling branch, 80 lb. rails will replace 50 lb. rails; cost, about $27,000.

Newport, Ore.—Surveys being made by Portland & West Coast Ry. Co. (H. Fitzgerald, promoter), for construction of line between Newport and Portland. H. F. Wickner, engr., Portland, in charge of surveys.

Sutherlin, Ore.—Reported Southern Pacific Ry. Co. (Wm. Hood, ch. engr., Flood Bldg., San Francisco) will reconstruct line between Sutherlin and Divide.

Wendover, Utah.—Construction of a 45-mile railroad from Wendover to Gold Hill, to be known as Deep Creek RR., contemplated. Duncan MacVichie, of Western Utah Copper Co., Salt Lake City, is interested.

Edmonton, Alta.—Reported Edmonton Radial Ry. will spend about $75,000 for extending municipal street railway lines. W. T. Henry, mayor.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Cleveland, Ohio.**—Contract for eliminating 25 Nickel Plate RR. crossing between Fulton Rd. and Detroit Ave. awarded to Walsh Constr. Co., 1312 Citizens Bldg.; estimated cost to city, $765,000, and to Nickel Plate RR., $2,175,000. About 750,000 cu. yd. earth to be excavated.

★**Leetonia, O.**—Contract awarded to Frank R. Jones Co., Chicago, Ill., for constructing 18 miles roadbed for two additional tracks between Sebring and Leetonia for Pennsylvania RR.; cost about $800,000.

★**Roseburg, Ore.**—Reported contract for constructing Roseburg & Eastern RR. awarded to Kendall Bros., Pittsburgh, Pa.

★**China.**—Contract for constructing 2000 mile railroad in China awarded to Siems-Carey Co., St. Paul, Minn.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Albany, N. Y.—Rathbone, Sard Electric Co., Inc. (H. P. G. Norstrand, mgr.), Albany, has purchased plant of Interstate Storage Co., Rathbone and Thacher Sts., and will erect addition for manufacturing the Acorn electric range.

Albany, N. Y.—See "Excavation, Drainage and Dredging."

Brooklyn, N. Y.—Plans filed for 4-story brick factory to be erected at Atlantic Ave. and Milford St. for Saml. Weisglass, 119 West St.; cost $75,000.

Buffalo, N. Y.—Transmission Ball Bearing Co., 32 Wells St., purchased site on Military Rd. and New York Central RR. and intends erecting factory to cost about $50,000.

Dunkirk, N. Y.—Dunkirk Glass Co., Lamphere St., intends doubling capacity of plant to include 2-story, 80 x 200 ft., brick and fireproof main building and installation of new furnaces.

Buffalo, N. Y.—Niagara Fireworks Co., Michigan and Myrtle Sts., secured site on E. Delavan Ave. and proposes erecting several factory buildings for manufacturing fireworks and appliances for same, novelties and toys.

Johnson City, N. Y.—Plans being prepared for new sole leather tannery to be erected for Endicott, Johnson & Co. (Geo. F. Johnson, genl. mgr.), Johnson City.

New York, N. Y.—Wm. Higginson, 13 Park Row, is architect for extension to be erected to 6-story factory of Lehmaier, Schwartz & Co., 207 E. Twenty-second St.; cost, about $100,000.

North Tonawanda, N. Y.—See "Reinforced Concrete."

Jersey City, N. J.—Reported Armour Packing Co., Chicago, plans erecting plant at Cole, Monmouth, Sixteenth and Seventeenth Sts.

Passaic, N. J.—Merrick Scale Co., 225 Main Ave., will erect new plant adjoining Erie R. R. tracks.

★**Newark, N. J.**—Erection of $50,000 addition to plant of Rubber & Celluloid Harness Trimming Co., Hamburg Pl., contemplated.

Firestone Tire & Rubber Co., S. Main St., Akron, O., contemplates erecting $125,000 plant here.

Millvale, Pa.—Plans being prepared by Bollinger Bros., Fulton Bldg., Pittsburgh, for brick and fireproof addition to be erected to plant of Independent Brewing Co.; cost $250,000.

Philadelphia, Pa.—Reported Westinghouse Co., North American Bldg., purchased site in Delaware County, east of Ridley Park in Tinicum Township and intends erecting an extensive plant.

Baltimore, Md.—Baltimore Dry Dock & Shipbuilding Co., Baltimore, reported contemplating extensive improvements.

Kenova, W. Va.—Basic Products Co., Kenova, reported plans erecting new factory to cost, including machinery, $250,000.

Valdese, N. C.—Valdese Mfg. Co., Valdese, intends erecting addition for manufacturing cotton yarns; cost about $100,000.

Cincinnati, Ohio.—Champion Tool Works Co., 2420 Spring Garden Ave., secured site on Winton Pl. and intends erecting new plant to cost about $100,000.

Cleveland, Ohio.—Reported Vitreous Enameling Co., E. Ohio Gas Bldg., will erect $50,000 factory on Grant Ave., near Belt Line RR.

Tabor Ice Cream Co., E. 35th St. and Payne Ave., will spend $150,000 for enlarging plant and equipment, including 200-ton ice plant.

Manistique, Mich.—Reported Francis W. Little and associates of Minneapolis propose erecting paper mill on site of Bronson Mill, to cost about $1,000,000; also a pulp mill of 6000 tons capacity.

Monroe, Mich.—Monroe Binder Board Co., Monroe, purchased site on East Elm Ave. and intends erecting plant to cost about $400,000.

Chicago, Ill.—Imperial Brass Co., 512 Racine Ave., will erect additions to plant, costing $85,000.

A. S. Alshuler, 28 E. Jackson Boule., is architect for 5-story brick factory to be erected at 1145 W. Congress St. for A. Stein & Co., cost $100,000.

Freeport, Ill.—Raleigh Mfg. Co., of Freeport, contemplates erecting several factory buildings, to cost with equipment about $500,000.

Milwaukee, Wis.—Robt. A. Johnston Co., 270 Florida St., considering plans for new candy factory to cost about $500,000.

Duluth, Minn.—See "Foundation, Piers and Dams."

Owatonna, Minn.—Campbell Flour Mills, Owatonna, planning erecting new mill to cost about $100,000.

Kansas City, Mo.—Reported Maxwell Motor Co., 1107 McGee St., plans erecting $250,000 assembling plant.

Ft. Smith, Ark.—Ft. Smith Cotton Compress Co., Ft. Smith, will erect cotton warehouse to cost $50,000.

Beaumont, Tex.—See "Foundation Piers and Dams."

Gainesville, Tex.—Whaley, Nichols & Scott Mfg. Co., recently organized with a capital of $100,000, intends erecting factory here for manufacturing a patent end gate and rod for farm wagons. Geo. T. Nichols, Gainesville, reported interested.

Harrington, Wash.—See "Reinforced Concrete."

Hillsboro, Ore.—See "Reinforced Concrete."

Portland, Ore.—Reported Jacobberger & Smith, Bd. of Trade Bldg., engaged to prepare plans for 3-story, 300 x 100 ft. chair factory to be erected for Doernbecher Mfg. Co., on site adjoining present plant at Twenty-eighth St. and Union Pacific Ry. tracks.

Plans are being prepared for steel rolling mill which the Pacific Coast Steel Co., Globe Blk., Seattle, Wash., proposes erecting at Willbridge, between Portland and Linnton.

Long Beach, Cal.—Marine Chemical Co. (C. T. Whittier, pres.), Long Beach, will erect factory for manufacturing chlorine; probable cost $200,000.

Wallace, Idaho.—Northern Light Mining Co. (B. G. Harmon, mgr.), Wallace, plans erecting mill, to cost $50,000

London, Ont.—Contracts will be let in February for repair shops and car barns which the London and Port Stanley Ry. Comrs. (Philip Pocock, chmn.) propose erecting; cost $50,000.

Ottawa, Ont.—Beach Motor Co., Ottawa, contemplates erecting and equipping a garage and repair shop to cost $50,000.

Haynes Motor Co., Albert St., contemplates erecting new factory to cost $50,000.

Moose Jaw, Sask.—Saskatchewan Clay Products Co. (Gordon H. Love, mgr.), Moose Jaw, plans spending $200,000 for improvements and extensions to plant, including a gas producer system for burning brick.

BIDS DESIRED.

Cleveland, O.—Until Oct. 25 by Comrs. of Purchases and Supplies, City Hall, Cleveland, for freight elevator for the Division Ave. pumping station, Dept. Pub. Utilities, Division of Water.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Bristol, Conn.**—Contract awarded Levering & Garrigues Co., 552 W. 23d St., New York, for erecting brick additions to plant of New Departure Mfg. Co.; estimated cost $450,000.

★**Cohoes, N. Y.**—C. P. Boland Co., Troy, secured contract to erect paper manufacturing plant and machine shop on Saratoga St. for Frank Gilbert Paper Co.; cost $100,000.

★**Buffalo, N. Y.**—Contract awarded Ballard T. Crooker, Builders Exchange, for erecting addition to freight warehouse of Buffalo Freight Terminal Co., 72 x 125 ft., 66 x 68 ft. and 36 x 36 ft., at Ganson St., Peck Slip and Buffalo Creek Terminal RR.

★**Glens Falls, N. Y.**—Contract awarded H. P. Cummings Constr. Co., Ware, Mass., for erecting hydroelectric power station for International Paper Co.

Jersey City, N. J.—See "Reinforced Concrete."

Passaic, N. J.—See "Reinforced Concrete."

★**Canton (P. O. Baltimore), Md.**—Contract awarded West Constr. Co., American Bldg., Baltimore, for erecting plant here for Coco-Nut Oil Products Co. of New York City; cost about $150,000.

★**Ellicott City, Md.**—Contract awarded Consolodated Eng. Co., 243 Calvert Bldg., Baltimore, for erecting new flour mill for C. A. Gambrill Mfg. Co.; cost about $125,000.

Coshocton, O.—See "Structural Steel Work."

★**Elyria, Ohio.**—Contract awarded Jas. A. Hewitt, Elyria, for erecting 75 x 250-ft. steel plant for Western Automatic Machine Screw Co.; cost, including equipment, about $100,000.

★**Rock Island, Ill.**—Contract awarded Henry W. Horst Constr. Co., Rock Island, for erecting addition to Rock Island Brewery; cost, $50,000.

★**Ford City, Ont.**—Contract awarded Wells & Gray, Bank of Commerce Bldg., Windsor, for erecting reinforced concrete, brick and steel addition to plant of Ford Motor Co.; cost $100,000.

★**Kitchener, Ont.**—Contract awarded Caspar Braun, King St. W., for erecting new brick machine shops for Canadian Buffalo Forge Co.; cost $100,000.

BUILDINGS Public and Private

PROPOSED WORK.

Maynard, Mass.—A 2-story brick grammar school is to be erected on site of Nason St. school, recently destroyed by fire; cost, $55,000. Address Secy. Bd. Educ.

Brooklyn, N. Y.—Plans filed for 4-story synagogue to be erected at 131 W. 85th St. for Jewish Center, Inc. (Wm. Fischman, pres.), estimated cost $150,000. Louis A. Abramson, archt., 220 5th Ave., New York.

Plans completed by Gronenberg & Leuchtag, 303 Fifth Ave., New York, for 5-story brick and marble apartment house to be erected on Pierrepont Pl. for 34 Monroe Place Co., Inc. (Solomon Silk, pres.); cost, $50,000.

Brooklyn, N. Y.—Plans filed for 6-story brick tenement house to be erected on Lee Ave. and Ross St. for A. Segal, 558 Bedford Ave.; cost $60,000. Shampan & Shampan, archts., 772 Broadway, Brooklyn.

Buffalo, N. Y.—Reported tentative plans approved for proposed station with provisions for a 22-track yard to be erected on the Terrace for New York Central R. R. (G. W. Kittredge, ch. engr., Grand Central Terminal, New York.)

Gloversville, N. Y.—Reported plans filed for erecting 3-story with basement and sub-basement, 67 x 118 ft., brick school on high school grounds; cost, $80,000. Comstock & Van Dreser, archts., Gloversville. Address Bd. Educ.

Lockport, N. Y.—See "Structural Steel Work."

Rochester, N. Y.—Plans prepared by S. R. Badgley, 6408 Euclid Ave., Cleveland, O., for brick and stone edifice to be erected at Culver Rd. and Parsells Ave. for Spencer-Ripley Methodist Church; estimated cost $65,000.

Syracuse, N. Y.—Common Council passed ordinance appropriating $100,000 for erecting Delaware School, and $50,000 for Franklin School. Address Bd. of Educ.

Atlantic City, N. J.—Atlantic City Hotel Corp. reported incorporated with $5,000,000 capital, and proposes erecting beach hotel. E. H. Cuthbert, Seaside Blk., may be able to give information.

Jersey City, N. J.—Board of Education plans erecting new school on Central Avenue and additions to Schools Nos. 1, 2, 14 and 21.

Contract soon to be let by Bd. Directors of German Hospital for erecting an addition.

Newark, N. J.—M. Augenblich & Bros., 16 Commerce St., will erect 4-story, 70 x 140-ft. business building at Orange and High Sts.

J. H. Mayzel Co., 65 S. Munn Ave., contemplates erecting apartment house at 101 W. Kinney St. to cost about $75,000.

Passaic, N. J.—Plans prepared by Frank Pirrone, Garfield, for new building to be erected for Polish People's Assoc., Monroe and 5th Sts.; cost $50,000.

Perth Amboy, N. J.—Revised plans being prepared by Holmes & Winslow, 103 Park Ave., New York, for 2-story, 51 x 75 ft. bank and office building to be erected for Perth Amboy Savings Institution.

Erie, Pa.—Plans being prepared for 3-story, 88 x 116 ft., power building to be erected for Hammermill Paper Co.; cost, about $50,000. Osborn Eng. Co., engrs., Engineers Bldg., Cleveland, Ohio.

Bd. Educ. Com. on Finance and Property approved plans prepared by Wm. B. Ittner, St. Louis, for East High School, costing $450,000, and Lincoln School, costing $200,000.

Harrisburg, Pa.—City Comrs. and Dauphin Co. Comrs. considering plans for joint county and municipal building. Address County Clerk.

Ohev Sholen Congregation contemplates erecting new synagogue, to cost about $75,000. David Kaufman, pres. bd. trus., Market St., Harrisburg.

Pittsburgh, Pa.—Plans being prepared by Edw. Stotz, Monongahela Bank Bldg., for 3-story, 400 x 150-ft. addition to St. Paul's Orphan Asylum, near Idlewild; estimated cost $250,000.

Janssen & Abbott, Century Bldg., retained to prepare plans for $150,000 edifice to be erected on Shady Ave. and Howe St. for East End Christian Church.

Philadelphia, Pa.—Reported plans being prepared for 18-story hotel, to be erected at 30 S. Fifteenth St. for Kugler Restaurant Co., 1412 Chestnut St.; cost $2,000,000.

A 50,000 hospital is to be erected in the rear of Osteopath College at Nineteenth and Spring Garden Sts.

Reported contracts will be let about Nov. 1 by city for erecting Convention Hall at Twenty-second and Callowhill Sts.; about $1,438,000 available. John T. Windrim, archt., Commonwealth Bldg.; Geo. R. Datesman, dir. dept. pub. wks.

Plans being prepared by Stuckert & Co., Crozer Bldg., for 1-story, 75 x 130 ft., stone church and Sunday school building to be erected at 50th and Locust Sts. for First Reformed Church; cost about $60,000.

Wheeling, W. Va.—General Baking Co., McColloch St., Wheeling, contemplates erecting $60,000 bakery building.

Jacksonville, Fla.—Florida Realty & Investment Co. (A. T. Williams, pres.) for F. W. Woolworth and United Cigar Stores Companies a two-story brick and fireproof building at Bay and Main Sts.; cost, $70,000.

Murfreesboro, Tenn.—School bonds for $75,000 will be sold Nov. 1 by G. B. Giltner, mayor and dir. dept. pub. affairs and pub. safety.

Ooltewah, Tenn.—Seventh Day Adventists intend erecting here an institution to be known as the Southern Training College, to cost about $125,000. Bd. Trus. of Southern Training School at Graysville, Tenn., may be able to give further information.

Covington, Ky.—Eagles Lodge No. 329 contemplates erecting new building on East Eighth St., to cost about $50,000.

Cincinnati, O.—Moore Oil Co., York St. and McLean Ave. contemplates erecting $50,000 office and administration building at McLean Ave. and Barnard St.

Cleveland, Ohio. — Hudson-Stuyvesant Motor Co., 2010 Euclid Ave., will erect 5-story building at 1937 Prospect Ave.; cost, about $75,000.

Plans completed by Wm. J. Carter, 1423 Illuminating Bldg., for 4-story building to be erected at Fulton Rd. and Lorain Ave. for Lorain St. Savings Bank Co.; cost, $100,000. Fred. C. Elmer, chmn. bldg. com.

A 16-story office, theater and hotel building is contemplated at East Ninth St. and Euclid Ave. Jos. Laronge Co., 214 Williamson Bldg., reported interested.

Reported Armour & Co. (G. M. Pinkett, mgr.), 2303 East Fourth St., plans erecting new building on Ontario St. near Huron Rd., to cost about $150,000.

Plans completed by Theo. C. Miner, 10417 Ostend Ave., for apartment building to be erected at 10906 Fairchild Ave. for Mrs. Emma L. Harmon, 5808 Quinby Ave., cost about $100,000.

Reported Grace-Ella Realty Co., care Jos. Laronge Co., 215 Williamson Bldg., plans erecting commercial and apartment building at Euclid Ave. and E. 63rd to cost about $75,000.

Perkins Building Co., care W. McClure, Garfield Bldg., will erect 5-story apartment building on Euclid Ave. and E. 79th St.; cost, $140,000.

Warrensville, O.—City Council considering issuing $100,000 bonds for enlarging city's tuberculosis sanitarium here. Address Lamar T. Beman, dir. pub. welfare, City Hall, Cleveland.

Marseilles, Ill.—Reported R. C. McCloud and S. E. Thompson of Marseilles propose erecting a hotel to cost $60,000.

Cedar Rapids, Ia.—See "Structural Steel Work."

Duluth, Minn.—See "Reinforced Concrete."

Duluth, Minn.—Contract soon to be let for flat building to be erected for Frank Taranowski at Lake Ave. and Eighth St.; cost about $60,000. C. E. Nystrom, archt., Palladio Bldg.

Minneapolis, Minn.—Erection of a $50,000 nurses' home in connection with Asbury Hospital, Ninth and Elliot Ave., reported contemplated.

Reported Church of the Incarnation contemplates erecting new edifice; probable cost $100,000.

Plans being prepared for hospital buildings to be erected at University of Minnesota; cost with equipment about $1,500,000. Address Bd. of Regents.

Plans prepared by Bertrand & Chamberlin, Bank of Commerce Bldg., approved for 12-story, terra cotta and brick office and exchange building to be erected on Second Ave., S. for Minneapolis Builders' Exchange; cost, about $400,000.

Hampshire Arms Hotel Co. (J. L. Luce, pres.), Ninth St. and Fourth Ave. S., intends erecting 10-story annex to cost $475,000.

Reported L. H. Fawkes, 1625 Hennepin Ave., will erect 3-story brick, terra cotta and reinforced concrete automobile sales building at 1620 Harmon Pl.; cost, $55,000.

Minneapolis, Minn.—See "Structural Steel Work."

Abilene, Kan.—Contract soon to be let for erecting high school for which $90,000 bonds were recently voted. Address School Bd.

Anthony, Kan.—Plans of Markgraf & Mampe, Kansas City, Mo., accepted for proposed 2-story, 100 x 130 ft., stone, brick and terra cotta high school, to cost $60,000. Address Bd. Educ.

Ottawa, Kan.—All bids opened Oct. 11 by School Bd. (H. W. Chaffee, clk.) for erecting school rejected as being too high.

Harvard, Neb.—Plans being prepared by W. C. Way, Hastings, for bank building to be erected here, costing about $55,000.

Mitchell, S. D.—All bids opened Sept. 20 for erecting Methodist State Hospital rejected and proposition deferred until after Jan. 1, 1917. John C. Chapman, archt., Sioux Falls.

Sioux Falls, S. D.—Reported contract soon to be let for erecting brick and stone city hall; cost $125,000. Address City Clerk.

Deer Lodge, Mont.—Election soon to be held to vote $60,000 bonds for erecting high school. Address Clerk School Board.

Missoula, Mont.—Citizens voted $75,000 bonds for erecting school addition. Address School Bd.

St. Louis, Mo.—Reported steps being taken to rebuild Christian Brothers College, recently destroyed by fire, on old site at Easton Ave. and King's Highway; estimated cost $150,000.

St. Louis, Mo.—Henry Wagner, 407 N. 8th St., is architect for 3-story colonial apartment building to be erected on Lindell Boule. for Chase Uhlman; cost $100,000.

Martin-Breitt Real Estate Co., Chemical Bldg., will erect 4-story and basement mercantile building at 919 Locust St. and lease same to R. J. Leacock Sporting Goods Co.

Beaumont, Tex.—Attorney General at Austin approved issue of $300,000 school improvement bonds. Address School Bd.

Oklahoma, Okla.—Rotary Club intends erecting clubhouse to cost $50,000. W. W. Edwards, chmn. bldg. com.

Denver, Col.—Tentative plans being prepared for extensive improvements at Park Ave. Hospital contemplated by Denver Homeopathic College and Hospital Assoc.

Seattle, Wash.—Tentative plans prepared for two high schools to cost $275,000 each and grade schools in Latona, Seward, Whitworth, Columbia, Dunlap and Interbay Dists., costing about $75,000 each. Election will probably be held in December to vote $1,000,000 bonds. N. Eckstein, pres. school board.

Spokane, Wash. — Reported Hanauer Building is to be remodeled and enlarged, to cost about $60,000. Fred Jones of F. B. Grinnell Co., Terminal Building, may be able to give information.

Tacoma, Wash.—Plans being prepared for terminal to be erected here for Chicago, Milwaukee & St. Paul Ry. Co. (C. F. Loweth, ch. engr., Chicago).

Budget for School Dist. No. 10, providing $75,281 for alterations and repairs, $8,750 for equipment and $75,000 for erecting gymnasium for Stadium High School approved. Heath & Gove, archts., National Realty Bldg.

Enterprise, Ore.—Contract soon to be let by Tourtellotte & Hummel, Rothchild Bldg., Portland, for 3-story, brick business block to be erected at Main and W. First St. for L. W. Riley; cost about $65,000.

Los Angeles, Cal.—Local Missionary Society of Methodist Episcopal Church (C. E. Sweet, supt.), 255 East Seventh St., plans erecting $150,000 institutional church on East Seventh St.

Ingersoll, Ont.—School Bd. plans erecting school to cost $75,000.

London, Ont.—Contract soon to be let by Pub. Utilities Comn. (E. V. Buchanan, genl. mgr.), for erecting 4-story, 55 x 90-ft. office and store building; estimate cost, $75,000.

BIDS DESIRED.

Springfield, Mass.—Until Oct. 23 (read advertisement), by Com. on City Property (Giles Blague, chmn.), Administration Bldg., for erecting school on Franklin St., to be known as Hooker School, S. M. Green Co., archts., 293 Bridge St., Springfield.

Cobleskill, N. Y.—Until Oct. 27 by Hon. D. D. Frisbie, pres. bd. trust. Agricultural Hall, State and Lodge Sts., Albany, for erecting heating, plumbing and electric work in dairy building at Schoharie State School of Agriculture, advertised in this issue. Lewis F. Pilcher, state archt., Capitol, Albany.

Garfield, N. J.—Until Nov. 2 by Bd. Educ. (Eugene Hill, dist. clk., 140 Passaic Ave.), for erecting 2-story and basement brick, terra cotta, stone and concrete school on northerly side of Outwater Lane. John F. Kelly, archt., Passaic.

Washington, D. C.—Until Nov. 15 by Jas. A. Wetmore, acting superv. archt., Washington, D. C., for installing electric passenger elevators in U. S. Post Offices at Elkins, W. Va., Newport, R. I., and Tuscaloosa, Ala.

Franklin, Va.—Until Nov. 22, by James A. Wetmore, acting superv. archt., Treasury Dept., Washington, D. C., for constructing U. S. Post Office.

Briggsdale, O.—Until Nov. 6, by R. L. Senter, clk. bd. educ., for erecting school in Franklin township, Rural Dist. Bassett & Tresselt, archts., Central National Bldg., Columbus.

Portsmouth, Ohio.—Later official reports state until Oct. 28 by Wm. C. Hazlebeck, clk. bd. educ. for erecting school. Probable cost, $60,000. Ritter & Bates, archts., 46 First National Bank Bldg.

South Newburgh (P. O. Cleveland), Ohio.—Until Nov. 4, by H. M. Bohning, clk. bd. educ., for erecting brick grade school on Hathaway Road. W. H. Nicklas, archt., Euclid Bldg., Cleveland.

Wellsville, O.—Until Nov. 3 by Bd. Educ. (E. H. Eckfeld, clk.), for erecting fireproof high and graded school. Howard & Merriam, archts. East Broad St., Columbus.

Auburn, Ind.—Until Oct. 26 by Bd. Educ. (S. E. Van Fleet, secy.), for erecting 2-story, basement, 80 x 202 ft. high school. Probable cost $75,000. A. H. Ellwood & Son, archt., Elkhart.

Sullivan, Ind.—Until Oct. 28, by Bd. Co. Trustees (Ortha L. Springer, secy.), for erecting county hospital.

Beaman, Ia.—Until Nov. 13 by E. G. Elliott, secy. bd. educ., for erecting grade and high school. Separate bids for heating, plumbing, and electric wiring, etc. Reimer & Herlin, archts., Marshalltown.

Iowa City, Ia.—Reported desired until Oct. 18 by city for erecting three schools, about $85,000, $75,000 and $50,000. J. L. Lockhart, archt., 120 W. Washington St.

Battle Lake, Minn.—Until Oct. 26 by State Bd. Control, Capitol, St. Paul, for erecting nurses' home in connection with tuberculosis sanitorium for Ottertail Co. Sund & Dunham, archts., Essex Bldg., Minneapolis.

Hibbing, Minn.—Until Nov. 21 by D. D. McEachin, secy., water, light, power and bldg. comn., for erecting a municipal power station and also for complete steam-driven electric power plant equipment. Charles L. Pillsbury Co., engrs., Metropolitan Life Bldg., Minneapolis.

Thief River Falls, Minn.—Until Oct. 26 by State Bd. Control, Capitol, St. Paul, for erecting tuberculosis sanitorium for Marshall, Roseau and Pennington counties. Sund & Dunham, archts., Essex Bldg., Minneapolis.

Neodesha, Kan.—Until Oct. 30, by J. J. Carroll, city clk., for erecting a power house. Black & Veatch, engrs., Interstate Bldg., Kansas City, Mo.

Kansas City, Mo.—Until Nov. 10 by Bd. Pub. Wks. (J. Pearce Kane, secy.) for constructing southwest wing of the General Hospital; also installing heating, plumbing, etc. Fred C. Gunn, archt., Republic Bldg., Kansas City.

Velasco, Tex.—Until Nov. 15 at Treas. Dept. U. S. Coast Guard, Washington, D. C., for constructing a coast guard station, and accessories, at Velasco, advertised in this issue.

Yoakum, Tex.—Until Nov. 20, by James A. Wetmore, acting superv. archt., Treasury Dept., Washington, D. C., for constructing U. S. Post Office.

Grants Pass, Ore.—Until Nov. 2 by E. L. Coburn, co. clk., for erecting court house. E. E. McClaren, archt., Lumber Exchange Bldg., Portland.

Fresno, Cal.—Until Nov. 8, by Bd. Superv. (D. M. Barnwell, clk.), for erecting two-story and basement 158 x 83 ft. brick and concrete addition to county hospital; probable cost $50,000. Glass & Butner, archts., Fresno.

Kingman, Ariz.—Until Nov. 20 by Bd. Educ. Mojave Co. School Dist. for erecting two-story, 120 x 60 ft. high school. Alternate bids will be taken for reinforced concrete, brick or native stone construction. Marsh & Howard, archts., 214 Broadway Central Bldg., Los Angeles.

Twin Falls, Idaho. — Until Dec. 6 by Jas. A. Wetmore, acting superv. archt., Washington, D. C., for erecting U. S. Post Office at Twin Falls.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Dixville Notch, N. H.**—Contract awarded H. P. Cummings Constr. Co., Ware, Mass., for erecting fireproof hotel for Dixville Notch Corp.

New York, N. Y.—Lowest bid opened Oct. 16 by C. B. J. Snyder, supt. school bldgs., Manhattan, for alterations and fire protection work at Pub. School 109, Boro. Manhattan, submitted by C. L. Dooley, Inc., 257 Adelphi St., Brooklyn, at $32,835.

★**Baltimore, Md.**—Contract awarded John J. Moylan, 117 E. Center St., for erecting 3-story brick parochial school at Maryland Ave. and 29th St. for St. Phillips and St. James Roman Catholic Church; cost about $60,000.

★**Memphis, Tenn.**—Contract awarded J. E. Hollingsworth & Co., 308 Scimitar Bldg., for erecting addition to Goodwyn Institute Bldg., Madison Ave. and Third St., at $109,585.

★**Louisville, Ky.**—Contract awarded Alfred Struck Co., Louisville, for erecting Baptist Women's Missionary Union Training School Building at Preston St. and B'way; cost, about $150,000. Brinton B. Davis, archt., Inter-Southern Bldg.

★**Ashland, Ohio.** — Contract awarded Westchester Eng. Co., White Plains, N. Y., for erecting U. S. Post Office at $91,250.

★**Cincinnati, O.**—Contracts awarded by Gustav Drach, archt., 1701 Union Trust Bldg., for erecting north wing of $1,000,000 Good Samaritan Hospital, include following: Carpentry, Wm. Miller & Son, 2023 Elm St.; brick, August Hitsman, 2614 Spring Grove Ave.; tile, Cassini Mosaic & Tile Co., 1027 Bway.; iron, Potthodd Constr. Co., Front and Harriett Sts.

Flint, Mich.—Following are lowest bids opened Oct. 12, by A. J. Wildanger, secy. bd. trus., Union School Dist., for erecting Dort School: General construction, Clark & Rogers, Flint, $68,865; heating, T. J. Henderson, Jr., Flint, $16,350; plumbing, Edwin Slener Co., Flint, $7,323.

Moline, Ill.—See "Reinforced Concrete."

★**Oshkosh, Wis.**—Contracts for erecting State Normal School (bids opened Oct. 10) awarded as follows: General contract, J. P. Cullen Constr. Co., Janesville, $118,452; heating and ventilating, Downey Heating & Supply Co., Milwaukee, $10,066; plumbing, American Heating Co., Superior, $6,984; tile and marble, Wisconsin Mantle & Tile Co., Milwaukee, $8,870.

★**Austin, Tex.**—Contract for erecting school for State School for the Deaf awarded Trinity Constr. Co., Dallas, at $55,392, and plumbing to John L. Martin, Austin, at $3,948. Kuehne, Chasay & Giesecke, archts., Austin.

★**Beaumont, Tex.**—Contract for erecting Pollard School awarded McBride & Law, Beaumont, at $52,123; heating and plumbing to C. C. Hartwell, New Orleans, at $9,791.

New York, N. Y.—Following are unit figures of the four lowest bids opened Oct. 6 by Pub. Service Comn. for First Dist., 120 Bway., for station finish of Route No. 43, Sects. 1 and 2, Route Nos. 4 and 38; Sects. 5, 6 and 6A, of the Seventh Ave.-Lexington Ave. Rapid Transit RR., Manhattan Boro.: (a) Louis Wechsler, 1133 Bway., $382,521; (b) D. C. Serber, Inc., 1123 Bway., $401,600; (c) Seventh Ave. Constr. Co., 277 Bway., $402,542; (d) I. J. Stander & Co., Inc., 118 E. Twenty-eighth St., $403,255.

Item	(a)	(b)	(c)	(d)
6—1500 cu. yd. concrete masonry, Sect. 219..	$9.80	$13.60	$10.00	$13.38
14—1200 cu. yd. broken stone, Sect. 219.....	1.80	2.50	3.00	0.55
17—300 lin. ft. vitr. pipe (d), 6 in., Sect. 219..	0.75	0.45	0.50	0.20
230 lin. ft. virt. pipe (e), 6 in., Sec. 219...	0.60	0.35	0.40	0.12
18—11,600 duct. ft. tunnel ducts, Sect. 219....	0.16	0.14	0.22	0.13
20—31 tons steel shapes erected, Sect. 219....	117.00	137.50	150.00	133.00
20A—300 per hole, drilling holes in steel, Sect. 219	0.32	0.33	0.30	0.30
21—7 tons reinforcement steel, Sect. 219.....	130.00	83.00	90.00	82.50
501—25,800 sq. ft. tile w. g. 3 x 6 in. (a) straight				
160 sq. ft. tile w. g. 3 x 6 in. (b), 1 in. rad. comb.	0.61	0.64	0.61	0.63
1135 sq. ft. tile w. g. 3 x 6 in. (c), 2½ in. rad. comb.	1.25	1.08	0.98	1.08
90 sq. ft. tile w. g. 3 x 6 in. (d), 20 in. rad. comb.....	1.35	1.51	1.44	1.50
502—66,700 sq. ft. tile w. g. 4¼ x 4¼ in. (a), straight	1.20	1.00	0.89	0.98
85 sq. ft. tile w. g. 4¼ x 4¼ in. (b), 1 in. rad. comb.....	0.61	0.64	0.61	0.63
2800 sq. ft. tile w. g. 4¼ x 4¼ in. (c), 2½ in. rad. comb.....	1.50	1.00	0.90	0.99
340 sq. ft. tile w. g. 4¼ x 4¼ in. (d), 20 in. rad. comb.....	1.30	1.55	1.47	1.51
503—36,600 sq. ft. tile w. g. 6 x 6 in. (a), str'ght	1.20	0.95	0.85	0.94
200 sq. ft. tile w. g. 6 x 6 in. (b), 1 in. rad. comb.	0.62	0.65	0.62	0.64
4490 sq. ft. tile w. g. 6 x 6 in. (c) 2½ in. rad. comb.....	1.10	0.80	0.72	0.79
70 sq. ft. tile w. g. 6 x 6 in. (d), 20 in. rad. comb.	0.80	1.51	1.44	1.50
509—230 lin. ft. tile bead (a), 1 in. rad.....	1.10	0.95	0.85	0.94
510—525 sq. ft. tile. col. semi-vit. (b.m.) (a), straight	0.35	0.22	0.20	0.22
	1.05	1.04	0.99	1.03

New York, N. Y.—Station finish of Seventh Avenue-Lexington Avenue Rapid Transit RR. (Continued).

511—6575 sq. ft. tile w. p. semi-vit. (b.m.) (a), Straight	1.05	1.04	0.99	1.03
20 sq. ft. tile w. p. semi-vit. (b), 1 in. rad. comb.	1.035	1.45	1.35	1.44
140 sq. ft. tile w. p. semi-vit. (c), 2½ in. rad. comb	1.50	2.12	1.92	2.12
20 sq. ft. tile w. p. semi-vit. (d), 20 in. rad. comb.	1.45	1.50	1.25	1.50
513—14,270 sq. ft. Mosaic and tile bands col.	1.38	1.43	1.30	1.40
514—1520 sq. ft. Mosaic and tile tablets	1.67	1.82	1.65	1.80
515—320 plaques, Mos. and tile col. (a), walls, each	2.00	2.00	1.80	2.00
290 plaques, Mos. and tile col. (b), columns, each	2.00	2.00	1.80	2.00
516—265 sq. ft. Mosaic and tile tablets col. (destination)	2.00	1.82	1.65	1.80
518—180 sq. ft. faience (a), plaques	8.40	8.65	7.87	8.60
521—31,900 sq. yd. plastering arches (b), concrete	0.50	0.46	0.55	0.46
522—4730 sq. yd. plastering flats (a), brick or h. t.	0.70	0.66	0.40	0.66
16,000 sq. yd. plastering flats, (b), concrete	0.50	0.46	0.60	0.46
90 sq. yd. plastering flats (c), metal lath	0.80	0.76	0.60	0.77
523—22,900 sq. ft. cement work (a), wainscots	0.11	0.16	0.08	0.13
208,760 sq. ft. cement work (c), 3-in. floor finish	0.1175	0.12	0.125	0.12
14,400 sq. ft. cement work (d), finish on concrete brick or h. t.	0.11	0.08	0.06	0.08
85 sq. ft. cement work (e), sign panels	0.35	0.14	0.15	0.40
2760 sq. ft. cement work (f), 1 in. floor finish	0.08	0.07	0.08	0.065
524—800 cu. ft. concrete work (a), copings	1.00	1.85	1.00	1.83
5 cu. yd. concrete work (b), foundations	9.00	9.00	7.50	8.80
85 cu. ft. concrete work (c), reinforced	0.70	0.88	0.50	0.88
740 cu. ft. concrete work (d), protective	1.00	1.10	0.40	1.07
400 cu. ft. concrete work (e), street landings	0.30	0.40	0.25	0.37
1440 sq. ft. concrete work (f), tooling and rubbing	0.15	0.30	0.30	0.32
525—30 cu. yd. cinder fill	1.25	0.75	0.55	1.36
526—3820 lin. ft. tr. concrete stairs (a), self-supporting stairs	1.12	1.32	1.25	1.10
11,270 lin. ft. tr. concrete stairs (c), supported stairs	0.84	0.79	0.60	0.78
5000 sq. ft. concrete stairs, (d), supported landings	0.45	0.36	0.40	0.36
8800 sq. ft. concrete stairs (f), non-slip treads	0.95	0.89	0.75	0.96
3150 lin. ft. concrete stairs (g), cement bases	0.14	0.25	0.20	0.25
930 lin. ft concrete stairs (h), cement finish exposed stairs	0.14	0.27	0.12	0.26
500 sq. ft. concrete stairs (l), cement finish street landings	0.14	0.15	0.10	0.15
527—10,180 cu. ft. brick masonry (c), common	0.52	0.49	0.78	0.52
528—65 cu. ft. hollow tile (a), 2 in.	1.00	0.88	0.98	0.77
17,000 cu. ft. hollow tile (b), 3 in.	0.58	0.54	0.85	0.54
7450 cu. ft. hollow tile (c), 4 in.	0.50	0.43	0.74	0.42
20 lin. ft. hollow tile (d), 4½ x 13 in. flue	0.40	0.50	0.50	0.50
920 cu. ft. hollow tile (e), 6 in.	0.40	0.45	0.44	0.34
528A—1500 weep holes h. t. walls (ea.)	0.20	0.13	0.15	0.12
528B—615 strap anchors (ea.)	0.20	0.23	0.18	0.25
529—35 sq. yd. metal lath (a), without furring	0.80	0.75	0.50	0.75
90 sq. yd. metal lath (b), with furring	2.00	2.00	1.00	2.00
530—4 ticket booths (b), type "B" (ea.)	980.00	1,000.00	1,010.00	1,082.00
17 ticket booths (e), type "E" (ea.)	1,000.00	1,150.00	1,025.00	1,200.00
1 ticket booth (g), type "G" (ea.)	525.00	500.00	600.00	536.00
1 ticket booth (n), special type (ea.)	1,000.00	1,200.00	1,010.00	1,252.00
1 ticket booth (r), type "K-K" (ea.)	750.00	770.00	800.00	850.00
532—4 doors (a), type "A" (ea.)	80.00	97.00	90.00	100.00
7 doors (b), type "B" (per pair)	145.00	145.00	150.00	135.00
66 doors (d), type "D" (ea.)	80.00	76.00	90.00	76.00
3 doors (e), type "E" (ea.)	80.00	68.00	90.00	70.00
52 doors (f), type "G" (per pair)	76.00	45.00	88.00	48.00
4 doors (g), type "J" (ea.)	80.00	90.00	78.00	55.00
200 sq. ft. doors (h), type "K"	6.70	4.40	6.00	4.00
4 doors (i), type "Q" (ea.)	40.00	35.00	37.00	110.00
38 sq. ft. doors (l), type "L"	7.25	9.00	6.50	8.80
8 doors (m), type "M" (ea.)	80.00	71.00	90.00	75.00
4 doors (o), type "P" (ea.)	40.00	28.00	55.00	31.00
70 sq. ft. (r), sliding doors, elevator shafts	4.50	1.70	5.00	2.20
533—855 sq. ft. windows (a), double hung	4.50	4.50	4.00	4.45
30 sq. ft. windows (g), hinged	4.50	3.60	4.00	3.65
534—22 hardware additional (a), door checks (ea.)	4.00	5.00	4.55	4.45
75 hardware additional (b), door stops (ea.)	2.50	3.00	3.10	2.90
14 hardware additional (c), rubber-covered chains (ea.)	1.65	2.00	1.45	1.90
22 hardware additional (d), push plates (ea.)	2.80	3.50	3.30	3.20
22 hardware additional (e), door pulls (ea.)	4.00	4.50	4.60	4.15
22 hardware additional (f), kick plates (pair)	11.00	12.00	11.50	11.50
536—1175 lin. ft. railings (a), type "FJ," incl. posts	3.90	3.73	3.50	3.85
2290 sq. ft. railings (c), type "GJ," incl. posts	0.51	0.60	0.50	0.66
80 lin. ft. railings (e), type "LJ," incl. posts	3.85	3.84	3.75	4.10
1820 sq. ft. railings (f), type "BJ" incl. posts	0.75	0.65	0.75	0.66
360 lin. ft. railings (g), pipe	2.15	1.68	2.00	2.00
100 lin. ft. railings (i), type "NJ"	3.75	4.55	3.50	4.75
536A—1150 sq. ft. wooden fences	0.25	0.12	0.29	0.22
537—185 lin. ft. gates (a), low sliding gates	9.00	9.40	8.67	11.00
10 lin. ft. gates (b), high sliding gates	13.00	13.50	12.26	15.40
34 lin. ft. gates (c), folding sliding gates	5.00	9.00	4.26	11.00
8 lin. ft. gates (d), swing	10.00	4.85	9.17	6.00
11 gates (e), exit turnstiles (ea.)	190.00	222.00	178.00	245.00
19 gates (f), single gate controls (ea.)	24.00	22.00	22.00	27.50
1 gate (g), double gate controls (ea.)	33.00	39.00	30.00	38.00
9 gates (h), c. i. floor boxes (ea.)	8.00	7.70	7.50	10.00
110 lin. ft. gates (1), 1¼ in. gal. w. i. pipe	0.35	0.33	0.32	0.48
475 lin. ft. (m), 1 in. D steel tubing	0.60	0.55	0.55	0.66
32 gates (p), c. i. gate posts, etc. (per gate open)	54.00	61.00	50.00	82.00
2 gates (r), steel gate posts (per gate open)	30.00	34.00	27.00	42.00
538—600 sq. ft. grilles (b), c. i. vent grilles	2.25	2.55	2.16	2.75
539—2 c. i. vent posts (ea.)	165.00	111.00	150.00	120.00
540—32 brackets, frames, etc. (c) frames illuminated signs (ea.)	70.00	116.50	65.00	135.00
16 sq. ft. brackets, frames, etc. (d), frames enam. sign on low rail	2.25	2.35	2.00	2.75
185 sq. ft. brackets, frames, etc. (e), frames enam. in (high-low grills)	2.20	2.35	2.00	2.75
230 lin. ft. brackets, frames, etc. (f) enameled reflector and frame	2.20	2.20	2.00	2.45
1350 sq. ft. brackets, frames, etc. (g), enameled sign plates	0.54	0.55	0.50	0.65
210 sq. ft. brackets, frames, etc. (k), frames enam. direction signs	1.60	1.76	1.50	2.00
542—710 lin. ft. street railings (b), type "K"	8.50	8.15	7.40	8.75
542A—6800 sq. ft. sheet-metal work (a), metal ceilings	0.22	0.41	0.09	0.44
543—120 lin. ft. tread steel ladders (a), steel ladders bet. stations	1.85	2.25	1.80	2.35
60 sq. ft. steel ladders (b), heel ladder platforms	1.70	1.41	1.39	1.50
4330 steel ladders (e), steel shapes—lintels (per lb.)	0.06	0.05	0.55	0.05
2540 steel ladders (f), miscel. shapes, except Sect. 219), (per lb.)	0.075	0.07	0.65	0.065
36 steel ladders (g), ladders track-floor to platform (ea.)	10.75	11.50	9.50	13.00
543A—2000 miscel. iron castings (per lb.)	0.075	0.08	0.07	0.085
544—3870 lin. ft. oak hand rails	0.66	0.61	0.67	0.65
546—10,280 lin. ft. platform edge construction (d), wooden facia	0.22	0.22	0.22	0.25
12,090 platform edge construction (e) drilling holes in angle (per hole)	0.28	0.20	0.25	0.24
547—rough plumbing (a), six stations (lump sum)	7,300.00	9,120.00	11,300.00	7,800.00
548—52 plumbing fixtures (a), water-closet bowls (ea.)	45.00	52.00	43.50	47.00
29 plumbing fixtures (b), lavatories (ea.)	35.00	37.00	42.00	35.50
28 plumbing fixtures (d), urinals (ea.)	85.00	87.00	87.25	85.00
11 plumbing fixtures (g), hop sinks (ea.)	70.00	73.00	74.50	71.50
47 plumbing fixtures (h), floor drains (ea.)	15.00	13.20	24.00	15.00
549—500 lin. ft. 1-in. supply pipe to enclosure	0.35	0.28	0.25	0.28
550—1020 sq. ft. structural glass (aa), ¾ in. wainscoting	1.60	1.71	1.45	1.67
2300 sq. ft. structural glass (b), ¾ in. pipe ch. partition	1.85	1.82	1.65	1.78
620 sq. ft. structural glass (c), ¾ in. shelves	1.65	1.71	1.50	1.67
1220 sq. ft. structural glass (d), ¾ in. stall partition	1.95	1.93	1.75	1.90
140 sq. ft. structural glass (e), 1 in. floor slab	3.50	3.30	3.00	3.30
410 lin. ft. structural glass (f), curved corners and angles	1.60	1.65	1.45	1.65
551—120 cast-iron work (a), posts (ea.)	9.00	13.20	8.50	14.00
380 lin. ft. cast-iron work (b) top rails	1.20	1.38	1.10	1.60
38 cast-iron work (d), register faces and frames (ea.)	10.00	11.00	9.00	13.00
8 cast-iron work (e), c. i. vent louvres (ea.)	14.00	13.20	11.00	15.00
552—12,800 steel supporting shapes (per lb.)	0.10	0.075	0.08	0.07
554—6800 lin. ft. conduits, w. i. (a), ¾ in.	0.16	0.17	0.15	0.18
2850 lin. ft. conduits, w. i. (b), 1 in.	0.20	0.19	0.17	0.20
5570 lin. ft. conduits, w. i. (c), 1½ in.	0.26	0.26	0.23	0.26
2150 lin. ft. conduits, w. i. (d), 2 in.	0.37	0.41	0.36	0.42
300 lin. ft. conduits, w. i. (e), 2½ in.	0.50	0.52	0.46	0.53
300 lin. ft. conduits, w. i. (f), 3 in.	0.60	0.68	0.46	0.66
1175 lin. ft. conduits, w. i. (g), ¾ in. flexible	0.17	0.16	0.16	0.18
554A—45 special conduit fittings (ea.)	0.86	0.95	0.95	0.93
555—100 c. i. outlet boxes (ea.)	0.50	0.45	0.42	0.46
556—12 c. i. pull boxes (a), 6 x 6 x 6 in. (ea.)	2.20	1.60	1.40	1.54
7 c. i. pull boxes (b), 12 x 12 x 6 in. (ea.)	5.00	4.40	4.20	4.40
11 c. i. pull boxes (e), 12 x 6 x 4 in. (ea.)	8.35	8.00	7.50	8.00
86 c. i. pull boxes (f), 6 x 6 x 4 in. (ea.)	1.40	1.40	1.35	1.38
17 c. i. pull boxes (h), 4 x 4 x 4 in. (ea.)	0.90	0.80	0.78	0.80
557—37 c. i. heater boxes (ea.)	12.25	10.00	10.00	11.00
558—11 heel panel-board boxes (h), 25 x 6 x 49 in. to 60 in. (ea.)	19.00	21.00	20.00	21.00
1 steel panel-board box (i), 25 x 6 x 37 in. to 48 in. (ea.)	15.00	20.00	19.00	19.50
6 steel panel-board boxes (j), 50 x 6 x 49 in. to 60 in. (ea.)	33.50	33.00	32.00	33.00
2 steel panel-board boxes (k), 20¼ x 30 x 6 in. (ea.)	13.25	12.00	11.80	11.80
561—44,800 sq. ft. painting (a), 2-coat work, iron and steel	0.02	0.025	0.02	0.025
114,100 sq. ft. painting (b), 3-coat work, iron and steel	0.0275	0.03	0.0275	0.03
474,000 sq. ft. painting (c), 2-coat work, plaster and cement panels	0.0175	0.0175	0.02	0.0225
4630 painting (d), letters and numerals (ea.)	0.05	0.12	0.10	0.12
601H—Hollow metal portion of elevator shaft inclosures, Sect. 116 (lump sum)	4,600.00	3,400.00	6,207.00	4,050.00
601J—Constructing wooden stairways, Sect. 219 (a), s. side 42d st. e. of Park Ave.	867.30	1,500.00	1,446.00	800.00
(b), n. side 42d st. w. of Lexington Ave.	550.20	1,300.00	1,910.00	550.00

★**Alameda, Cal.**—Contract awarded by Bd. Educ. to Carnahan & Mulford, San Francisco, for erecting first unit of Lincoln School at $65,900.

★**Louisville, Que.**—Contract awarded J. Coutune, 17 St. Joseph St., Levis, Que., for erecting steel, stone and terra cotta parish church; cost $175,000.

★**St. Norbert Du Cap Chat, Que.**—Contract awarded J. Collin, Riviere Du Loup, Que., for erecting church and sacristy, to cost $65,000.

Haileybury, Ont.—See "Structural Steel Work."

Toronto, Ont.—See "Reinforced Concrete."

★**Calgary, Alta.**—Contract awarded A. G. Creelman & Co., 23 Crown Blk., for erecting brick, stone and steel drill hall; cost $100,000.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Bingham, Me.—Central Maine Power Co., Augusta, planning constructing dam at Bingham on the Kennebec River to act as reservoir and assist in controlling the river. Power which is developed will be distributed by means of transmission lines.

Providence, R. I.—Contract will soon be let by the Water Supply Board, F. E. Winsor, ch. engr., for river diversion work to include constructing a concrete conduit about 500 ft. long, 25 ft. wide and 21 ft. high in rock foundation, together with approach channels and other appurtenant work for diverting flow of Pawtuxet River across site of main dam of Scituate reservoir during time dam is under construction. Work is located near river two miles above Hope, near Kent.

Wilmington, Del.—Chamber of Commerce engaging engineer to prepare plans for new river-front about three miles long. Also to widen Delaware Ave. from Tilden to Van Buren St., a distance of about seven blocks.

Savannah, Ga.—Drainage committee decided to extend Casey Canal to Savannah River to prevent the accumulation of water on east side of city. E. R. Conant, city engr.

Ashland, Wis.—Chicago & Northwestern R. R. Co. (W. H. Finley, ch. engr., Chicago), planning constructing a third ore dock of 5000 tons capacity and power plant; cost about $2,000,000.

Superior, Wis.—The Great Northern Railroad (A. H. Hogeland, ch. engr., St. Paul, Minn.) planning spending about $1,000,000 in rebuilding Allouez Ore Dock No. 3, with modern concrete and steel structure, also enlarging the Balknap St. shops.

Beaumont, Tex.—O. A. Seward, Jr., preparing plans for constructing units 3 and 4 of wharf system, water system and shed construction. Estimated cost $230,000.

Harlingen, Tex. — See "Excavation, Drainage and Dredging."

Seattle, Wash.—Galbraith-Bacon Co.'s dock (C. H. Bacon, secy.), pier 12, foot of Wall St., recently destroyed by fire, at loss of $120,000, will be rebuilt on larger scale at once.

Llano, Cal.—Llano Del Rio Co., Higgins Bldg., Los Angeles, has applied to State Water Comn. for permission to appropriate 300 sec. ft. of waters of Big Rock Creek, Antelope Valley; plans to construct a dam 110 ft. high and 900 ft. long at top, 200 ft. at bottom and 50 ft. wide at top, costing about $90,000, and pipe line about 2 miles long, costing $40,000.

San Bernardino, Cal.—No bids opened Oct. 9 by Bd. Co. Supervs. for constructing pile and timber bulkhead along 1.6 miles of Santa Ana River, near Colton. Will probably call for new bids next spring.

Victorville, Cal.—Oak Springs Water Co. has applied to State Water Comn. for permission to appropriate waters of Oak Srings and contemplates constructing clay and rock dam 50 ft. high, 160 ft. at top, and 20 ft. at bottom, pipe line 6½ miles long. Wm. H. Hunt, Victorville, has applied for permission to appropriate 300 sec. ft. of waters of Dee Creek and West Fork of Mojave River for use of proposed Mojave Irrigation Dist., which contemplates constructing monolithic gravity concrete dam impounding 100,000 acres and canals 30 miles long to supply 50,000 acres.

Prescott, Ariz.—The Hydraulic Power Co., in which Edw. Meek of Phoenix is reported interested, has been organized and plans constructing diversion dam at point 23 miles below Camp Verde, water to be carried by ditch to power plant, distance of about 4 miles.

BIDS DESIRED.

Fort Andrews, Mass.—Until Oct. 24, by Constructing Quartermaster, Fort Warren, for repairing wharf at Fort Andrews.

Longport, N. J.—Until Oct. 26, by Town Clk., for constructing 6000 ft. sea wall. Cost about $300,000. Advertised in this issue.

Sabine Pass, Tex.—Until Nov. 14 at U. S. Engineer's Office, Dallas, for jetty work at Sabine Pass, advertised in this issue.

Barstow, Cal. — Until Oct. 30, Bd. Supervs. (L. R. Patty, clk.), for constructing protection work along the Mojave River and for repairs and additions to bridge at Barstow crossing in the said Mojave River.

Woodruff, Ariz.—Until Oct. 25, by Bd. Dir. Woodruff Irrigation Co. (Q. R. Gardner, pres.), for constructing a dam across Silver Creek, 4 miles south of Woodruff.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Boston, Mass. — Following are bids opened Oct. 13 by Park and Recreation Dept. (John N. Dillon, chmn.), for constructing seawall at Savin Hill: Hugh Nawn Contr. Co., Roxbury, at $102,890; Coleman Bros., Chelsea, at $116,550; Michael Meehan, Jamaica, at $222,880. Appropriation $149,000.

★**Millers Falls, Mass.**—Contract awarded H. P. Cummings Constr. Co., Ware, for constructing concrete head gate walls and also concrete canal walls for the Millers Falls Co., Millers Falls.

★**Augusta, Ga.**—Contract awarded E. W. Hancock, Augusta, at $36,860, by River and Canal Comn. (Nisbet Wingfield, ch. engr.), for constructing reinforced concrete bulkhead and steel gates for water control across Butlers Creek. (Bids opened Oct. 10.)

★**Superior, Wis.** — Contract awarded Foley Bros., St. Paul, at $250,000, for enlarging the Soo Line dock.

★**Hamlin, Tex.**—Contract awarded W. E. Henderson, Sweetwater, at $31,400, by Loo Randals, city secy., for constructing concrete dam across California Creek for city water supply.

★**San Diego, Cal.**—Contract awarded to H. G. Fenton, 705 Central Mortage Bldg., at $18,000, for constructing stilling pool dam, 15 x 250 ft., below Sweetwater Water Co.'s dam, parapet on dam, paving water surface of dam, and oiling back slope.

★**St. John, N. B.**—Contract awarded Engineers and Contractors, Ltd., Moncton, by Dept. Rys. & Canals (J. W. Pugsley, secy.), for foundations for proposed grain elevator at St. John. (Bids opened Sept. 18.)

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Trenton, N. J.—U. S. War Dept. has granted an additional $150,000 to complete eastern half of the new channel approaching the municipal basin in Delaware River. Fred W. Donnelly, mayor.

Williamsport, Pa.—All bids opened Oct. 4 by Co. Comrs. for constructing a dyke and excavating channel of Lycoming Creek, Rossina branch, rejected.

Senatobia, Miss. — Hickahaly Creek Drainage Dist. organized contemplates constructing drainage system and reclaiming 16,000 acres of land; estimated cost $100,000.

Memphis, Tenn.—Ferree & McCleskey, have been engaged to prepare plans for constructing Mud Creek District in Haywood County, to consist of 8 miles of ditches; estimated cost $12,000.

Sidney, Ohio. — Ditch improvement bonds for $36,100 will be sold Oct. 24 by Geo. P. Staley, co. aud.

Rockwell City, Iowa.—Drainage system for 206,600 acres of land in Sac, Calhoun, Pocahontas and other counties contemplated. Estimated cost $800,000. S. F. Moeller, engr., Rockwell City.

Anoka, Minn.—Bonds have been voted for county ditches; estimated cost main ditch, branches and culverts, $23,791. Address County Clerk.

Litchfield, Minn.—Comrs. Meeker and Kandiyohi Counties contemplate constructing judicial ditch to empty into Crow River; cost, $206,026. Address County Clerk, Litchfield.

Perry, Ark.—In report submitted by Parkes Eng. Co., Pine Bluffs, on preliminary surveys of draining cypress brake north of Perry; cost for draining lake, constructing levee and flood gate along Arkansas River to prevent river overflowing is estimated at $40,000.

Galveston, Tex.—Col. Henry C. Newcomer, asst. ch. bd. army engrs., Washington, D. C., states that $50,000 will be spent in deepening, dredging and maintaining Bolivar channel.

Harlingen, Tex.—No bids opened for constructing locks and canals in Cameron County Irrigation Dist. No. 1. Address Bd. Dir. of the Dist.

Raton, N. M.—The Cimarron Valley Co., Raton, reported contemplates constructing Eagle Nest dam in Cimarron Valley, to be of solid concrete, 110 ft. high.

Seattle, Wash. — Previous report on White-Stuck and Puyallup River Improvement an error. W. J. Robert, ch. engr. Inter-County River Improv. (King and Pierce Counties), Tacoma, informs us that this improvement is being carried on at the rate of $250,000 per annum, payment being made jointly by King and Pierce Counties; total appropriation for the entire improvement being $1,500,000, spread over a period of six years. Work now under construction about three years and is about half finished.

Prineville, Ore.—R. W. Rea, engr., Ochoco Irrigation Dist., completed surveys for reservoir site and plans and surveys have been filed with State Engr. Work embraces about 35,000 acres.

Fullerton, Cal.—Reported M. B. Kellogg, Kite St., San Diego, has completed plans for re-establishing Newbert Protection to Dist., including constructing protective wings between P. E. Bridge and Newbert channel; cost, about $12,000.

Herald, Cal.—Consumers Irrigation District (E. Walker, mgr.), Sacramento, now being organized, contemplate irrigating 40,000 acres in 1918.

Santa Ana, Cal.—Olive West Orange Protection Dist. (Fred. H. H. Sykes, dir.) voted $31,000 bonds for constructing levee along east bank of Santa Ana River, a distance of about 7 miles.

Turlock, Cal.—The Turlock Irrigation Dist. contemplates repairing canals and replacing wooden structures with concrete at an estimated cost of $162,500. R. V. Meikle, engr., Turlock.

Salt Lake City, Utah.—Utah Copper Co., Salt Lake City, contemplates constructing canal 7 miles long to connect with surplus canal which carries waste water from the Jordan River.

Boise, Idaho—U. S. Reclamation Service has allotted $700,000 for the maintenance and operation of the Boise project for coming year. D. W. Cole, engr. Pacific Coast Div., and project mgr., Boise.

BIDS DESIRED.

Norfolk, Va.—Until Nov. 14 at U. S. Engineer's office, Norfolk, for dredging in Inland Waterway from Norfolk, Va., to Beaufort Inlet, N. C., advertised in this issue.

Elizabeth, N. J.—Until Oct. 24, by Union Co. Mosquito Extermination Comn. (R. W. Gies, chief inspec.), for excavating machinery.

Trenton, N. J.—Until Oct. 27, by E. I. Edwards, comptr., State House, Trenton, for filling in lands in the rear of the State Capitol, in all about 12,000 cu. yd., advertised in this issue.

Erie, Pa.—Until Nov. 3, by City Council, for grading Parade St. under tracks of N. Y. Central & Penn. RR., in all about 16,800 cu. yd. earth excav. and 3000 cu. yd. rock excav., advertised in this issue. Faulkner G. Lynch, city engr.

Roaring Branch, Pa.—Until Oct. 25, by Co. Comrs., Williamsport (J. G. Durrwachter, chmn.), for constructing dike and excavating channel of Lycoming Creek.

Tiffin, O.—Reported desired until Nov. 4 for earth and rock excavation and for constructing a concrete retaining wall. Address J. I. Oberlander, co. surv.

Plymouth, Ind.—Reported desired until Nov. 4 by Arthur W. Thompson, co. surv., for constructing Serephine Schub. ditch, requiring 28,035 cu. yd. excav., 32,280 lin. ft. 10 to 24-in. tile, etc.

Winamac, Ind.—Until Oct. 28 by Co. Surv., for constructing main ditch 21,038 ft. long, to consist of 8930 ft. of 8 to 16-in. tile, and branches 1 and 2, 11,314 ft. 8 to 20-in. tile; to include bulkheads, catch basins, etc.

Quincy, Ill.—Until Nov. 11 by Comrs. Indian Grove Drainage Dist. for ditching about 1,154,000 cu. yd. W. P. Bushnell, engr., Quincy.

Hampton, Ia.—Until Oct. 26, by Frank McSpaden, co. aud., for constructing Drainage Dists. 45 and 47; Dist. 45, Sect. 1, to consist of main drain (6725 ft.), of 6 to 28 in. tile; Sect. 2, 3, 4 (14,145 ft.), of 6 to 12 in. tile; Dist. 47, Sect. 1, main drain 2950 ft., 6 to 12 in. tile. Sects. 2 and 3 (6800 ft.), of 6 to 8 in. tile. G. H. Mack, engr.

Anoka, Minn.—Until Oct. 25, by Co. Aud. for constructing Ditch No. 57, consisting of main ditch 9 miles long, 218,124 cu. yd. and branches 1 and 2—1½ miles long, 13,946 cu. yd. Total cost, $23,692.

Terra Bella, Cal.—Until Nov. 13, by Terra Bella Irrig. Dist. (Earl R. Clemens, secy.), for constructing irrigation system, consisting of 16 wells and well pumping plants, centrifugal pumps, and 40 miles of 4 to 30-in. pipe lines, etc. Cost of first unit $500,000; later the remainder of $1,000,000 bonds will be expended for additions. Stephen E. Kieffer, engr., 57 Post St., San Francisco.

Boise, Idaho.—Until Nov. 2, W. W. Nusbaum, secy. Canyon Co. Drainage Dist No. 1, in Canyon and Gem Counties, for open and closed tile drain work, consisting of 14-mile open canal, 2-mile tile drains, 8 and 18-in. diam.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Albany, N. Y. — Following are bids opened Oct. 10, by W. W. Wotherspoon, supt. pub. wks.:

Contract 59, constructing canal from west end of Contract 23-A east of Genesee River to east end of Contract 21-A west of Genesee River; constructing Rochester harbor between the Barge canal crossing at Genesee Valley Park to point of about 400 ft. south of proposed dam in vicinity of Court St. bridge. (Engineer's estimate $1,675,253.) (Three bids only.) MacArthur Bros., 11 Pine St., N. Y. City, $1,596,789; Maryland Dredg. & Contr. Co., Baltimore, $1,664,316; Larkin & Sangster, Buffalo, $1,833,862.

Contract No. 81, constructing junction locks at Rome. (Engineer's estimate $61,236.) (Four lowest bids): Chesley, Earl & Heimbach, Inc., Buffalo, $53,998; Scott Bros., Rome, $54,317; Hydraulic Constr. Co., Watertown, $57,906; Chas. Keihm, Utica, $59,766.

Contract No. 137, driving steel sheet piling on Sect. 3, Erie Canal, at Dam No. 10, Canajoharie, and other incidental work. (Engineer's estimate $25,333.) J. A. La Porte, Mechanicsville, $22,650; A. A. Parker, Waterford, $22,981; H. S. Kerbaugh, Inc., Buffalo, $23,823; E. Brown Baker, Herkimer, $26,503.

Contract No. 91-A, providing for furnishing and installing new governor equipment for the hydroelectric power plant on Erie Canal near east end of Crescent Dam. (Engineer's estimate $6,310.) Two bids only.) Lord Constr. Co., 105 W. Fortieth St., N. Y. City, $5,930; Lupfer & Remick, Buffalo, $6,605.

Terminal Contract No. 201, for constructing terminal warehouses at Albany and Whitehall. (Engineer's estimate $43,800.) (Only one bid.) Peter Keeler Bldg. Co., Albany, Albany Terminal, $41,017, and Whitehall Terminal, $25,689.

★**Dunkirk, N. Y.**—Contract awarded O. E. Dunbar, Buffalo, at $50,258, by Maj. L. V. Frazier, corps engrs., U. S. A., Buffalo, for dredging the entrance to Dunkirk harbor, to include excavation of about 50,000 cu. yd. rock and other material.

★**Sioux City, Iowa.**—Contract awarded by E. E. Hosmer, co. aud., to Canal Constr Co., 189 W. Madison St., Chicago, for constructing Smithland ditch to consist of three cutoffs, combined open tile drainage system of 17,035 ft. 10 to 18-in. tile and 13,153 cu. yd. excav.

★**Morris, Minn.**—Contract awarded Morris Constr. Co., Morris, at $11,353, by C. R. Wolthan, co. aud., for tile work for Ditch No. 25. (Bids opened Sept. 30.)

★**Ft. Laramie, Wyo.**—Contract awarded by U. S. Reclamation Service to Winston Bros., Minneapolis, at $270,061 for Sch. 1 to 7 inclusive, for earthwork and structures, Sta. 1280 to 2280, Ft. Laramie Canal, North Platte Project, including excav. about 1,856,000 cu. yd. material and placing 1450 cu. yd. concrete. Work is located in vicinity of Torrington and Lingle. (Bids opened Sept. 28.)

★**St. Ignatius, Mont.**—Contract awarded Pearson Const. Co., 754 New York Blk., Seattle, at $38,236 for earthwork and structures on the Flathead irrigation project, in all about 125,000 cu. yd. excav., 10,100 sq. ft. canal lining, 2400 lin. ft. concrete pipe (bids opened Sept. 20), by U. S. Reclamation Service, St. Ignatius.

★**Los Angeles, Cal.**—Contract awarded T. J. Shea, 2039 Oxford Ave., at $31,525 by Dominguez Estate Co., 807 Title Insurance Bldg., for constructing drainage canal 21,000 ft. long to drain Nigger Slough near Dominguez Junction on Los Angeles & San Pedro line of Pacific Electric Ry., requiring 130,000 cu. yd. dry excav., 17,000 cu. yd. wet excav., 400 ft. of 5-ft. reinforced concrete pipe, etc. (Bids opened Oct. 3.)

★**Newark, Cal.**—Contract awarded Peter H. Hoare, Hayward, for 200,000 yd. levee and laying out ditches and salt ponds for the Arden Salt Wks. at Dumbarton Harbor, near Newark.

TUNNELS AND SUBWAYS

PROPOSED WORK.

Salt Lake City, Utah.—Columbus-Rexall Mining Co. reported contemplating extending tunnel along the Cardiff-Rexall side line in Little Cottonwood Dist.

Preston, Ont.—C. S. McKenzie, city engr., has been engaged to prepare plans for constructing subway and bridge; cost $50,000.

MISCELLANEOUS

PROPOSED WORK.

Hydroelectric Plant—Rutland, Vt.—Addison Electric Power Co., recently incorporated with a capital of $500,000 for purpose of constructing electric power station, generating 1700 hp., on Leicester River. I. M. Frost interested.

Transmission Line—Clarence, N. Y.—Depew & Lancaster Light, Power & Conduit Co., Lancaster, applied to Pub. Serv. Comn. for permission to construct transmission lines in the towns of Clarence and East Hamburg.

Transmission Line—Cohoes, N. Y.—Cohoes Gas Light Co. has applied to the Pub. Serv. Comn. for permission to erect electric transmission line along Erie Canal between cities of Cohoes, Watervleit and Green Island.

Transmission Line—Hornell, N. Y.—Hornell Electric Co. contemplates erecting electric transmission lines to Arkport and Canaserga to supply electricity in those towns.

Transmission Line—Boyerstown, Pa.—Boyerstown Gas & Electric Co., Boyerstown, contemplates extending its transmission line to south shore of Brown's Lake.

★**Houston, Tex.**—Following are unit figures of three lowest bids opened by City Council Sept. 29 for constructing municipal wharves Nos. 2 and 3: (a) Horton & Horton, Houston, $189,224 (awarded contract); (b) Jas. Stewart & Co., Houston, $196,225, and (c) C. W. Moore, Texas City, $221,571.

	*(a)	(b)	(c)
For all work covered by plans from 1 to 7 inclusive (lump sum)	$161,892.00	$172,530.00	$195,220.00
40,000 cu. yd. excavation	0.35	0.26	0.375
1,000 lin. ft. vertical timber piling untreated	0.25	0.24	0.1583
1,000 lin. ft. inclined or batter piling untreated	0.30	0.28	0.1916
30 M ft. untreated timber sheet piling, 30 to 36 ft. long, per M ft.	55.00	50.00	37.50
20 M ft. untreated timber sheet piling, 28 to 24 ft. long, per M ft.	40.00	44.00	35.50
10 M ft. untreated timber sheet piling, 22 to 16 ft. long, per M ft.	40.00	43.00	34.50
1 M ft. dimension timbers for fender system and wharf logs, per M ft.	60.00	50.00	38.00
100 cu. yd. concrete I	6.00	6.45	5.81
200 cu. yd. concrete II	6.50	6.50	6.31
100 cu. yd. concrete III	7.00	7.60	7.02
100 cu. yd. concrete VI	7.50	6.90	7.23
40,000 lb. reinforc. steel	0.05	0.04	0.045
5,000 sq. ft. form surf. for all concrete	0.10	0.14	0.075
2 mooring cavels (ea.)	20.00	18.00	20.00
1,000 lb. tie rods	0.06	0.07	0.045
50 bolt inserts with bolt comp. (ea.)	1.50	0.50	0.30
100 cu. yd. trenching	1.50	1.00	0.18
100 lin. ft. 24-in. vitr. pipe	1.65	1.70	1.35
20 lin. ft. 15-in. vitr. pipe	0.90	0.80	0.65
30 lin. ft. 8-in. vitr. pipe	0.40	0.60	0.30
2 standard single inlets (ea.)	26.00	25.00	20.00
500 lb. nails, spikes, bolts, nuts and washers	0.10	0.07	0.05
2,000 man-hours labor, skilled, per man-hour	0.75	0.85	0.60
4,000 man-hours labor, unskilled, per man-hour	0.30	0.32	0.30
1,000 team-hours teams, per team-hour	0.70	0.75	0.60

Boston, Mass.—All bids opened Oct. 9 by Edw. F. Murphy, comr. pub. wks., for dredging, filling, sewerage works, grading, etc., for Strandway and Old Harbor Improvement, South Boston, rejected and following are the unit figures of the four lowest bids received: (a) Coleman Bros., Chelsea, $828,264; (b) Rowe Constr. Co., Brighton, $851,760; (c) West Roxbury Trap Rock Co., West Roxbury, $873,826; (d) Hugh Nawn Constr. Co., 82 Savin St., Roxbury, $891,356.

	(a)	(b)	(c)	(d)
1,170,000 cu. yd. fill	$0.34	$0.39	$0.35	$0.39
1,650 lin. ft. wooden bulkhead	15.00	15.50	35.00	17.00
38,000 cu. yd. loam furnished in place	1.50	1.25	0.75	1.75
3,200 cu. yd. earth excav.	0.50	0.60	0.20	1.50
290,000 sq. yd. playground (subgrade)	0.10	0.10	0.20	0.05
72,000 sq. yd. subgrading roadway	0.10	0.10	0.20	0.10
1,600 lin. ft. edgestones reset	0.25	0.25	0.25	0.25
3,600 sq. yd. granite blocks hauled and laid	0.50	1.50	0.75	0.90
38,000 sq. yd. paved roadways	0.60	0.90	0.75	0.80
34,000 sq. yd. crushed stone sidewalk	0.30	0.40	0.30	0.50
420 lin. ft. 2 ft. x 3 ft. concrete conduit	10.00	15.00	10.00	15.00
285 lin. ft. 8 ft. x 8 ft. concrete conduit	60.00	30.00	40.00	57.50
615 lin. ft. 8 ft. x 8 ft. concrete conduit	65.00	60.00	46.00	58.00
615 lin. ft. 108 in. reinforced concrete pipe	60.00	55.00	60.00	48.00
328 lin. ft. 10 ft. 3⅞ in. x 6 ft. 3 in. concrete conduit	65.00	50.00	50.00	62.00
328 lin. ft. 96 in. reinforced concrete conduit	60.00	50.00	60.00	45.00
120 lin. ft. 6 ft. 6 in. concrete conduit remodeled	25.00	10.00	23.00	50.00
245 lin. ft. 6 ft. 6 in. x 6 ft. 6 in. concrete conduit	45.00	42.00	38.00	49.00
245 lin. ft. 84 in. reinforced concrete pipe	45.00	40.00	50.00	37.50
428 lin. ft. 60 in. c. i. pipe condult	40.00	30.00	50.00	50.00
428 lin. ft. 60 in. reinforced concrete pipe	45.00	25.00	50.00	29.00
428 lin. ft. 4 ft. 6 in. x 5 ft. monolithic concrete outlet	50.00	28.00	37.00	49.00
536 lin. ft. 60 in. c. i. pipe outlet, laid double line	69.00	60.00	70.00	102.00
536 lin. ft. 60 in. r. i. c. pipe laid double line	70.00	58.00	70.00	54.00
536 lin. ft. 4 ft. 6 in. x 5 ft. monolithic concrete outlet	70.00	56.00	45.00	60.00
500 lin. ft. 60 in. c. i. pipe laid triple line	98.00	85.00	90.00	154.00
500 lin. ft. 60 in. rein. conc. pipe laid triple line	90.00	80.00	90.00	82.00
500 lin. ft. 60 in. monolithic concrete pipe laid triple line	85.00	81.00	61.00	75.00
8,600 lin. ft. 10 in. to 18 in. surface drains	2.00	1.50	1.50	1.50
1 reinforced conc. gate chamber at Kemp St. overflow	5,000.00	1,400.00	6,000.00	5,490.00
1 reinforced conc. gate chamber at Valve St. overflow	4,000.00	1,200.00	5,000.00	3,450.00
1 concrete and brick weir chamber H St. overflow	1,500.00	400.00	3,200.00	1,015.00
5 manholes on conduits and surface drain main	200.00	100.00	100.00	100.00
30 manholes on 2 ft. x 3 ft. conduit	75.00	60.00	100.00	100.00
6 flanged openings for 60 in. pipe	50.00	75.00	100.00	100.00
60 catch basins	50.00	45.00	100.00	100.00
20,000 lin. ft. spruce piles	0.40	0.25	0.30	0.40
900 cu. yd. Class A concrete	10.00	9.00	9.00	15.00
Discount on single strength pipe on $4,500	0.70%	0.60%	0.70%	0.50%
Discount on double strength pipe on $6,400	0.60%	0.60%	0.60%	0.50%
1,900 lin. ft. fencing	1.80	2.00	2.00	2.00
Moving shelters	100.00	250.00	500.00	1,000.00
425 cords manure	5.00	6.00	10.00	10.00
13,200 tons stone ballast	2.00	2.46	2.00	2.50

Cement—Asheville, N. C. — Contract soon to be let for furnishing 1500 bbl. Portland cement. Address Hardy Lee, city purchas. agt.

Transmission Line—Tiffin, O.—The Ohio Light & Power Co. contemplates contemplates constructing steel tower, high-tension transmission line to supply electricity to Amsden, Kansas Station, Bettsville and Burgoon. Branch line will also be constructed to Helena, Gibonsburg and Millersville.

Transmission Line—Urbanna, Ohio.—Plans being prepared by the Northwestern Ohio Light Co., Urbana, for transmission line to Westfield.

Incinerator—Chicago, Ill.—Election to be held Nov. 7 to vote $425,000 for incinerator on Goose Island; $150,000 for incinerator at Fifteenth and Loomis Sts.; $195,000 for completion of Ninety-fifth St. incinerator, and $968,000 for completion of Thirty-ninth St. reduction plant; also beach and playground bonds for $2,450,000.

Transmission Line—Elkader, Iowa—Schmidt Bros. & Co., of Elkader, are considering plans for extension of their transmission lines from this city to St. Olaf and Farmersburg.

Transmission Line—Hastings, Minn.—Hastings Electric Light & Power Co. (H. Pritchard, pres.), contemplates improvements to its distribution and transmission lines.

Transmission Line—St. Cloud, Minn.—St. Cloud Public Service Co. considering constructing a transmission line from St. Cloud to Buffalo, taking in Clear Lake, Becker, Big Lake and other cities.

Transmission Line—Norfolk, Neb.—Nebraska Gas & Electric Co. (W. G. Ross, genl. mgr., 505 Karbach Bldg., Omaha), contemplates extending electric transmission line a distance of 10 miles.

Transmission Line — Trenton, Mo.—Trenton Gas & Electric Co. will construct a transmission line, 22,000-volt, to Spickard, Galt, Milan and Jamesport, total length about 75 miles.

Incinerator—Ballinger, Tex.—City is considering constructing an incinerator plant. Address E. R. Walker, city health officer.

Incinerator—Brady, Tex. — Contract soon to be let for constructing incinerator plant. Address F. Y. Jackson, city secy.

Incinerator—Crockett, Tex.—City is interested in constructing incinerator plant. Address Mayor.

Hydroelectric Plant—Oklahoma, Okla.—Plans being prepared by Blue River Power Co. for constructing hydroelectric plant, work to begin in the spring.

Piling—Olive, Cal.—Contract will be let in January for about six miles of piling with necessary wings, barbed wire, etc.; cost $31,000 J. L. McBride, engr., Santa Ana.

Bucket Dredge—Vallejo, Cal.—Only bid opened Aug. 12 by Bureau Yards and Docks, Navy Department, Washington, D. C., for a gravity swing bucket dredge for Navy Yard at Mare Island submitted by Union Iron Works, San Francisco, at $45,000, rejected.

Incinerator—Sarnia, Ont.—City contemplates constructing an incinerator; cost $35,000. John Baird, city engr.

BIDS DESIRED.

Park Improvements—Trenton, N. J.—Until Oct. 27, by E. I. Edwards, comptr., State House, Trenton, for grading, laying pipes, building paths, etc., in State House Park, advertised in this issue.

Removal of Wreck—Norfolk, Va.—Until Oct. 28 at U. S. Engineer's Office, for removal of the steel whaleback barge Ivie, sunk in Hampton Roads, Va., advertised in this issue.

Cement—Fresno, Cal.—Until Nov. 6, by Bd. Superv. (D. M. Barnwell, clk.), for furnishing 1890 bbl. Portland cement, f.o.b. Fowler.

Electric Transmission Line—Weaverville, Cal.—Until Jan. 4 by Co. Comrs. for a 50-year franchise to erect and maintain electric transmission lines over the roads and highways of Trinity Co.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Transmission Line—St. Albans, Vt.**—Contract awarded Geo. A. Murch, Old Orchard, Me., by Public Service Light Co., St. Albans, for erecting a transmission line from Fairfax Falls to Milton. When this line is completed a line will be erected to Cambridge and Jeffersonville.

★**Fire Escapes—Willard, N. Y.**—Contract awarded Wander Iron Wks., 508 E. 117th St., N. Y. City, by State Hospital Comn., Albany, for constructing fire escapes at Willard State Hospital. (Bids opened Sept. 21.)

Proposals

For Proposals Advertised See Pages 43, 44 and 45.

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.		See Eng. Record.
Oct. 23.	Fairview, N. J. Adv. Oct. 7, 14.	Oct. 7
Oct. 23.	Philipsburg, Pa. Adv. Oct. 7.	Oct. 7
Oct. 24.	Toledo, Ohio	Oct. 14
Oct. 27.	West Haverstraw, N. Y.	Oct. 14
Oct. 27.	Cobleskill, N. Y. Adv. Oct. 21.	Oct. 21
Oct. 28.	Portsmouth, O.	Oct. 21
Oct. 28.	Iowa City, Ia.	Oct. 21
Oct. 28.	Sullivan, Ind.	Oct. 21
Oct. 30.	Burlington, N. C.	Sep. 23
Oct. 30.	Ridgewood, N. J.	Sep. 30
Oct. 30.	Neodesha, Kan.	Oct. 21
Oct. 31.	Woodbury, N. J.	Sep. 30
Oct. 31.	Potsdam, N. Y. Adv. Oct. 7 and 21.	Oct. 7
Nov. 1.	Hartford, Conn.	Sep. 30
Nov. 1.	Mishawaka, Ind.	Sep. 30
Nov. 1.	Cincinnati, Ohio	Oct. 7
Nov. 1.	Wellsburg, Ohio	Oct. 14
Nov. 1.	Murfreesboro, Tenn.	Oct. 21
Nov. 2.	Garfield, N. J.	Oct. 21
Nov. 2.	Grants Pass, Ore.	Oct. 21
Nov. 3.	Wellsville, O.	Oct. 21
Nov. 4.	South Newburgh (P. O. Cleveland), O.	Oct. 21
Nov. 6.	Briggsdale, O.	Oct. 21
Nov. 8.	Fresno, Cal.	Oct. 21
Nov. 10.	Wenatchee, Wash.	Oct. 7
Nov. 10.	Kansas City, Mo.	Oct. 21
Nov. 12.	St. Cloud, Minn.	Sep. 30
Nov. 13.	Birmingham, Ala.	Sep. 23
Nov. 13.	Beaman, Ia.	Oct. 21
Nov. 14.	Media, Pa.	Oct. 7
Dec. 15.	Tucson, Ariz.	Oct. 14
Nov. 15.	Velasco, Tex. Adv. Oct. 21.	Oct. 21
Nov. 15.	Washington, D. C.	Oct. 21
Nov. 20.	Yoakum, Tex.	Oct. 21
Nov. 20.	Kingman, Ariz.	Oct. 21
Nov. 21.	Rockville, Conn. Adv. Oct. 7, 14.	Oct. 7
Nov. 21.	Hibbing, Minn.	Oct. 21
Nov. 22.	Franklin, Va.	Oct. 21
Nov. 27.	East Orange, N. J.	Oct. 7
Dec. 6.	Twin Falls, Idaho	Oct. 21
Jan. 1.	Webster, S. D.	Sep. 16

FOUNDATIONS, PIERS AND DAMS.

Bids Close.		See Eng. Record.
Oct. 24.	Ft. Andrews, Mass.	Oct. 21
Oct. 25.	Woodruff, Ariz.	Oct. 21
Oct. 26.	Longport, N. J.	Oct. 21
Oct. 30.	San Bernardino, Cal.	Oct. 14
Oct. 30.	Wheeling, W. Va. Adv. Oct. 14.	Oct. 14
Oct. 31.	Washington, D. C. Adv. Oct. 7 to 21.	Oct. 7
Nov. 14.	Sabine, Tex.	Oct. 21

EXCAVATION, DREDGING AND DRAINAGE.

Bids Close.		See Eng. Record.
Oct. 23.	Providence, R. I. Adv. Sep. 30 to Oct. 21.	Sep. 30
Oct. 24.	Elizabeth, N. J.	Oct. 21
Oct. 25.	Dresden, Tenn.	Oct. 14
Oct. 25.	Anoka, Minn.	Oct. 21
Oct. 25.	Roaring Branch, Pa.	Oct. 21
Oct. 26.	Lancaster, Ohio	Oct. 7
Oct. 26.	Hampton, Ia.	Oct. 21
Oct. 27.	Trenton, N. J. Adv. Oct. 21.	Oct. 21
Oct. 28.	Winamac, Ind.	Oct. 21
Oct. 30.	St. Louis, Mo. Adv. Oct. 7, 21.	Oct. 7
Oct. 30.	Barstow, Cal.	Oct. 21
Oct. 31.	Tallahassee, Fla. Adv. Sep. 30, Oct. 7.	Sep. 30
Nov. 2.	Emmett, Idaho Adv. Sep. 30 to Oct. 14.	Sep. 30
Nov. 2.	Boise, Idaho	Oct. 21
Nov. 4.	Plymouth, Ind.	Oct. 21
Nov. 4.	Tiffin, O.	Oct. 21
Nov. 9.	Philadelphia, Pa. Adv. Oct. 7, 21.	Oct. 7
Nov. 9.	Philadelphia, Pa. Adv. Oct. 7, 21.	Oct. 14
Nov. 11.	Quincy, Ill.	Oct. 21
Nov. 13.	Terra Bella, Cal.	Oct. 21
Nov. 14.	Norfolk, Va. Adv. Oct. 21.	Oct. 21
Nov. 15.	Jacksonville, Fla.	Oct. 21

TUNNELS AND SUBWAYS.

Bids Close.		See Eng. Record.
Nov. 2.	Philadelphia, Pa. Adv. Oct. 7, 14.	Oct. 7
Dec. 7.	Philadelphia, Pa. Adv. Oct. 14, 21.	Oct. 14
———	Litchfield, Conn. Adv. Oct. 7.	Oct. 7

MISCELLANEOUS.

Bids Close.		See Eng. Record.
Oct. 23.	Race track and grand stand, Syracuse, N. Y. Adv. Oct. 14.	Oct. 14
Oct. 24.	Electric lift, Washington, D. C. Adv. Oct. 14.	Oct. 14
Oct. 25.	Electric traveling crane, Seattle, Wash.	Oct. 14
Oct. 26.	Street Lighting, Pocatello, Idaho	Oct. 21
Oct. 27.	Park Improvements, Trenton, N. J.	Oct. 21
Oct. 28.	Cranes, New York, N.Y.	Sep. 30
Oct. 28.	Removal of Wreck, Norfolk, Va. Adv. Oct. 21.	Oct. 21
Nov. 1.	Mail Lift, Miami, Fla.	Oct. 7
Nov. 2.	Portland cement, Galveston, Tex.	Oct. 14
Nov. 6.	Lock gates, Louisville, Ky. Adv. Oct. 14, 21.	Oct. 14
Nov. 6.	Cement, Fresno, Cal.	Oct. 21
Nov. 11.	Crane, Pearl Harbor, T. H.	Sep. 30
Nov. 11.	Crane, Vallejo, Cal.	Sep. 30
Dec. 6.	Grade Crossings, Portland, Ore. Adv. Sep. 30 to Oct. 21.	Sep. 30
Jan. 4.	Weaverville, Cal.	Oct. 21
Oct. 24.	Philadelphia, Pa.	Oct. 14
Oct. 24.	New York, N. Y.	Oct. 21
Oct. 25.	Panama	Oct. 14
Oct. 25.	Batavia, N. Y.	Oct. 14
Oct. 25.	Miami, Tex.	Oct. 21
Oct. 26.	Atlantic City, N. J. Adv. Oct. 21.	Oct. 21
Oct. 27.	Indianapolis, Ind.	Oct. 7
Oct. 27.	Kansas City, Mo.	Oct. 21
Oct. 27.	Union, N. J. Adv. Oct. 21.	Oct. 21
Oct. 27.	Alliance, O.	Oct. 21
Oct. 27.	Crystal Lake, Minn.	Oct. 21
Oct. 30.	Front Royal, Va. Adv. Sep. 30 to Oct. 21.	Sep. 30
Oct. 30.	Panama	Oct. 7
Oct. 30.	Wickenburg, Ariz.	Oct. 14
Oct. 30.	York, Ont.	Oct. 21
Oct. 30.	Zanesville, O. Adv. Oct. 14.	Oct. 14
Oct. 31.	Durham, N. C. Adv. Oct. 21.	Oct. 21
Oct. 31.	Hartford, Conn. Adv. Oct. 21.	Oct. 21
Nov. 1.	Lansing, Mich. Adv. Oct. 14.	Oct. 14
Nov. 2.	Newark, N. J.	Oct. 21
Nov. 6.	Brainard, Minn.	Oct. 21
Nov. 6.	Gaylord, Minn.	Oct. 21
Dec. 1.	St. Cloud, Fla. Adv. Oct. 21.	Oct. 21
———	Granite City, Ill. Adv. Sep. 30.	Sep. 30
———	Chateauguay Basin, Que. Adv. Oct. 14.	Oct. 14
———	Buitenzorg, Java, Dutch East Indies Adv. Oct. 14.	Oct. 14

STRUCTURAL STEEL WORK

Bids Close.		See Eng. Record.
Oct. 23.	Plymouth, Mich. Adv. Oct. 14, 21.	Oct. 14
Oct. 24.	Rahway, N. J.	Oct. 21
Oct. 27.	Wilburton, Okla.	Oct. 21
Oct. 28.	Philadelphia, Pa.	Oct. 7
Oct. 28.	Franklin, Vt.	Oct. 21
Oct. 30.	Otsego, Mich.	Oct. 21
Oct. 31.	Trenton, N. J.	Oct. 21
Nov. 2.	Washington, D. C. Adv. Oct. 14.	Oct. 14
Nov. 4.	Dayton, Ohio	Oct. 14
Nov. 9.	Bakersfield, Cal.	Oct. 21
Jan. 1.	Mitchell, S. D.	Oct. 7

REINFORCED CONCRETE.

Bids Close.		See Eng. Record.
Oct. 24.	Rolfe, Iowa	Sep. 30
Oct. 24.	Elizabeth, N. J.	Oct. 21
Oct. 26.	Philadelphia, Pa.	Oct. 21
Oct. 26.	Tulsa, Okla.	Oct. 21
Oct. 27.	Visalia, Cal.	Oct. 21
Oct. 30.	Topeka, Kan.	Oct. 14
Nov. 1.	Kansas City, Mo.	Oct. 14
Nov. 9.	Tecumseh, Okla.	Oct. 21
Nov. 9.	San Luis Obispo, Cal.	Oct. 21
Nov. 10.	Independence, Iowa	Oct. 14
Dec. 1.	Knoxville, Tenn. Adv. Oct. 14.	Oct. 14

ROADS AND PAVING.

Bids Close.		See Eng. Record.
Oct. 24.	Washington, D. C. Adv. Oct. 14.	Oct. 14
Oct. 24.	Williamstown, Mass.	Oct. 21
Oct. 24.	Oklahoma, Okla.	Oct. 21
Oct. 24.	Bayonne, N. J.	Oct. 21
Oct. 24.	New York, N. Y.	Oct. 21
Oct. 24.	Kansas City, Mo.	Oct. 21
Oct. 25.	Indiana	Sep. 16
Oct. 25.	Baltimore, Md.	Oct. 21
Oct. 25.	Indiana.	Oct. 21
Oct. 26.	Albany, N. Y. Adv. Oct. 7 to Oct. 21.	Oct. 7
Oct. 26.	Brazil, Ind.	Oct. 14
Oct. 26.	Brooklyn, N. Y.	Oct. 21
Oct. 26.	Pocatello, Idaho Adv. Oct. 21.	Oct. 21
Oct. 25.	Illinois.	Oct. 21
Oct. 26.	Indiana.	Oct. 21
Oct. 28.	Philadelphia, Pa.	Oct. 7
Oct. 28.	Atlanta, Ga.	Oct. 14
Oct. 28.	Ventura, Cal.	Oct. 21
Oct. 29.	Greensburg, Pa.	Oct. 7
Oct. 29.	Wellsburg, W. Va.	Oct. 14
Oct. 30.	Texarkana, Ark. Adv. Sep. 30 to Oct. 21.	Sep. 30
Oct. 30.	Natchitoches, La.	Oct. 7
Oct. 31.	Wilmington, Del Adv. Oct. 14.	Oct. 14
Oct. 31.	Waverly, Ia.	Oct. 21
Nov. 1.	Birmingham, Ala.	Oct. 14
Nov. 2.	Newark, N. J.	Oct. 21
Nov. 4.	Iuka, Miss.	Oct. 21
Nov. 8.	Indiana.	Oct. 21
Nov. 9.	Indiana.	Oct. 21
Nov. 10.	Arcadia, Fla.	Oct. 14
Nov. 11.	Logan, W. Va. Adv. Oct. 21.	Oct. 14

RAILWAYS

Bids Close.		See Eng. Record.
Dec. 6.	Portland, Ore. Adv. Sep. 30 to Oct. 14.	Sep. 23

INDUSTRIAL PLANTS AND WAREHOUSES.

Bids Close.		See Eng. Record.
Oct. 25.	Cleveland, O.	Oct. 21

BUILDINGS.

Public and Private.

Bids Close.		See Eng. Record.
Oct. 24.	Valley Junction, Iowa	Sep. 30
Oct. 24.	Santo Domingo, D. R.	Sep. 30
Oct. 25.	Ypsilanti, Mich.	Oct. 7
Oct. 26.	Joplin, Mo.	Oct. 14
Oct. 26.	Thief River Falls, Minn.	Oct. 21
Oct. 26.	Battle Lake, Minn.	Oct. 21
Oct. 26.	Auburn, Ind.	Oct. 21
Oct. 27.	Portsmouth, Ohio	Oct. 14

Where Will Prices Stop?

Inflation of World's Currency Supply by Paper and Silver Issues, Sending Great Quantity of Gold Here, Responsible for Continued Rise

PRICES on almost everything used in construction, especially labor, have continued to rise until a situation exists of which many are becoming wary. What is back of this rise and the condition likely to end it may not be understood by those who set it down to general prosperity and let it go at that. The need by European governments of funds to carry on the war, causing the doubling and tripling of national debts and the issuing of paper and silver currency to replace gold, has brought about a depreciation of such currency in nearly every European country but England. Aside from this, the purchasing power of gold itself in this country is less because of the oversupply to which we have been treated. The commodity price index taken by the London *Economist* has advanced 70 per cent and more in two years, and a similar index for this country shows an advance exceeding 50 per cent. Labor to-day may receive a higher figure than formerly, but labor is not so much the richer because money is now worth a great deal less in terms of the necessaries of life. As long as price advances continue, agitation for higher wages will go on. Thus we see advancing wages accompanied by industrial unrest.

If currency has generally depreciated and European credit become overstrained by the time peace is declared, Europe may be unable to buy heavily with us, even if our products were needed. As has been pointed out in these columns, this would result in reversing the heavy flow of gold to this country, cut down our home purchasing power and cut prices, or enhance the value of money, just as you choose to state it. Prices would no longer support high wages, and a general leveling and readjustment might be expected. That business men are coming to expect something of the sort is shown by comparing the result of a census taken by a well-known statistical organization last June with those of one taken early this month. Then 60 per cent of the business men who gave opinions expected prosperity to continue at least for a time after peace was declared. Now less than one-third look for any extensive activity after the war, while 70 per cent expect depression in some form, either temporary or continued. Economists seem to incline to the majority vote of the last census.

It is evident, if the cause of high wages and material prices is the depreciation of money values, and that if a readjustment after the war should reduce prices and raise the value of money, that money in some liquid form will be the best asset of a contractor, as of any other business man. Though none in touch with the situation agree on the probable duration of the war, many agree that the wisest course at present is to keep collections well in hand and keep a sharp eye on developments.

Waterworks and Sewerage Systems

Reports state that the original plans and specifications for rebuilding the Tanner Creek sewer have been adopted at Portland, Ore., and that the contract for the $287,000 job will be let soon. San Rafael, Cal., has sold about $3,000,000 worth of bonds for a municipal water system and Santa Barbara is considering building a concrete reservoir costing about $85,000. A $55,000 expenditure is contemplated at Clifton, Ariz., and a $50,000 sewage-disposal plant will be built this winter by Boone, Iowa. At St. Paul plans are being revised for a reservoir, the total cost of which will approximate $400,000. Bids are desired at Aurora, Ill., on reservoir construction. Bogalusa, La., has sold $228,500 bonds for a waterworks system. In Ohio the following cities contemplate waterworks or sewer construction: Wooster, $73,000 waterworks; Salem, $71,000 improvements; Cleveland, $2,000,000 disposal and purification plant; Columbus, $450,000 sewer bonds sold. Sewer bonds totaling $245,000 will be sold by Harrison, N. J., Nov. 9, Syracuse, N. Y., has sold $258,500 sewer bonds, and at Fredonia, N. Y., a $100,000 disposal plant is contemplated.

Roads and Paving

Bids are desired on road work by the following cities: Atlantic City, N. J., 287,475 sq. yd. of paving, together with 35,000 cu. yd. of gravel and about 5000 sq. yd. of concrete gutters; Newark for bitulithic brick, asphalt and wood-block paving; De Land, Fla., for constructing improved highways; Grenada, Miss., for 85 miles of road; Des Moines, Iowa, for 29,000 sq. yd. paving. Bids are also desired at Cincinnati for about $100,000 road improvement, and at Jennings, La., for $400,000 road. Bids will be opened Nov. 8 at Ventura, Cal., for 11 miles of concrete pavement. A $200,000 bond issue will be voted on Nov. 7 at Paducah, Ky., and the commissioners at Atlantic City, N. J., contemplate road resurfacing costing about $700,000.

St. Louis may build a new highway at an estimated cost of $1,277,000, while commissioners of Ellisville, Miss., will ask approval of $450,000 road bonds. A $100,000 paving job is contemplated at Hastings, Neb., and at Minneola, Tex., a $150,000 bond issue has been voted. Jobs involving expenditure of more than $100,000 each are also proposed in Washington and California. Bonds voted in Kentucky are noted in detail in this issue, as is proposed highway work in Arkansas.

Buildings and Miscellaneous

Bids are desired on two large buildings in Newark, N. J., and on a $250,000 factory at Passaic. Proposed structures in New York City include a $450,000 loft building. A $300,000 school is planned in Pittsburgh and a $175,000 building in New Hampton, N. Y. A $350,000 contract for parts of a $1,000,000 school in Cincinnati will be let Nov. 16. A soap factory to be erected in Chicago will cost $200,000, and a college building in Billings, Mont., $300,000. Bids are desired on a $220,000 city hall at Pueblo, Col.

Applications for bridges approved by the Pennsylvania commissions are noted in this issue. Mention is made of a newly incorporated railroad in Washington and of a proposed 120-mile track construction by the Kewanee & Eastern Railway. A 65-mile railroad is contemplated at Crescent City, Cal.

Election to be held in December will decide whether Duval County, Fla., will issue $1,200,000 bridge bonds, and at Jacksonville $300,000 drainage bonds will be sold Nov. 1. A $300,000 steel bridge is contemplated at Harrisburg, Pa. Bids are desired at Bemidji, Minn., on ditch construction, at New Orleans for level construction, and at Auburn, Neb., for channel work. Bonds totaling $480,000 will be offered for sale Nov. 21 at Beaumont, Tex. In California, application has been made for permission to build a hydroelectric plant on Mill Creek, and Long Beach has voted $200,000 bonds for harbor improvement.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Lynn, Mass.—Harrison P. Eddy, Boston, and Chas. B. Breed, Lynn, reported engaged to supervise the collection of data for system of sewerage and surface water drainage for Lynn.

Fredonia, N. Y.—Construction of sewage disposal plant contemplated by city; cost about $100,000. Address City Clerk.

Glens Falls, N. Y.—Reported Glen Falls Chamber Commerce applied to Conservation Commission for permission to construct reservoir on Sacandaga River at Conklingville and one on Schroon River. The building of these reservoirs would necessitate the changing of route of 40 miles highways and 8 miles railroad.

Mt. Vernon, N. Y.—City is considering purchasing plant of New York-Interurban Water Co. Louis L. Tribus, engr., 86 Warren St., New York City. Address City Clerk.

Syracuse, N. Y.—City sold $258,500 sewer bonds. Address H. A. Allen, city engr.

Carlstadt, N. J.—Hackensack Water Co. (L. W. French, supt., Weehawken) will lay 24-in. water main from Hackensack into and through Carlstadt.

Harrison, N. J.—Sewer improvement bonds for $245,000 will be sold Nov. 9 by B. P. Walsh, town clerk.

Newark, N. J.—Bd. Street & Water Comrs. (M. R. Sherred, ch. engr.) contemplate constructing 54-in. concrete pipe sewer on Delavan Ave. from Passaic River to Erie Pl., an 18-in. sewer in Elwood Ave., 15-in. pipe sewer on Seabury St., 12-in. branch sewer in Seabury St., and 10-in. branch sewer in Peabody Pl.

Bellwood, Pa.—All bids opened Oct. 11 by Boro Council (T. J. Steffan, secy.) for constructing sewerage system rejected. Work indefinitely postponed.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Harrisburg, Pa.—City will engage an engineer to co-operate with City and State Health Dept. on plans for construction of sewage disposal plant. M. B. Cowden, city engr.

McKeesport, Pa.—Reported City Council considering constructing new waterworks; probable cost $250,000. Address Borough Clerk.

Philadelphia, Pa.—Plans being prepared by Bureau Surveys for construction of sewage disposal plants for city districts. Address G. S. Webster, engr. dept. pub. wks.

Lynchburg, Va.—Extensions to waterworks contemplated; cost $225,000. Address City Clerk.

Wilmington, N. C.—City will spend $20,000 for installing water mains. W. E. Merritt, supt. waterworks.

Cairo, Ga.—Election to be held Oct. 31 to vote $28,000 bonds for constructing sewerage system. J. B. McCrary Co., engrs., Atlanta. J. H. Connell, city clerk.

Madison, Ga.—Citizens voted to issue $25,000 bonds for improving waterworks and sewerage system. Address City Clerk.

Arcadia, Fla.—See "Roads and Paving."

Reform, Ala.—Construction of waterworks contemplated; cost $10,000. W. H. Nicol, engr., Tuscaloosa.

Bogalusa, La.—City sold $228,500 bonds for constructing municipal waterworks, sewerage system, city hall, jail and paving of streets. Address City Clerk.

Sumrall, Miss.—Work about to begin on constructing waterworks; cost about $20,000. Address City Clerk.

Alliance, O.—Bonds for $50,000 will be sold Nov. 15 by Chas. O. Silver, city aud., for improving sewage disposal plant.

Bexley, O.—Election Nov. 7 to vote on construction of sewerage system; cost $10,000. Jennings, Lawrence & Lindsay, engrs., Columbus.

Canton, O.—City Council considering securing new water supply. Construction of sub-pumping station southeast of city contemplated at cost of $30,000.

Cincinnati, O.—City Council voted to construct sewers on north side Queen Ave., on White St. and Columbia Ave. Address Fred Schneller, city clerk.

Cleveland, O.—City is directed to construct a sewage disposal plant and purification plant; cost about $2,000,000. Address Robert Hoffman, city engr.

Columbus, O.—City sold $450,000 sewer bonds. Address Henry Maetzel, city engr.

Elyria, O.—Improvements to waterworks contemplated, cost about $150,000. Address City Clerk.

Leetonia, O.—City will construct sewage disposal plant; cost about $20,000. Address City Clerk.

New London, O.—Citizens voted $56,000 bonds for waterworks. Address City Clerk.

Salem, O.—B. M. French, city engr., estimates cost of improving filtration plant at $71,500.

Wooster, O.—Construction of waterworks contemplated; cost about $73,694. H. U. Mowery, city engr.

Ann Arbor, Mich.—Reported City Council considering improving waterworks; cost about $75,000. Address Manly Osgood, city engr.

Escanaba, Mich. — Construction of waterworks being considered by city. Election will probably be held to vote bonds. Address City Clerk.

Havana, Ill.—Bd. Local Improv. plans to lay several miles sewers this fall, cost about $24,000. Address C. H. Kreiling, county surveyor.

Kewanee, Ill.—City will spend $10,000 for southwest sewer and $4,500 for laying water mains. H. G. Stokes, city engr.

Kewanee, Ill.—Construction of southwest sewer system contemplated; cost, $10,000. H. G. Stokes, city engr.

Wilmette, Ill.—Bd. of City Trustees retained Dabney Maury, 1137 Monadnock Blk., Chicago, to investigate cost, etc., of constructing municipal waterworks; cost about $15,000. Securing supply from Lake Michigan, filtering it and pumping with oil engines reported being considered .

Boone, Ia.—City will let contract this winter for construction of sewage disposal plant; cost $50,000. Address City Clerk.

About 12 new 24-in. wells, about 70 ft. deep, will be sunk for waterworks. Karl Kastberg, supt. waterworks.

Rockwell City, Iowa. — Town Council considering constructing sewage disposal plant. F. E. Burnham, town clerk.

St. Cloud, Minn.—City considering spending $18,000 for constructing storm sewers. Address City Engineer.

St. Paul, Minn.—Contract about to be let by city for furnishing c. i. pipe, specials, sluice gates, gate valves and steel reinforcing for high service reservoir. Plans being revised for construction of reservoir; estimated total cost $400,000. Address Engineer, Bd. Water Comrs.

City Council contemplates constructing sewers on St. Clair, Louth, De Soto, Geranium Sts.; also storm sewers on 6th, Wagoner, Maury, 7th Sts., Bates and Cable Aves. Oscar Claussen, city engr.

Beatrice, Neb.—Citizens at election Oct. 17 defeated issue of $25,000 bonds for waterworks and light plant. H. M. Garrett, city clerk.

Norfolk, Neb.—City will extend water system next spring, estimated cost $10,000. H. H. Tracy, city engr.

Grand Forks, N. D.—Election to be held Nov. 7 to vote $25,000 bonds for improvements to waterworks and filtration plant. W. H. Alexander, city aud.

Sherman, Tex.—Plans and specifications completed for 1,300,000-gal. reinforced concrete reservoir to be constructed at Fairview Water Sta. in North Sherman. Citizens recently voted $30,000 bond issue. S. O. Ellingson, city mgr.

Oklahoma City, Okla.—Contract about to be let by city for furnishing 2868 tons c. i. water pipe. Address C. F. Semmelback, city clerk.

Stroud, Okla.—Plans being prepared for improvements to waterworks and sewerage system; cost about $30,000. Address City Clerk.

Seattle, Wash.—Bd. of Pub. Wks. considering constructing sewers on W. Halliday St. and 8th Ave.; cost $11,845. A. H. Dimock, city engr.

Canby, Ore.—City sold $20,000 bonds for purchase of plant of private water company; extensive improvements contemplated. Address City Clerk.

Portland, Ore.—Later reports state original plans and specifications for rebuilding Tanner Creek trunk sewer have been adopted by City Council, cost about $287,000. Contract about to be let for constructing same. Philip H. Dater, city engr.

Richland, Ore.—City sold $20,000 bonds for constructing waterworks. L. B. Wickersham, engr., Enterprise.

Eagle Rock, Cal.—Election to be held to vote $70,000 bonds for purchase of water system. Address City Clerk.

Long Beach, Cal.—Contract will be let in about three weeks for pumps for Sewer Dist. No. 3. A. de Ruiz, city engr.

San Rafael, Cal.—About $3,000,000 bonds reported sold for municipal water system for Marin County. It is proposed to purchase plants of private water companies. Wm. Volge, county auditor, may be able to give further information.

Santa Barbara, Cal.—Water Comrs. considering constructing 20,000,000-gal. concrete reservoir in the foothills; cost about $85,000. A. B. Cook, city engr.

Clifton, Ariz.—Construction of 10-in. main from pumping station to Clifton, distance of 18,000 ft., contemplated; estimated cost $55,000. Address W. R. Davis, supt. Clifton Water & Improvement Co., for further information.

Douglas, Ariz.—City Council plans constructing storm sewer on Avenue A, cost about $30,000. Geo. N. Wood, city engr.

Moscow, Idaho.—City will construct sewage disposal plant at cost of $35,000. J. R. Strong, city clerk.

Nez Perce, Idaho.—Plans prepared by Geo. L. Sawyer, Spokane, Wash., for constructing sewer system; cost $30,000. Address City Clerk.

New Glasgow, N. S.—City contemplates laying 8600 ft. 20-in., 2400 ft. 12 and 16-in. and 1000 ft. 10-in. pipe, with necessary valves and specials. C. S. Feaser, town engr.

Levis, Que.—Citizens will vote a by-law March 1 for installing filtration system; also for construction of concrete reservoir, capacity 1,500,000 gal.; cost about $15,000. C. Lessard, city engr.

BIDS DESIRED.

Portland, Me.—Until Oct. 31 by Edward M. Hunt, comr. pub. wks., for constructing 2905 ft. of 10 to 20-in. sewer in Washington Ave.

Boston, Mass.—See "Miscellaneous."

New York, N. Y.—Until Oct. 31 by William Williams, comr. water supply, gas and electricity, Municipal Bldg., for furnishing, delivering, unloading, stacking and storing c. i. pipe, special castings, valves and double nozzle fire hydrants. Total security, $16,500.

Birmingham, Ala.—Until Oct. 31 by City Comn. for constructing storm sewers in West End; work includes 1400 lin. ft. 5-ft. 2R brick sewer; 1300 ft. 4-ft. 6-in. brick sewer; 680 ft. 3-ft. 6-in. brick sewer; 1200 ft. 18-in. T. C. pipe, 8 manholes and 30 inlets; estimated cost, $25,360; separate bids same date in Enin Ridge for sanitary sewers, 20,850 ft. 8-in. T. C. pipe ranging from 6 to 14 ft. deep, 54 manholes, 1200 wyes, etc.; cost $12,000; separate bids on south side, 21,800 lin. ft. 8-in. T. C. pipe, 4 to 12 ft. deep; 1600 wyes, 50 manholes, etc.; cost $15,200; also separate bids same date for paving portions of 33d Ave. Julian Kendrick, city engr.

Defiance, O.—Bonds for $125,000 will be sold Nov. 2 by Chester O. Ensign, city aud., for waterworks improvements.

East Youngstown, O.—Until Nov. 10, by the Water Dept. for two motor driven centrifugal pumps, 500,000 and 1,000,000 gal. capacity respectively. Chester & Fleming, engrs., Union Bank Bldg., Pittsburgh, Pa.

Allegan, Mich.—Until Nov. 3, by John W. Peet, city clk., for constructing 2500 ft. 15, 18, 21, 24 in. storm water sewers.

Plymouth, Mich.—Until Nov. 6, by C. H. Hearn, village clk., for furnishing and installing two centrifugal pumping units, with motors, starting boxes, station wiring, connecting piping and other appurtenances, advertised in this issue. Hoad & Decker, engrs., Ann Arbor.

Aurora, Ill.—Until Nov. 15 by Chas. S. Kilbourne, pres. bd. pub. wks., for constructing reinforced concrete covered reservoir with appurtenances, advertised in this issue.

Emmetsburg, Iowa.—Until Nov. 6 by T. F. Rutledge, city clerk, for constructing storm sewer system requiring 4000 ft. of 10 to 24-in. pipe, 12 manholes, 30 inlets basins, 7 inlets.

Sedalia, Mo.—Until Nov. 6 by city for constructing sewage disposal plant and other sewer improvements. Burns & McDonnell, engrs., Interstate Bldg., Kansas City.

St. Louis, Mo.—Until Oct. 31 by the Dept. Pub. Wks. for constructing sewers in Glaise Creek Sewer Dist. No. 12 and in Arloe Joint Sewer Dist.

Beaumont, Tex. — See "Foundations, Piers and Dams."

Toronto, Ont.—Until Oct. 31 by T. L. Church, chmn. bd. control, for supply and delivery of following: C. I. pipes, hydrants, pipe fittings and valves sewer brick special castings, sewer pipe, iron castings of manhole, gullies, gates, etc., stop valves, refined asphalt, portland cement, granite sets, gravel, screened and unscreened, crushed trap rock, crushed stone, etc. Same time and place, separate bids for constructing sewers in Dorothy, Queen and other streets.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Braintree, Mass.—Lowest bid opened Oct. 9 by city for furnishing and laying 4, 6 and 12-in. water pipe submitted by A. Williams & Co., 27 Lowell St., Boston, at $9,187.

★**Fall River, Mass.**—Contract for 1500 lin. ft. wash and 150 lin. ft. core drill borings on Mill Brook dam sites for additional water supply (bids opened Oct. 18 by Fall River Reservoir Comn.) awarded to Philipsburg Constr. Co., Yonkers, N. Y., at $1.74 and $5 per lin. ft. respectively. H. K. Barrows, engr., 6 Beacon St., Boston.

★**Elmira, N. Y.**—Contract for furnishing 7,500,000 gal. pump, electrically operated, awarded to Allis Chalmers Mfg. Co., 50 Church St., New York City.

★**Bay Head, N. J.**—Following is detail bid of Field, Barker & Underwood, Commercial Trust Bldg., Philadelphia, successful bidders for constructing sewer system for Bay Head. Bids opened Sept. 11 by Alvah A. Strickland, mayor, and City Council: Remington & Vosbury, engrs., 601 Market St., Camden: T.-c. pipe, 1490 ft. 6 in., 0 to 4 ft. deep, 95 cts.; 6215 ft. 8 in., 0 to 4 ft. deep, $1.08; 14,158 ft. 8 in., 4 to 6 ft. deep, $1.25; 2129 8 in., 6 to 8 ft., $1.50; 45 ft. 8 in., 8 to 10 ft. deep, $2.13; 3178 ft. 10 in., 0 to 4 ft. deep, $1.25; 100 ft. 10 in., 4 to 6 ft. deep, $1.35; 528 ft. 10 in., 6 to 8 ft. deep, $1.48; 826 ft. 10 in., 8 to 10 ft. deep, $2; 24 ft. 10-in., 10 to 12 ft. deep, $3.30; 270 ft. 12 in., 10 to 12 ft. deep, $3.38; 36 ft. 8 in. c.-i. pipe, 6 ft. deep, $1.82; t.-c. "T" branches, 56, 8 in. x 5 in., 50 cts.; 19, 10 in. x 5 in., 72 cts.; 4, 12 in. x 5 in., 90 cts.; 25, 6 in. x 5 in. t.-c. "Y" branches, 45 cts.; 385, 8 in. x 5 in. t.-c. "Y" branches, 50 cts.; 327 ft. t.-c. deep cut connections, 50 cts.; manholes complete, 12, 0 to 4 ft. deep, $45; 24, 4 to 6 ft. deep, $50; 4, 6 to 8 ft. deep, $60; 2, 8 to 10 ft. deep, $80; 4, 10 to 12 ft. deep, $125; 25 ft. drop pipe for drop manholes, $1; 9 lamp holes, $10; 2 flush tanks, type "A-A," 0 to 4 ft. deep, $125; 1 flush tank, type "A," 6 ft. 6 in. deep, $140; 14,000 ft. b. m., 1 in. x 8 in., hemlock planks, $40; 16,000 ft. b. m., 2 in. x 8 in., hemlock planks, $40; 2800 ft. 8 in. c.-i. force main, $1.80; total $16,510.

★Contract for constructing pumping station and disposal plant awarded to Whiting, Turner Constr. Co., Sexton Bldg., Baltimore, at $25,990. Bids opened same time and place as above.

★**East Orange, N. J.**—Contract for constructing Sects. Nos. 1 and 2 of storm drain in Halsted Valley of Third Ward (bids opened by City Council Oct. 9) to Jos. L. Sigretto & Co., Woodhaven, L. I., N. Y., at $116,084 for Sect. 1. He bid $115,447 on Sect. 2. W. D. Willigerod, city engr.

★**Philadelphia, Pa.**—Contract for constructing section of Frankford intercepting sewer in O St., extending from Lycoming St. to Kensington Ave., to be 1400 ft. long, 6 to 8 in. diam., of concrete, awarded by city to Ryan & Reilly, Baltimore, at $68,000. Geo. E. Datesman, dir. dept. pub. wks.

Norfolk, Va—Lowest bid opened by Bureau Supplies and Accounts, Navy Dept., Washington, D. C., on Oct. 17 for furnishing two centrifugal pumps at Norfolk submitted by A. S. Cameron Steam Pump Works, 11 Broadway, New York City.

★**Lexington, Ky.**—Contract for constructing northern section of storm water sewer, providing for use of segment block, awarded by Bd. of Comrs. to Carey-Reed Co., Lexington, at $43,089.

Long Island City, N. Y.—Following are unit figures of lowest bids opened by Maurice E. Connolly, pres. Boro. Queens, on Oct. 20, for constructing sewer and appurtenances in Rust St. from Grand St. to James St., James St. from Rust St. to Flushing Ave., Flushing Ave. from James St. to Collins Ave., Collins Ave. from Flushing Ave. to Mt. Olivet Ave., Second Ward, Boro. Queens: (a) Jos. Rotti, 1493 Edgewater Rd., Bronx, New York City, $54,832; (b) Peace Bros., Main St., Flushing, L. I., $63,381, and (c) Chas. A. Myers Contr. Co., foot Stag St., Brooklyn, $74,220.

	(a)	(b)	(c)
1,975 lin. ft. 7-ft. reinforced concrete sewer	$21.00	$26.00	$31.00
8 manholes, complete	60.00	60.00	55.00
126 6-in. spurs, 24 in. long, on concrete sewer	0.25	0.50	1.00
125 ft. risers for house connections	1.50	0.50	2.00
8 inlets (new type) complete	75.00	40.00	50.00
200 lin. ft. 10-in. vitr. pipe for basin connections	0.35	1.00	2.00
1 drop chamber at James and Rust Sts	1,500.00	1,000.00	800.00
1 drop chamber on James St. between Rust and Broad Sts	1,000.00	700.00	750.00
1 junction chamber at James St. and Flushing Ave	1,000.00	500.00	982.00
1 junction chamber at Flushing and College Aves	1,500.00	1,200.00	982.00
1 drop chamber at Collins Ave. and Hemlock Pl	1,000.00	700.00	1,300.00
1 drop chamber at Collins and Hebberd Aves	1,500.00	1,300.00	1,000.00
1 drop chamber at Collins and Mt. Olivet Aves	1,000.00	1,100.00	1,000.00
1,300 cu. yd. excav. for sewer embankment	0.05	0.60	1.00
5,000 cu. yd. displaced material for sewer embankment	0.05	0.50	0.50
17,600 lin. ft. piles	0.10	0.001	...
50,000 ft. B. M. timber for foundation	0.05	0.001	...
10,000 ft. B. M. timber for bracing and sheet piling	0.05	0.001	...
4,000 lb. struct. steel, includ. bolts, nuts, spikes, washers, etc.	0.02	0.001	...
4,000 lb. reinforcing steel, exclusive of steel, shown on plan	0.02	0.001	...
700 cu. yd. Class "A" concrete	1.00	0.001	...
2,200 lin. ft. wooden fence	0.25	0.50	0.35

Olean, N. Y.—Following are unit figures of bids opened by W. W. Wotherspoon, state supt. pub. wks., at Albany, on Oct. 11, for Contract No. 2, of Olean Flood Abatement work providing for constructing sewers, furnishing, erecting, testing and placing in operation pumping plants along Allegany River and Olean Creek at or near Olean: (a) Lord Constr. Co., 105 W. 40th St., $64,716; (b) Jos. F. Leary Constr. Co., Rochester, $77,099, and (c) Lupfer & Remick, Ellicott Sq., Buffalo, $80,566.

	(a)	(b)	(c)
11 M ft. sheeting and brac., per ft	$60.00	$50.00	$62.00
4,000 cu. yd. excav., per cu. yd	0.75	1.00	0.90
6.75 M ft. sawed lumber (yel. pine), per ft	60.00	100.00	75.00
4.5 M ft. sawed lumber (hemlock), per ft	50.00	50.00	50.00
920 cu. yd. sec. class con., per cu. yd	10.00	16.00	20.00
48,500 lb. c.-i. pipe, per lb	0.025	0.03	0.05
6,015 lb. struc. steel, per lb	0.10	0.08	0.08
21,500 lb. met. rein., per lb	0.05	0.06	0.05
2 hyd. equip., 2 miles, Creek and Johnson Brook (each)	4,600.00	4,150.00	4,600.00
1 hyd. equip., E. Olean sewer outlet (lump sum)	1,000.00	1,360.00	1,400.00
1 hyd. equip., Shawmut RR. trestle (lump sum)	900.00	1,330.00	1,400.00
2 hyd. equip., 4th St. and 14th St. (each)	1,500.00	2,270.00	2,200.00
1 hyd. equip., Kings Br., L. S	3,000.00	2,800.00	2,400.00
2 trav. cranes (each)	450.00	460.00	450.00
2 elec. equip., 2 miles, Creek and Johnson Brook (each)	4,600.00	5,380.00	5,425.00
1 elec. equip., E. Olean sewer outlet (lump sum)	1,600.00	1,950.00	2,100.00
1 elec. equip., Shawmut RR. trestle (lump sum)	1,200.00	1,900.00	2,350.00
2 elec. equip., 4th St. and 14th St. (each)	2,500.00	3,000.00	3,325.00
1 elec. equip., Kings Br. (lump sum)	2,500.00	3,000.00	2,500.00
41 sqs. slate roof, per sq	10.00	20.00	12.50
7 doors, windows and hardware (each)	250.00	400.00	175.00
2 24-in. v. and v. boxes (each)	200.00	160.00	125.00
2 20-in. v. and v. boxes (each)	100.00	120.00	110.00
1 30-in. sl. gate, stem and operating stand (lump sum)	150.00	300.00	180.00
300 lin. ft. 30-in. sewer, per lin. ft	5.00	6.00	5.50
830 lin. ft. 24-in. sewer (vit. p.), per lin. ft	4.00	4.00	4.50
150 lin. ft. 20-in. sewer (vit. p.), per lin. ft	3.50	3.00	3.50
14 lin. ft. 6-in. sewer (vit. p.), per lin. ft	0.50	0.50	0.30
2 6-in. Ts for 30-in. sewer (each)	20.00	13.00	25.00
5 6-in. Ts for 24-in. sewer (each)	15.00	6.00	15.00
8 manholes (each)	300.00	80.00	65.00
1 diff. block and falls (3 ton) (lump sum)	60.00	90.00	75.00

Louisville, Ky.—Following are 4 lowest bids opened Oct. 16 by Bd. Waterworks (W. O. Head, pres.) for constructing pumping station on Ohio River for Louisville Water Co.: Fruin-Conlon Constr. Co., Merchants Laclede Bldg., and Missouri Valley Bridge & Iron Co., 1129 Olive St., St. Louis, submitted a joint bid, at $353,000; Henry Bickel Co., 443 Garden St., Louisville, $412,892; The Foundation Co., 233 Broadway, New York City, $373,600, and Dravo Constr. Co., Diamond Bank Bldg., Pittsburgh, $422,000.

★**Alliance, O.**—Contracts for furnishing pumping machinery for waterworks awarded as follows (bids opened Oct. 6 by City Clerk): One 6,000,000-gal. cross compound pumping engine, to Snow Steam Pump Co., Buffalo, and one motor-driven triplex Booster pump, to Deming Pump Co., Salem. Chester & Fleming, engrs., Pittsburgh.

★**Newburg Heights (P. O. Cleveland), O.**—Contract for constructing sewer in E. 49th St. awarded to Geo. B. Hoag Constr. Co., Cleveland, at $20,798. Ralph Hecker, village engr.

Port Clinton, O.—Lowest bid opened by City Council Oct. 10 for constructing Washington St. sewer submitted by C. L. Wright, Mt. Vernon, at $14,038.

Springfield, O.—Lowest bid opened by city for constructing Rose St. sewer submitted by P. J. Caffrey, Springfield, at $9,296.

★**Chicago, Ill.** — Contract reported awarded to T. P. Garland, 6932 Sheridan St., at $24,551, for constructing Niles Center Sewer Outlet. Bids opened Sept. 14 by Trus. Sanitary Dist.

★**Evanston, Ill.**—Contract for 12,500 lin. ft. of vitr. salt glazed segmental block and salt pipe sewers, etc., awarded to C. T. Bartlett Co., Evanston, at $47,252. Bids opened Oct. 12 by T. C. Brower, comr. pub. wks.

★**Rankin, Ill.**—Contract for constructing water and distributing systems awarded by city to the National Co., South Bend, Ind., at $25,368.

★**Logan, Ia.**—Contract for constructing 21,000 ft. sewers awarded by City Council to Public Service Constr. Co., Omaha, Neb., at $17,245.

★**Primghar, Ia.**—Contract for constructing concrete or vitr. pipe sewers and sewage disposal plant awarded by city to Peter N. Kruse, Spencer, at $26,613. Bids opened Oct. 17 by Alex. Stewart, town clerk.

★**Kenyon, Minn.**—Contract for furnishing 2100 ft. 4-in. water mains, hydrants, gate valves awarded to Wm. C. Fraser, St. Paul. Bids opened Oct. 13 by O. B. Strand, village recorder.

St. Paul, Minn.—Reported bid of St. Paul Foundry Co., St. Paul, at $6,500, for furnishing rotary screens for waterworks, is recommended for award.

West St. Paul, Minn.—Contract for constructing waterworks to consist of street service mains, Div. No. 1, furnishing and laying Class B c. i. bell and spigot water main, about 28,900 ft. 6 and 12-in. with valves, hydrants, etc. Div. No. 2, 3600 ft. 12-in. on Annapolis St., and Div. No. 3, furnishing and delivering f.o.b., quantities of meters, awarded to Thornton Bros., St. Paul, at $37,982. Bids opened Oct. 10 by Frank Youngerbauer, City Clk. J. F. Druar, Engr., 312 Commercial Bldg., St. Paul.

★**Ellis, Kan.**—Contract for improving water system awarded to Everett & Burt, Hutchinson, at about $11,445. Bids opened Oct. 2 by city.

★**Garden City, Kan.**—Contract for constructing sanitary sewer awarded by city to Inter-Mountain Bridge & Constr. Co., Tecumseh, Neb., at about $48,871.

★**Kansas City, Mo.**—Contract for constructing sewers in Dist. No. 360, Div. No. 5, reported awarded by city to L. Koehler, Produce Exchange Bank Bldg., at about $44,776.

★**Paris, Mo.**—Contract for constructing filter plant awarded by city to Bickell Constr. Co., Kansas City, at about $12,000.

Hermosa Beach, Cal.—Following are lowest bids opened by City Trustees for constructing sewage disposal and sewage treatment plant: T. J. Shea, 2039 Oxford Ave., Los Angeles, $33,122; S. M. Kerns, Long Beach, $35,407, and R. H. McCray, Los Angeles, $44,300. C. R. Sumner, city engr.

San Francisco, Cal.—Following are unit figures of lowest bid opened by city Oct. 18, as submitted by Clinton Constr. Co., San Francisco, for constructing sewers in La Playa Ave. and Great Highway: 2005 ft. 3 ft. 6 in. x 5 ft. 3 in., at $8.55 per ft.; 2066 ft. 3 ft. x 4 ft. 6 in. at $7.35 per ft.; one taper connection, $1.20; 1650 ft. 6 in. underdrain at 32 cts.; 1200 ft. 8 in. underdrain at 43 cts.; 800 ft. 10 in. underdrain, 55 cts.; 400 ft. 12 in. underdrain, 70 cts.; 18 manholes at $37; 350 ft. 6 in. risers in concrete, 90 cts.; total, $35,193. M. M. O'Shaughnessy, engr., City Hall.

★**Lethbridge, Alta.**—Reported contract for constructing filtration system awarded by City Council to Roberts Filter Mfg. Co., 6th and Columbia Ave., Darby, Philadelphia, Pa., at about $95,000.

STRUCTURAL STEEL WORK

PROPOSED WORK.

Lake Placid, N. Y.—Appropriation of $48,000 voted for paving Main St. with brick. O. Weaver, village clerk.

Pennsylvania.—State Water Supply Commission, Harrisburg, has approved following applications for bridges:

Butler County, steel bridge over south branch of Bear Creek in Petrolia Boro., Fairview Township. Address County Clerk, Butler. Over Long Run, 2½ miles S. of Coylesville on Dugan Farm, Clearfield Township. Address Township Clerk.

York County, over Brenneman's Run, ¼ mile W. of Larue, on Glen Rock road, Codorus Township. Address Township Clerk. Over Carter's Run on Carter road, near Park's Station, Chanceford Township. Address Township Clerk.

Greene County, two, over Goose Run, ¼ mile S. E., other ¼ mile E. of Lippencott on Ruff Creek road, Morgan Township. Address Township Clerk. Over Sugar Run, ½ mile S. E. Waynesburg, Franklin Township. Address Township Clerk. Over Throgmorton Run, 3 miles W. of Waynesburg, on Throgmorton road, Franklin and Centre Townships. Address Township Clerks.

Hunterdon County, over Oaks Run, on Herods road, 1 mile W. of Ennisville-Jackson Township; over James Creek, 1 mile E. of Marklesburg, 3 miles S. W. of Grafton-Huntingdon - Paradise Furnace road, Penn Township. Address Township Clerk.

Fayette County, over Roaring Run on County Line road, near Roaring Run RR. station of Indian Creek Valley RR., Salt Lick Township. Address Township Clerk. Over Mounts Creek, ⅛ mile W. of Wooddale, on Prittstown road, or 3¼ miles S. E. of Scottdale, on Ore Mine road to Wooddale, Bullskin Township. Address Township Clerk.

Cambria County, over Laurel Run on Lovitt-Wilmon road, 4 miles S. of Summerhill, ½ mile N. of Lovitt, Croyle Township. Address Township Clerk.

Adams County, over Bermudian Creek, 1½ miles E. of York Springs, on Old Baltimore road, Latimore Township. Address Township Clerk. Over Conewago Creek, on Gitt Mill road, 1 mile S. of Mt. Pleasant, Conewago and Union Townships. Address Township Clerks.

Armstrong County, over Stitt Run, 1¼ miles N. of Vandergrift, on Vandergrift road; over Elder's Run, 3½ miles N. of Leechburg, Park Township. Address Township Clerk.

Potter County, over North Fork, at North Fork, Harrison Township. Address Township Clerk. Over Genesee Creek, at Pushers Siding, on Newfield-West Bingham road, Ulysses Township. Address Township Clerk.

Clinton County, over Trout Run, at Hammersley Park, Leidy Township. Address Township Clerk. Over Young Woman's Creek, 1 mile N. of North Bend, Chapman Township. Address Township Clerk.

Chester County, over Indian Run, 1 mile N. of Brandywine Manor, 3 miles N. E. of Wyebrooke. West Brandywine Township. Address Township Clerk.

Somerset County, over Bittner Run, on Bittner Road, 1½ miles E. of Sipesville, Lincoln Township. Address Township Clerk.

Tioga County, over California Creek, ¼ mile N. E. of Westfield Boro., Westfield Township. Address Township Clerk.

Clearfield County, over Morgan Run, 4 miles N. W. of Brisben, Woodward Township. Address Township Clerk.

Lancaster County, over Gleisner Run, 2 miles S. of New Providence, Providence Township. Address Township Clerk.

Westmoreland County, over Spruce Run, about 5 miles N. E. of New Alexandria, on Livermoore and Derry road, Derry Township. Address Township Clerk.

Perry County, over Buffalo Creek, 1½ miles S. of Saville, on Billman Hill road, Saville Township. Address Township Clerk.

Williamsport, Pa.—Co. Comrs. intend constructing bridge across Susquehanna River at Newberry-DuBoistown, and at Montgomery. Address County Clerk.

Albany, Ga.—Dougherty County grand jury recommended constructing new bridge over Flint River. Address County Clerk.

Jacksonville, Fla.—Citizens of Duval County will vote early in December on $1,200,000 bond issue for bridge and road purposes as follows: Bridge over St. John's River between Jacksonville and South Jacksonville; replacing wooden bridges at Ortega and Panama with reinforced concrete bridges, cost $230,000; constructing 14 miles of hard-surfaced roads, cost $100,000.

Marianna, Fla.—Comrs. Jackson and Gadsden counties have been offered $41,000 (half of estimated cost) from federal government toward constructing proposed bridge over Apalachicola River on "Old Spanish Trail." Address County Clerk, Marianna, Jackson Co.

Sarasota, Fla.—Co. Comrs. have $33,000 on hand for repairing the old county line road from Sarasota to Manatee. Address County Clerk, Bradentown.

Boyce, La.—Police Jury of Rapides Parish contemplate constructing $40,000 bridge over Red River. Address John R. Hunter.

Mayfield, Ky.—Co. Comrs. contemplate constructing several bridges throughout county under supervision of State Highway Dept. Rodman W. Wiley, comr., Frankfort.

Wickliffe, Ky.—Co. Comrs. contemplate constructing several bridges throughout county under supervision of State Highway Dept. Rodman W. Wiley, comr., Frankfort.

Cleveland, O.—Officials U. S. War Dept. (Major P. S. Bond and H. H. Phelps, engrs., stationed at Cleveland), City, and Baltimore & Ohio RR. (F. L. Stuart, ch. engr., Baltimore, Md.) contemplate constructing bridge over Auglaize river.

Dover, O.—Dover, Millersburg & Western Ry. contemplate constructing 6 bridges on new Dover-Millerburg branch. D. F. A. Wheelock, engr., Woodward bldg., Warren, Pa.

Greenfield, Ohio.—Co. Comrs. Ross and Highland counties intend improving Inter-county Bridge on Inter-County Highway No. 8, under supervision of State Highway Dept., Columbus.

Lorain, O.—Plans being prepared by C. M. Osborne, city engr., for approach to proposed bridge over Black River; tunnel approach under Baltimore & Ohio RR. tracks under consideration.

Ohio.—See "Roads and Paving."

Benton Harbor, Mich.—Bids opened Oct. 2 for steel viaduct at Britain Ave. rejected by City Council, Harry B. Smith, clk.

Sheridan, Ill.—Northville, Mission and Serena Townships propose constructing new bridge over Fox River. Cost $15,000. Geo. Farnsworth, engr., Ottawa, Ill.

Gering, Neb.—Co. Comrs. contemplate constructing 6 bridges. Total cost, $65,000. Bonds voted. J. H. Ferguson, co. clk.

Hardin, Mont.—Election Nov. 7 for $57,500 steel bridge bonds for proposed structure over Big Horn River. J. E. Graham, co. engr.

Missoula, Mont.—Missoula County intends voting at November election on construction of proposed bridges, one at Missoula, other at Bonner. Estimated total cost $20,000. Address County Clerk.

Arkansas. — State Highway Comn., Hugh R. Carter, engr., Little Rock, contemplates constructing 1047 miles of additional roads throughout state, some of which are: Newport-Beedeville, 39 miles, $219,556; Jackson County, Dist. No. 15, 39 miles, $195,755 Jefferson County; Clarksville, east and west, 35 miles, $189,177, Johnson County; Hamburg-Crosset, 39 miles, $129,146, Ashley County; Hulbert-Riceville, 34 miles, $126,454, Crittenden County.

League City, Tex.—Co. Comrs. will soon let contract for Clear Creek bridge. R. M. Sias, co. engr., Galveston.

Waco, Tex.—City Comrs. contemplate constructing bridge across Waco creek at Austin St. and one across Riverside driveway at Barrons Branch. Total estimated cost, $25,000. Address City Clerk.

Oklahoma.—State Highway Comn., M. R. Cunningham, engr., Oklahoma, approved proposed road work in following counties:

Creek County, Sapulpa-Tulsa-Ozark trail, 11 miles, two miles to be concrete construction; Kiowa County, 4 miles; Johnston County, 15 miles; Major County, 6 miles; Le Flore County, 21 miles.

Kelso, Wash.—Co. Comrs. (R. C. Westinck, co. engr., Kalama) contemplate constructing new span bridge over Cowlitz River.

Seattle, Wash.—City Council intends constructing $60,000 60-ft. wooden drawbridge, 35 ft. above water level, over West Waterway at West Spokane St., with $20,000 aid from King County. Address City Clerk.

Guelph, Ont., Can.—Co. Comrs. intend constructing $35,000 steel and concrete bridge. F. McArthur, co. engr.

Hamilton, Ont.—Prack & Perrine, Lumsden Bldg., Toronto, are architects for steel factory to be erected for Hamilton Steel Wheel Co.; cost $200,000.

BIDS DESIRED.

Melville, R. I.—Until Nov. 13 at Bureau Yards and Docks, Navy Dept., Washington, D. C., Spec. No. 2272, for steel frame building with corrugated steel siding and roofing, for storage of torpedoes at the naval coal depot.

Buffalo, N. Y.—Reported desired until Oct. 31 by Col F. G. Ward, chmn. bd. pub. wks. for constructing bascule bridge across Buffalo River at Abbott Road.

Trenton, N. J.—Until Oct. 31 by Bd. Freeholders, for constructing two bridges, one on Pennington-Rosedale Rd., and the other on Edgebrook-Hamilton Square Rd. Charles S. Sincerbeaux, Chmn. Bridge Comn.

De Land, Fla.—See "Roads and Paving."

Dothan, Ala.—Until Dec. 4 by Bd. Revenue for constructing 125-ft. steel span 16-ft. highway bridge, 3 miles turnpike, etc. W. R. Koonce, co. engr.

Jackson, Miss.—Until Nov. 8 by Bd. Co. Supervs. (W. W. Dowling, clk.) for constructing bridge on Clinton-McRaven Rd., across Smith Creek; until Nov. 9 for a bridge on Clinton and Tinnin Rd., across Straight Creek. Bids asked on both reinforced concrete and steel; also separate bids, same date, for 20,000 cu. yd. gravel.

Canton, O.—Until Nov. 1 by Co. Comrs. at Canton for repairing Liberty St. bridge at Canal, Fulton and 15th Sts., S. W., in Canton. W. C. Schick, co. clk.

Union, O.—Until Nov. 4 by Co. Comn. for constructing 240 ft. steel span, 18 ft. wide, across Stillwater River at Union. S. R. Sharts, engr., Dayton. Victor C. Smith, co. surv., Dayton.

Des Moines, Iowa.—Until Nov. 29 by John W. Budd, supt. dept. streets and pub. improvements, for constructing Grand Ave. bridge.

Duluth, Minn.—Reported desired until Nov. 3 for constructing steel bridge 250 ft. across Colquet River Rd. Address O. Halden, co. aud.

Ogilvie, Minn.—Until Nov. 13 by John Block, town clerk, Southfork, at Ogilvie, for constructing bridge No. 2355 on road between sections 22 and 27, Southfork; superstructure will be one 40-ft. riveted low truss span, 18-ft. roadway, reinforced concrete floor on reinforced abutments and pedestal piers.

St. Charles, Mo.—Reported desired until Nov. 1 by the St. Louis & St. Charles Bridge Co. for reconstructing highway bridge, including steel in trusses, steel floor and steel approach; cost about $180,000. Hedrick & Hedrick, engrs., Kansas City.

Bakersfield, Cal.—Until Nov. 9 by Bd. Supervisors (F. E. Smith, Clk.), for grading and constructing culverts on portion of Bakersfield-Mojave Rd., about 12.3 miles.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Buffalo, N. Y.—Strobel Constr. Co., Chicago, Ill., submitted lowest estimates to City Council, A. W. Kreinheder, comr., for reconstructing following bridges: Abbott Rd., $18,325; Babcock St., $44,923; Elk-Abbott, $33,274; Hamburg St., $45,245; Seneca St. east of Hamburgh St., $47,994; Michigan Ave., $49,898; Seneca St. east of Smith St., $229,442.

★**Bloomington, Ill.**—Contract awarded by Supervs. to Porter & McCully, Mackinaw, Ill., at $10,690, for new bridges in county.

REINFORCED CONCRETE

PROPOSED WORK.

Pennsylvania.—State Water Supply Comn., Harrisburg, has approved following applications for concrete bridges:

Crawford County, Boro. Linesville, over Linesville Creek on Main St. Address County Clerk, Meadville. Bloomfield Township, over Kennedy Run, 4 miles east of Lincolnville on Titus Road. Address Township Clerk. Oil Creek Township, over McGuire Run, 2 miles east of Titusville, over Shirley Creek, 5 miles north of Titusville, over Porky Run, 1 mile east of Titusville.

Erie County, Concord Township, three over McCray Run, 4½ miles southwest of Corry on Stewart Road, ½ mile south of Lovells on Lovells road and 4 miles west of Corry; two over French Creek, 2 miles southwest of Corry and ½ mile west of Corry. Address Township Clerk.

McKean County, Liberty Township, over Skinner Creek, 2 miles southwest of Port Alleghany, on Skinner Road. Address Township Clerk. Hamilton Township, stone bridge over Two Mile Creek, about 6 miles from stream's mouth on road from Pennsylvania RR. station in Ludlow to State Highway, Route No. 95. Address Township Clerk.

Lancaster County, Windsor Township, stone bridge over Stoyer's Creek, 1 mile from Harrisburg and 1½ miles from mouth of stream at Schuylkill River. Address Township Clerk.

Westmoreland County, over headwaters of Indian Creek near Horne's Flour Mill. Address County Clerk, Greensburg.

Burke County, Warminster Township, over unnamed stream on Jacksonville Road between Jacob Rabb and Rudolph Tanner, Sr., property near Montgomery County line. Address County Clerk, Reading.

Warren County, Sugar Grove Township, over Bruce Run, 2½ miles northeast of Sugar Grove. Address Township Clerk.

Clinton County, Leidy Township, over Hammersley Fork, 3½ miles north of Tamarack. Address Township Clerk.

Potter County, Wharton Township, over Birch Run, at East Fork, Village of Lague. Address Township Clerk.

Jefferson County, Beaver Township, over Beaver Run, 1 mile east of Ohl. Address Township Clerk.

Jacksonville, Fla. — See "Structural Steel."

Marvin, Ala.—Co. Comrs. intend constructing concrete bridge over Brush Creek on Dixie Overland Highway between Columus - Tuskegee - Montgomery route. Address County Clerk, Seale, Ala.

Chillicothe, Ohio.—Glenn Perry, co. engr., preparing estimates for construction of Jackson bridge in Colerain township; for Walnut creek road bridge at Cryder farm, Liberty township, and for replacing concrete culvert on Putnam Rd., Deerfield township.

Napierville, Ill.—Bd. Local Improv. will construct a one-course $104,000 reinforced concrete pavement on Jefferson and Benton Aves. and Eagle St. Contract to be let in February. C. A. Ashley, engr., Napierville.

Milwaukee, Wis.—City Council contemplates new $400,000 concrete bridge over Milwaukee River at North Ave., from Humboldt Ave. to Cambridge Ave. J. C. Pinney, supt. bridges.

Duluth, Minn.—Zenith Telephone Co. (A. J. McCullough, genl. mgr.), Duluth, will erect new 3-story reinforced concrete headquarters and exchange building on First St. and Fifth Ave. W.; estimated cost $60,000.

Owatonna, Minn.—City Council intends asking voters at November election to approve construction of proposed ornamental concrete bridge over Straight River at Bridge St.

St. Paul, Minn.—Equity Co-operative Exchange, 114 Corn Exchange Bldg., applied for permit to erect reinforced concrete grain elevators on north side of upper levee, between Chestnut and Sherman Sts.; cost $140,000.

Beaumont, Tex.—Plans being prepared by W. F. Steinman & Son, Beaumont, for an 8 or 10-story, reinforced concrete, brick and fireproof office building to be erected at Liberty and Main Sts. for Capt. W. C. Tyrrell and J. Cook; probable cost $200,000.

Elk City, Okla.—Co. Comrs., Sayre, will soon let contract for concrete bridges Nos. 7-B and L-J-1. Carl R. Reid, co. engr., Sayre.

Eufaula, Okla.—Co. Comrs. intend constructing 8 concrete culverts. Address County Clerk.

Lehigh, Okla.—Co. Comrs. will soon let contracts for three steel and concrete bridges in county and a wooden bridge over Boggy Creek at Coones. Dick Bunch, co. clk.

Tecumseh, Okla.—Co. Comrs. intend constructing 3 concrete bridges. Address County Clerk.

Harrington, Wash.—Dunning & Erich Harvester Co., Harrington, plans doubling capacity of plant to include four concrete buildings, 40 x 100 ft., and installation of new machinery.

Hillsboro, Ore.—Reported Carnation Mill Products Co., Hillsboro, will erect 2-story, 100 x 170-ft., concrete and tile addition to plant, costing $50,000.

Los Angeles, Cal.—Contract will be let about Nov. 15 by John Parkinson, archt., 420 Title Insurance Bldg., for erecting 5-story and basement, 75 x 140 ft., reinforced concrete loft building at Hewitt and Traction Sts. for Joannes Bros., 819 E. 1st St.

Lillooet, B. C.—Plans being prepared for new reinforced concrete machine shops and roundhouse to be erected for Pacific Great Eastern Railway (A. H. Sperry, genl. mgr., Vancouver); cost $150,000.

BIDS DESIRED.

Annapolis, Md.—See "Foundations, Piers and Dams."

Charleston, S. C.—Until Nov. 3 at the office of the Sanitary Drainage Comn., People's Bldg., for constructing reinforced concrete bridge on Summerville highway across Goose Creek.

Seale, Ala.—Reported desired until Nov. 15 by Co. Comrs. for constructing bridge over Brush Creek on Tuskegee and Columbus Rd.; steel structure with concrete piers and floor of reinforced concrete. W. S. Keller, state highway engr., Montgomery.

Knoxville, Tenn.—Reported desired until Dec. 1 by John W. Flenniken, comr. streets and pub. improvements, for erecting a 900 ft. long and 60 ft. wide reinforced concrete viaduct on Gay St.

New Ulm, Minn.—Reported desired until Nov. 6 by Lewis G. Vogel, co. aud., for constructing reinforced concrete State bridge No. 2370.

Doniphan, Mo.—Reported desired until Nov. 9 for constructing 3 reinforced concrete bridges over Ditch No. 2. Address County Clerk.

Kansas City, Mo.—Until Nov. 22 by Bd. Park Comrs. (T. C. Harrington, secy.) for constructing a concrete bridge at Seventy-first St. across Blue River in Swope Park, advertised in this issue.

Tulsa, Okla.—Reported desired until Oct. 26 by C. K. Birdsall, archt., 1002 Commerce Bldg., for 8-story and basement office building; first three stories 140 x 72 ft. and upper 5 stories 140 x 50 ft., of reinforced concrete, fireproof construction.

Bakersfield, Cal.—Reported desired until Nov. 9 by Bd. Supervs. (F. E. Smith, clerk) for erecting reinforced concrete jail with cesspool at Mojave, and one at Randsburg.

Modesto, Cal.—Until Nov. 2, by Bd. Dir., Modesto Irrigation Dist. (C. S. Abbott, secy.) for constructing a concrete lining in the main canal below Riardru Fill of Modesto Irrigation Dist.

Santa Ana, Cal.—Until Nov. 9 by Bd. Superv. (W. B. Williams, clk.) for constructing concrete bridge at Balboa Palisades, containing about 225 cu. yd. cement, 7.8 tons reinf. steel, etc. County furnishes cement, sand and crushed rock.

Santa Barbara, Cal.—Until Nov. 6 by Bd. Superv. (C. A. Hunt, clk.) for constructing 124-ft. reinforced concrete bridge, 85 ft. arch and 19.5 ft. wing walls, on line of State Highway between Stations 104 and 105.

Visalia, Cal.—Until Oct. 27 by Bd. Superv. for constructing 30-ft. reinforced concrete bridge across Deep Creek.

San Jose, Cal.—Until Nov. 6, by Bd. Co. Superv. (Henry A. Pfister, clk.) for constructing a reinforced concrete bridge on the Mountainview and Alviso Rd. on line between Superv. Dist. Nos. 4 and 5, in Santa Clara Co.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Brooklyn, N. Y.—See "Miscellaneous."

★**Millville, N. J.**—Contract awarded Aberthaw Constr. Co., Boston, Mass., for erecting one and 2-story and basement, 340 x 237 ft., reinforced concrete factory for Millville Mfg. Co.

★**Pittsburgh, Pa.**—Contract awarded D. T. Riffle, Keenan Bldg., for erecting 4-story, 60 x 135 ft., concrete and terra cotta garage for Aaron De Roy Motor Car Co.; cost about $85,000.

★**Lynchburg, Va.**—Contract awarded by Norfolk & Western RR. (J. E. Crawford, ch. engr., Roanoke), in conjunction with Chesapeake & Ohio and Southern RRs. to M. M. Elkah, Macon, Ga., for reinforced concrete viaduct over James River and railroad tracks.

★**Terre Haute, Ind.**—Contracts awarded by Bd. Trus. Indiana State Normal School (Wm. W. Parsons, pres.) for erecting 3-story, reinforced concrete and brick science hall (bids opened Oct. 7) as follows: General construction, A. W. Stoolman, Champaign, Ill., $82,180; plumbing and heating, Prox & Burget, Terre Haute, $20,218.

★**Eldora, Ia.**—Coutract awarded by City Council to N. M. Stark & Co., Des Moines, for 50-ft. reinforced concrete arch span at $7,377 and piling at 44 cents per lineal ft.

★**Rockwell City, Ia.**—Contract awarded Oct. 17 to Iowa Bridge Co., Des Moines, for constructing two 14-ft. concrete culverts, 28-ft. roadway, and one 36-ft. concrete deck girder, 18-ft. roadway; cost $7,892.

Upland, Cal.—R. E. Millsap, 929 W. 49th St., Los Angeles, low bidder at $5,620 for 1170 ft. reinforced concrete box culvert.

★**Ventura, Cal.**—Contract awarded by Bd. Supervs. to Wm. Ledbetter & Co., 651 Pacific Electric Bldg., Los Angeles, at $6,240, for constructing 120-ft. concrete pile bridge with culvert, earth fills, guard fence, etc., over San Antonio Creek at Ojai Ave. Bids opened Oct. 14.

★**Montreal, Que., Canada.** — Contract awarded by City Council to T. O. Sullivan, 47 St. Louis Sq., Montreal, at $210,000 for concrete canal bridge and headgates. L. G. Mouchel & Co., engrs., Mail Bldg., Toronto.

★**Toronto, Ont.**—Contract awarded Witchell & Sons, 156 St. Helens Ave., for erecting reinforced concrete warehouse for Hydro Comrs., 190 University Ave.; cost $75,000.

★**Transcona, Man.**—Fegles-Bellow Eng. Co., Grain Exchange Bldg., Ft. William, secured contract to erect $500,000 concrete and steel grain elevator for Dominion Government.

ROADS AND PAVING

PROPOSED WORK.

Cambridge, Mass.—City Council intends spending $27,500 for wood block pavement on Massachusetts Ave. between Harvard Bridge and Lafayette Sq. Address City Clerk.

Glens Falls, N. Y.—See "Waterworks and Sewerage Systems."

Mineola, L. I., N. Y.—Bd. Supervs. contemplates spending $300,000 on road maintenance in 1917. Address Co. Clk.

Schodack Landing, N. Y.—Bd. Supervs. contemplate improving with state aid 3 miles highway near Columbia Co. line. Address Co. Clk., Troy.

Atlantic City, N. J.—Co. Comrs. intend resurfacing White Horse Pike from Absecon to Camden county line with Warrenite; probable cost $700,000. A. H. Nelson, co. engr.

Bound Brook, N. J.—Paving bonds for $29,000 will be sold Oct. 31 by E. R. Fuller, boro. collector.

Salem, N. J.—Bd. Freeholders intend constructing highway from Delaware River at Pennsgrove through Sharpstown to the seashore resorts. Address County Clerk.

Trenton, N. J.—Bd. Freeholders intend improving with state aid Lawrenceville-Princeton, Windsor-Highstown, Mercerville-Edinburg, Kingston-Rocky Hill, Yardville-Crosswicks, Newtown - Allentown, Princeton-Kingston, Scotch and Trenton Junction roads. State allotted $55,000 toward work. Address County Clerk.

Erie, Pa.—Citizens petitioned City Council to pave 5 miles streets in southeastern section of city. Address City Clerk.

Hazelton, Pa.—$50,000 street paving and sewer work extension contemplated. Address City Clerk.

Kingston, Pa.—Boro. Council intends curbing, grading and paving numerous streets, including Elm, Bridge, Ridge and Mott Aves. and Hoyt St. W. J. Williams, boro. secy.

Baltimore, Md.—R. M. Cooksey, highways engineer, estimates cost of improving small streets and private alleys throughout city at $100,000.

Clarendon, Va.—Co. Comrs. approved $118,615 new proposed road work in Washington Dist. and $171,660 in Arlington Dist., and have under consideration construction of roads as follows: One paralleling tracks of Washington-Virginia Ry. from Nalz station to Clarendon; Mt. Vernon road with $20,000 state aid; Glebe road from Wunder's by Ballston to Naucks (estimated cost $78,657) and new Vacation lane road. Geo. H. Rucker, co. clk.

Hamlet, N. C.—Comrs. sold $50,000 street improvement bonds for contemplated street and sidewalk work. J. S. Utter, city engr.

North Carolina.—State Highway Comn., Raleigh, has apportioned 1917 state aid road funds as follows: $10,000 to Person, Henderson, McDowell, Mecklenburg and Gaston counties; $25,000 to Wilkes; $9,500 to Madison; $8,000 to Rutherford; $5,000 to Catawba, Burke and Avery; and $7,000 for Wilmington-Fayetteville highway.

Charleston, S. C.—Sanitary and Drainage Comn., Reid Whitford, secy.-engr., contemplates 90-mile highway from Edisto to Santee River and numerous lateral feeders to this road and sea islands, improvement of Summerville and Dorchester Roads and construction of cement highway from city to Navy Yard and North Charleston, a bridge over Cooper River and also one over Santee River at Mayck's Ferry.

Augusta, Ga.—Co. Comrs. accepted offer of state and federal aid for gravel roads throughout county and the construction of concrete bridges over streams. Roads recommended to be graveled are Milledgeville, Dean's Bridge, Washington, Louisville and Old Savannah roads. Address Chief Engr., State Highway Dept., Atlanta.

Statenville, Ga.—Co. Comrs. intend constructing road from Statenville to county line, meeting road from Valdosta. Address County Clerk.

Valdosta, Ga.—Co. Comrs. intend constructing sand-clay road from Valdosta to Echols county line by way of Boring's mill pond. Address County Clerk.

Arcadia, Fla.—Bonds will be sold Nov. 1 by City Bond Trustees, $90,000 for street improvements, $19,000 for extending water, $21,000 for sanitary sewers.

Jacksonville, Fla. — "See "Structural Steel."

Milligan, Fla.—State Highway Dept., Tallahassee, surveying road system for Okaloosa County.

Bogalusa, La.—See "Waterworks and Sewerage Systems."

Crowley, La.—State Highway Comn. estimates cost to hard surface Old Spanish Trail Road from Mermentau River to Lafayette Parish at $5,800 per mile. Election will probably be held in the Parish to vote $600,000.

Tuscaloosa, Ala.—City Council contemplates several miles sidewalk paving. Woolsey Finnell, engr.

Ellisville, Miss.—Bd. Supervs. will ask citizens approval for $200,000 road bonds in addition to $150,000 bonds of Beat 2 and $100,000 bonds of Beat 1 already sold. Election Nov. 3. Address County Clerk.

Laurel, Miss.—Bd. Supervs. contemplate issuing $200,000 road bonds. Harry Bell, engr. co. road comrs.

Oxford, Miss.—Taylor Good Road Dist. voted for road improvements. Address Clerk of District.

Kentucky. — Good road improvement bonds have been voted in following counties: Fayette, $300,000, address County Clerk, Lexington; Ballard, $300,000, County Clerk, Wickliffe; Knox, $200,000, County Clerk, Barbourville; Bell, $285,000, County Clerk, Pineville; Whitley, $250,000, County Clerk, Williamsburg; Harlan, $300,000, County Clerk, Harlan; Rockcastle, $100,000, County Clerk, Mt. Vernon; Scott, $100,000, County Clerk, Georgetown; Laurel, $100,000, County Clerk, London; Nicholas, $125,000, County Clerk, Carlisle; Lewis, $150,000, County Clerk, Vanceburg; Breathitt, $150,000, County Clerk, Jackson; Greenup, $200,000, County Clerk, Greenup; Clinton, $50,000, County Clerk, Albany; Russell, $40,000, County Clerk, Jamestown; Carroll, $50,000, County Clerk, Carrollton; Boyd, $500,000, County Clerk, Catlettsburg; Pulaski, $300,000, County Clerk, Somerset; Davies, $600,000, County Clerk, Owensboro; Kenton, $150,000, County Clerk, Covington; Campbell, $100,000, County Clerk, Newport; Oldham, $100,000, County Clerk, La Grange; Trig, $150,000, Country Clerk, Cadiz; Bracken, $200,000, County Clerk, Brooksville; Union, $450,000, County Clerk, Morganfield; Christian, $400,000, County Clerk, Hopkinsville; Powell, $40,000, County Clerk, Stanton; Carter, $150,000, County Clerk, Grayson.

Cincinnati, Ohio.—Co. Comrs. contemplate improving Dixie Highway portion Springfield Pike with brick, $129,811, and North Bend at $64,061, and Cameron Road with concrete, $48,270. Wm. Boeh, co. engr.

City Council contemplates grading, paving, constructing drains and laying 6-in. water main in street as follows: Brick on Hamilton Ave. and Hoffner St.; wood block on Eastern Ave. and Vine St.; bituminous macadam on Haven St.; grading Ludlow and Ruberg Aves.; sewering Ellis St. Fred. Schneller, city clk.

Cleveland Heights (P. O. Warrensville, O.)—City Council sold $36,500 street improvement bonds. Address City Clk.

Dayton, O.—Co. Comrs. intend improving New Troy pike by grading, filling and constructing two bridges near Vandalia at Springfield road intersection, $10,000. Address County Clerk.

Defiance, Ohio.—Co. Comrs. intend paving 3½ miles Standley road from city limits to Rudge road. Address County Clerk.

Co. Comrs. sold $64,000 Ottawa-Defiance road improvement bonds. Address County Clerk.

Lakewood, O.—E. O. Fisher, City Engr., surveying proposed 2-mile boulevard.

McConnelsville, O.—Co. Comrs. contemplate improving Edgerton road from a point near Oliver Edgeton's barn to lands of Bower Carpenter in Marion Township. John Whitney, co. aud.

Clinton, Ind.—City Council rejected only bid of $17,609 for paving North Main St. New bids will shortly be asked for. Address City Clk.

Jackson, Mich.—City Council intends paving about total 6 miles on several streets, including West Main, Blackstone, Washington and Pearl Sts. A. S. Hall, city engr.

Freeport, Ill.—Election Nov. 7 for $850,000 county good road bonds. Address County Clerk.

Rock Island, Ill.—Bd. Local Improv. recommends repaving 20th St., from 7th to 9th Ave., with brick. Estimated cost $12,000. Wallace Treichler, city engr.

Silvis, Ill.—Village Bd. intends paving with concrete at $1.15 per sq. yd. 2 miles road in spring. Robert Benell, engr.

Algona, Iowa.—City Council intends paving about 50,000 sq. yd., to include about 50,000 lin. ft. of curbing and storm sewers in Hall, Dodge, Moore, Harlan, Jones and other streets; concrete curb and gutters; concrete road foundations; bituminous concrete, vitrified brick, blocks with sand or bituminous filler; vertical fibre brick. Theo. S. DeLay, engr., Creston, Iowa. S. W. Crowell, city clk.

Grundy Centre, Iowa.—City Councill will let contract this winter for paving 40 blocks. E. A. Cravy, engr.

Tipton, Ia.—City Council contemplates paving, curb and gutter work on 44 blocks and 3 alleys, concrete, vertical fiber brick, asphaltic concrete or bitulithic. P. D. Ketelsen, city clk.

Lincoln, Minn.—Co. Comrs. contemplate $800,000 permanent road bond issue for 125 miles in Lancaster county. Address County Clerk.

Minneapolis, Minn.—Co. Comrs. have $150,000 for road and bridge work in 1917. H. R. Chase, chm. bd.

Pine City, Minn.—Co. Comrs. contemplate $160,000 grade and paving job on St. Paul-Duluth road through county. Address County Clerk.

Leavenworth, Kan.—New bids will be advertised soon for paving 45,000 sq. yd. on Broadway with tar macadam. Fred Metschan, city clk.

Great Falls, Mont.—Co. Comrs. contemplate issuing $200,000 road bonds for work in 1917-18. Election Nov. 7.

Kansas City, Mo.—City Council contemplates paving, grading, laying curbs, gutters and sidewalks on Bales Ave., 61st and Main and other streets. Cement concrete and asphalt concrete specified. J. A. Bermingham, city clk.

St. Louis, Mo.—Bd. Pub. Serv. intends improving Union Boule. between Page and Delmar Boules. with wood block paving; estimated cost $43,750.

City Plan Comn. (H. Bartholomew, engr.) for 11-mile driveway over McCausland Ave., along new channel, through Forest Park and on Kings Highway. Estimated cost $1,277,000. Address City Clk.

Conway, Ark.—State Highway engrs., Little Rock, surveying proposed highway between here and east line of county through Vilonia. Address County Clerk.

Athens, Tex.—Citizens voted in Dist. No. 7 $60,000 and in Dist. No. 8 $20,000 road bonds. Address County Clerk.

Cleburne, Tex.—City Council ordered entire city surveyed for grading and paving improvement. Address City Clerk.

Llano, Tex.—Citizens voted $20,000 road and bridge bonds. Address City Clk.

Denton, Tex.—Election to be held Nov. 15 to vote on $900,000 road improvement bonds. Address Clerk Commissioners.

Mineola, Tex.—County voted $150,000 good road bonds. Address County Clerk.

Altus, Okla.—City Council intends paving 50 blocks with macadam paving. Address City Clerk.

Bartlesville, Okla.—Co. Comrs. contemplate spending $600,000 for 47 miles new 16-ft. wide, concrete, hard surfaced road, 3 ft. crushed rock on either side. Special election for bonds in December. Address County Clerk.

City Council intends paving 25 blocks, 400 ft. long, 24 to 30 ft. wide, on Keeler and South Delaware Sts. with concrete. Address City Clk.

Wilburton, Okla.—Red Oak Township voted $35,000 good road bonds. Address A. A. Henderson, co. clk.

Denver, Colo.—City Council contemplates extending W. 8th Ave. from Lowell Boule. to Osceola St. and W. 7th Ave. across Windsor St., and the construction of road from present highway in mountains to proposed government road. Address City Clk.

U. S. Forest Service, Henry S. Graves, ch. forester, Denver, has completed survey of proposed 32-mile Circle Road from Bergen Park to top of Mt. Evans. Estimated cost, $391,800. Proposed road when completed will be 66 miles long and cost $790,000.

Aberdeen, Wash.—City Council contemplates spending $40,000 for street and bridge work. L. D. Kelsey, city engr. P. F. Clark, city clerk.

Montesano, Wash.—City Council intends paving Main St. from Wynooche St. to N. P. Ry. Co. tracks with concrete 18 ft. wide and laying curbs and gutters and 8-ft. concrete walk. Address City Clk.

Olympia, Wash.—Co. Comrs. contemplate spending in 1917 $85,493 for road and bridge work. Address County Clerk.

Okanogan, Wash.—Co. Comrs. intend spending $202,596 for road and bridge work in 1917. H. E. Smith, co. engr.

Seattle, Wash.—Reported Co. Comrs. intend spending $1,250,000 on road and bridge improvements in 1917. A. P. Denton, co. engr.

City Council intends spending $180,000 on street and sewer work as follows: Wooden sidewalks, 4 ft. wide, for Cloverdale and other streets in South Park district, $30,000; paving 11th Ave., N. E. from Frintnall Pl. to E. 45th St. and other streets with asphalt, $35,800; Terry and Boren Aves., with brick, $14,400; alley in block 49 with wood block, $2,000; grading E. 80th St. and others at $39,000; E. 71st St. and others at $15,200 and laying water mains on 10th Ave., N. E., and other streets, $44,000.

Spokane, Wash.—City Council contemplates spending $21,000 for grading and sidewalking Nevada St. from Hamilton St., via Grace Ave., a distance of 2 miles. Address City Clk.

Oregon.—State Highway Comn. (B. G. Finch, engr.), Salem, approved proposed construction of following new roads: No. 1, Pacific Highway from Portland to Ashland; No. 2, road via Baker from Portland to Ontario; No. 3, Dallas-Klamath road; No. 4, road via John Day from Portland to Ontario; No. 5, Florence-Mitchell road; No. 6, Bend-Lakeview road; No. 7, Eugene-Klamath road.

Los Angeles, Cal.—City Council intends improving 9300 ft. of W. 1st St., from Lake Shore to Virgil Ave., 70 ft. wide, with asphalt, vitrified brick gutters, cement sidewalks and curbs. Address City Clerk.

Santa Ana, Cal.—See "Railroads."

Ventura, Cal.—Road bonds for $150,000 will be sold Nov. 8 by Bd. Co. Supervs.

Provo, Utah.—Co. Comrs. contemplate constructing 50 miles of concrete roads with state and federal aid. Address Co. Clerk.

Pocatello, Idaho.—City Council contemplates paving and grading Ninth and West Bridger Sts.; grading and graveling S. Third St.; grading and surfacing S. Hayes and N. Main Sts. A. R. Dawson, city clerk.

Silver City, Idaho.—Election Nov. 7 to vote $60,000 for constructing 4 new bridges over Snake River. J. S. St. Clair, co. clk.

BIDS DESIRED.

Albany, N. Y.—Until Nov. 21 by Edwin Duffy, comr. State Highways, Albany, for constructing highways in the following counties: Albany, Cattaraugus, Dutchess, Erie, Herkimer, Rensselaer, Sullivan, Washington and Westchester, advertised in this issue.

Long Island City, L. I., N. Y.—Until Nov. 6, by Maurice E. Connelly, boro. pres., for constructing sidewalks in portions of 95th (Chichester, 4th, Greene, and Yale Aves.) and other streets, and paving portions of East and DeKalb Aves. and other streets, in all about 21,000 sq. ft. cement sidewalk, 2310 sq. yd. asphalt paving, 3850 sq. yd. granite block, together with curbing, manholes, catchbasins, etc. Total security, $18,490.

Atlantic City, N. J.—Until Nov. 4 by Bd. Freeholders for improving portions of White Horse Pike and Ocean Highway, consisting of 287,475 sq. yd. warrenite pavement and base course; 22,572 cu. yd. gravel shoulders, 14,853 cu. yd. gravel "C" for foundations, 5366 sq. yd. concrete gutters, 20,500 lin. ft. wooden guard rail, 8736 cu. yd. embankment, together with concrete headers, catch basins, etc. A. H. Nelson, engr., Atlantic City.

Newark, N. J.—Until Nov. 2, by Bd. Street and Water Comrs. (M. R. Sherrerd, ch. engr.), City Hall, for paving portions of Mapes Ave. with bitulithic, in all about 3200 sq. yd.; Shepherd Ave. with asphalt, about 3400 sq. yd.; Vroom Alley, with brick, 450 sq. yd., and portions of High St. with 4-in. creosoted wood block, about 9600 sq. yd., and oblong granite block about 3800 sq. yd., together with sidewalks, curbing, etc.

Baltimore, Md.—Until Nov. 1 by Bd. Awards, care City Register, for grading, paving a number of alleys with concrete cement. Also separate bids same time for paving a number of alleys under Contract 15. R. M. Cooksey, highway engr.

Maryland.—Until Nov. 14 by State Roads Comn., 601 Garrett B'dg., Baltimore, for constructing sections of State roads as follows: Contracts No. BC-26, No. BC-27 and No. BC-28 with sheet asphalt. Bridges: Contracts No. CE-23, Cecil County, No. 0153—Br.—Charles County, and No. 0215—Br.—Washington County, advertised in this issue.

Bridgeport, W. Va.—Until Nov. 2 by State Highway Dept. for paving 2 1-3 miles of Bridgeport-Cadiz Road.

De Land, Fla.—Until Nov. 6 by Bd. Co. Comrs. (Samuel D. Jordan, clk.) for constructing improved highways in Halifax Special Road and Bridge Dist.; work includes 47,520 lin. ft. roadway, 3000 cu. yd. excav., 7158 cu. yd. Class "A" concrete, 95,040 lin. ft. curb, 47,520 sq. yd. surfacing, 31,600 sq. yd. shoulders, 15,220 cu. yd. concrete, Class "A" (bridges and culverts), 9600 cu yd. concrete, class "B" (bridges and culverts), 12,936 lb. steel, 520 lin. ft. piles, 2123 M. ft. bridge timber, 2470 lin. ft. of 12 to 36-in. pipe culverts. J. B. McCrary, co. engrs., 1408-17 Third National Bank Bldg., Atlanta, Ga.

Birmingham, Ala.—See "Waterworks and Sewerage Systems."

Birmingham, Ala.—Until Nov. 7 by City Comn. for paving portions of Tuscaloosa Ave. with sheet asphalt work, includes 23,000 sq. yd.; cost $45,000. Julian Kendrick, city engr.

Centerville, Ala.—Until Nov. 18, by Bd. Revenue for grading, draining and macadamizing Centerville and Randolph Rds. Cost $10,000.

Grove Hill, Ala.—Until Dec. 15, by Co. Comrs. for improving roads, cost $30,000. A. L. Smith, co. engr.

Jennings, La.—Until Nov. 2 for constructing roads in Jefferson Davis Parish; cost about $400,000. Address Clerk Police Jury.

Lake Charles, La.—Until Nov. 9, by the city, for 14,000 sq. yd. gravel pavement and 6200 lin. ft. concrete curb and gutter. Address E. L. Gorham, city engr.

Grenada, Miss.—Until Nov. 6 by Bd. Co. Supervs. (M. E. Powell, ex-officio clerk) for constructing 85 miles of sand clay roads.

Bowling Green, O.—Until Nov. 1, by R. S. Gillespie, co. aud., for grading, draining, and applying bituminous binder and constructing earth road on the following highways: William Westfield Stone Rd., David Shanks Stone Rd., Chas. H. Lemmerbrook Stone Rd., and a number of other roads; also separate bids until Nov. 2 for grading, draining and macadamizing and constructing earth roads as follows: Chas. Vollma Stone Rd. and A. J. Harman Stone Rd.

Cincinnati, Ohio.—Until Nov. 10 by Bd. Comrs. (Albert Reinhart, clerk) for improving Cameron Road, estimated at $48,000; also North Bend Road, estimated at $64,000. Wm. Boeh, co. surv.

Marietta, Ohio.—Reported desired until Nov. 1 by W. E. Baker, dir. pub. service, for one mile of concrete paving and grading in alley and one mile of brick paving, stone curb, etc., in Mulberry St.

Ohio.—Until Nov. 2, by Clinton Cowan, state highway comr., for repairing, resurfacing, extending culverts, etc., bridges in following counties:

Guernsey Co., Sect. "K," National Rd., Wills and Oxford townships, with lingnin liquor and oil surface treated with macadam, length 7.48 miles; cost $109,297.

Fairfield Co., Sect. "E," Logan-Lancaster Rd., Berne township; length .59 mile; cost $5,695.

Franklin Co., Sect. F, Columbus-Lancaster Rd., Marion township, with bituminous macadam; length 1.32 miles; cost $13,717.

Youngstown, Ohio.—Until Nov. 8 by Dir. Pub. Service (Dan J. Jones, clerk) for paving portions of Erie St., Cassius Ave., repaving Boardman, Commerce Sts., grading portions of Park Cliff Ave. and other streets. Also separate bids for constructing sewers in Hillman, Hylda Sts. and Reed Ave. and other streets.

Indiana.—By Co. Comrs. for constructing following roads:

Nov. 11:

Columbia City, constructing two gravel roads. Thos. A. McLaughlin, co. aud.

Nov. 21:

Ft. Wayne, constructing one concrete road in Adams township. Will Johnson, co. aud.

Des Moines, Ia.—Until Nov. 1 by Horace Susong, city clerk, for paving portions of Douglas Ave, Small and Lincoln and other streets, in all about 29,035 sq. yd. Bids desired on sheet asphalt, bitulithic, asphaltic concrete and vitrified brick.

Auburn, Wash.—Until Nov. 1 by James F. Lemar, city clerk for paving portions of Driscoll and Eighth Sts., together with grading, curbing, concrete walks, etc.

Fillmore, Cal.—Until about Dec. 1 by the City Trustees for constructing about 4 miles of cement curbs and sidewalks. Edward M. Lynch, city engr., Glendale.

Santa Paula, Cal.—Until Nov. 17, by City Trustees, for constructing pavements of concrete base and warrenite surface on a number of streets; cost $60,000. Edward M. Lynch, city engr., Glendale.

Ventura, Cal.—Until Nov. 8 by Bd. Superv. (J. B. McCloskey, clerk) for constructing 4-in. concrete pavement on 11 miles of Division No. 1, Santa Paula to Ventura, involving 27,000 cu. yd. ex av., 58,600 lin. ft. shaping roadbed, 11,758 cu. yd. "B" concrete in bridges and culverts, 11,400 lb. rein. steel, etc.

PRICES AND LETTINGS.

★Indicates award of contract.

★Ayer, Mass.—Contract awarded by State Highway Comr., Boston (bids opened Oct. 17) for tar macadam road to R. F. Hudson, Melrose, Mass., at $27,103.

★Boston, Mass.—Contract awarded Warren Bros. Co., 142 Berkeley St., at $16,985 by City Council, for 11,000 additional sq. yd. of paving on northern side of Commonwealth Ave.

★Hammonton, N. J.—Contract awarded by Town Council (W. R. Seely, clerk), bids opened Oct. 11, to Michael Staub, Mamaroneck, N. Y., at $32,791, for 15,911 sq. yd. concrete paving on Bellevue Ave.

★West New York, N. J.—Contract awarded by Town Council to Geo. J. Hornung, West New York, at $66,204, for paving with "Hastings" asphalt block 9th St. from Bergenline Ave. to Park Ave.

★Grove Hill, Ala.—Contract awarded by Co. Comrs., A. L. Smith, co. engr. (bids opened Oct. 17) to Crawley Bros., Bay Minette, at $13,340, for grading, draining and surfacing with gravel or sand clay portions of Jackson and West Bend Rds.

★LaFayette, Ala.—Contract awarded by Co. Comrs. (bids opened Oct. 20) to Stanley & Singer Con. Co., LaFayette, for grading, draining and surfacing with top soil State Trunk road from Fairfax Cotton Mills to Lee County Line.

★Atlanta, Ga.—Contract awarded Southern Paving Constr. Co., Chattanooga, Tenn., at $25,000 for paving with brick South Pryor St., from Georgia Ave. to Garnett St.

★Columbus, Ohio.—Contract awarded by City Council to Watts & Ammerman, Salina, at $38,232, for paving with brick and laying storm sewer, curb and gutters on East Pine, South Kansas and other streets. F. H. Hawkins, city clk.

Seattle, Wash.—Lowest bid opened by Bd. Pub. Wks. (C. B. Bagley, secy.), for approach to Fremont Ave. bridge over Lake Washington Gov't Canal submitted by Minneapolis Steel & Machinery Co., Minneapolis, Minn., at $12,220.

★Bakersfield, Cal.—Contract awarded by Bd. Supervs. to Geo. S. Benson & Sons, 520 Stimson Bldg., Los Angeles, Cal., at $25,289 for grading and surfacing with broken stone 9 miles of Rio Bravo-Wasco Road, Div. 4, Sect. 1, 2640 ft. barbed wire fence included in contract. Bids opened Oct. 2. Previous report incorrect.)

★Chino, Cal.—Contract awarded by Bd. City Trus. (bids opened Oct. 11) to California-Arizona Constr. Co., 1700 E. Washington St., Los Angeles, at $53,715, for grading and paving with asphalt and Warrenite on number of streets.

★Los Angeles, Cal.—Contract awarded by Bd. Supervs. to S-C Contr. Co., 543 Title Ins. Bldg., at $52,113, for concrete paving, etc., on Beverly and Scenic roads, Road Dist. No. 126. Bids opened Oct. 2.

★Pasadena, Cal.—Contract awarded by City Comrs. to J. S. Miller, 1336 8th St., Santa Monica, at $11,385, for paving on Glenarm St., 115,000 sq. ft. of 5-in. oiled concrete.

★Phoenix, Ariz.—Contract awarded California-Arizona Constr. Co., 1700 E. Washington St., Los Angeles, at $45,124, for paving with bitulithic and laying concrete curbs and gutters in Second Ave., Filmore, McKinley, First and East Monroe Sts.

RAILWAYS
Steam and Electric

PROPOSED WORK.

Glens Falls, N. Y.—See "Waterworks and Sewerage Systems."

Bogalusa, La.—See "Waterworks and Sewerage Systems."

Elyria, O.—Plans and specifications submitted to City Council for elimination of grade crossing of New York Central RR. (G. C. Cleveland, ch. engr., Cleveland) at Winckles St.; estimated cost $190,000. Railroad company to pay 65% and city and street railway company to pay 35% of cost.

Richmond, Ind.—Plans being prepared for constructing an electric railway between Richmond and Fort Wayne via Union City, Winchester, Portland and Decatur. D. C. Moore, Richmond, interested.

Streator, Ill.—Kewanee & Eastern Ry. Co. considering constructing railroad 120 miles long from a point in Rock Island County opposite Muscatine, Ia., to point near Streator, via Kewanee. Address Public Utility Comn., Springfield.

Laurel, Mont.—Contract about to be let by Northern Pacific RR. (W. L. Darling, ch. engr., St. Paul, Minn.) for constructing line from Laurel into Lake Basin, distance about 35 miles.

Spokane, Wash.—Plans being prepared by Great Northern RR. (A. H. Hogeland, ch. engr., St. Paul, Minn.) for electrification of about 300 miles of main line between Spokane and Seattle and other mountain divisions.

Washington.—Methow Valley & Eastern Ry. incorporated with capital of $1,500,000 for constructing railroad in Skagit County and connecting with Great Northern Ry. J. A. Miller, dist. passenger agent, Great Northern RR. at Bellingham, said to be interested.

Crescent City, Cal.—Construction of 65-mile railroad connecting Crescent City with Grant's Pass, Ore., contemplated; cost $2,000,000. D. W. Twohy, Spokane, Wash., said to be interested.

Santa Ana, Cal.—Pacific Electric Ry. Co., Los Angeles, will construct 2640-ft. double track, including paving, on 4th St., cost $21,000.

Santa Idaho.—Santa & Western Ry. Co. incorporated with capitol of $25,000 to construct 15-mile railroad from Marsh Station on line of Chicago, Milwaukee & St. Paul Ry. to Santa. F. A. Blackwell of Blackwell Lumber Co., Coeur d'Alene, said to be interested.

BIDS DESIRED.

Des Moines, Iowa.—Bids desired for a limited time from date of this notice by J. B. Marsh, special master, Atlantic Southern RR., 204 Masonic Temple, Des Moines, for sale of Atlantic Southern RR., advertised in this issue.

PRICES AND LETTINGS.

★Indicates award of contract.

★Upper Darby, Pa.—Contract awarded by Philadelphia & Westchester Traction Co. to Wm. J. Torrington, Philadelphia, for grading, masonry and roadway construction on its lines.

★Man, W. Va.—Contract for constructing 13-mile railway from Gilbert to Man for Chesapeake & Ohio RR. awarded to Ballard Herring & Seves, Inc., Yancy Mills.

Portland, Ore.—Until Dec. 6 by City Council for elimination of grade crossings of Oregon-Washington and Navigation Co. across Sandy Boule., E. 47th, E. 52d, Halsey and E. 82d and other streets. A. L. Barbur, city aud.

★Wendover, Utah.—Contract for constructing 43-mile railroad from Wendover to Gold Hill for Deep Creek RR. awarded to Utah Constr. Co., McIntyre Bldg., Salt Lake City. Duncan MacVichie of Western Utah Copper Co., Salt Lake City, is interested.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Bayonne, N. J.—See "Foundations, Piers and Dams."

Passaic, N. J.—Botany Worsted Mills Co., Dayton Ave., will erect an additional plant to cost about $250,000.

Canton (P. O. Baltimore), Md.—Reported Continental Can Co., 501 Keyser Bldg., Baltimore, will erect an addition to its plant at Canton, costing about $100,000.

Reported Hornblower & Weeks, 42 Broadway, New York, have purchased plant of United Steel Co. at Canton and contemplate extensive improvements.

Cincinnati, O.—Charles Boldt Glass Co., Cincinnati, secured site on Eastern Ave. and intends erecting a complete glass manufacturing plant; estimated cost about $100,000.

Middletown, O.—Werner & Adkins, 1206 Mercantile Library Bldg., Cincinnati, engaged to prepare plans for extensive additions to plant of American Rolling Mills Co., including 2-story office building and two garages, 60 x 175 each, of fireproof construction.

Frankfort, Ind.—Esterline & Angus, Lemcke Annex, Indianapolis, engaged to prepare plans and supervise erection of new manufacturing plant for McDougall Kitchen Cabinet Co., Frankfort.

Chicago, Ill.—Swift & Co., 76 West Monroe St., reported intends erecting 7-story soap factory to cost $200,000.

St. Paul, Minn.—See "Reinforced Concrete."

Omaha, Neb. — Reported Fairmont Creamery Co., 12th and Jones Sts., will erect 4-story building to be used for manufacturing buttermilk powder; cost $100,000.

Hayden, Ariz.—Reported plans being prepared for a mill to be erected for Ray Consolidated Copper Co. (L. S. Gates, genl. mgr., Ray, Ariz.)

Hamilton, Ont.—See "Structural Steel."

London, Ont.—Reported factory of W. A. Jenkins Stock Food Co., recently destroyed by fire, at a loss of $50,000, will be rebuilt.

Toronto, Ont.—Reported Dominion Government has appointed C. S. Wilcox, Pres. of Steel Co. of Canada, Hamilton, as chairman of a committee to secure plans for an aeroplane factory. All new machinery to be purchased.

Lillooet, B. C.—See "Reinforced Concrete."

New Westminster, B. C. — Reported Henry Schaake, New Westminster, plans erecting $50,000 foundry and machine shop.

BIDS DESIRED.

Paterson, N. J.—Reported desired until Nov. 15 by Paterson Industrial Development Co. of the Chamber of Commerce for erecting 4-story, 75 x 275 ft., plant of fireproof construction for Paterson Development Co. Cost about $200,000.

Chicago, Ill.—Reported desired until Nov. 17 by W. G. Baird, pres. Chicago & Alton RR. Co., 608 Dearborn St., for erecting 3 to 5-story freight terminal warehouse.

St. John, N. B.—Until Nov. 15 by J. W. Pugsley, secy. dept. railways and canals, Ottawa, Ont., for constructing reinforced concrete grain elevator of 500,000 bushel capacity. John S. Metcalf Co., engrs., Montreal, Que.

PRICES AND LETTINGS.

★Indicates award of contract.

★Newark, N. J.—Contract awarded Stone & Webster Eng. Co., 120 Broadway, New York, for erecting several manufacturing buildings for Celluloid Co., 290 Ferry St.; cost about $1,000,000.

Millville, N. J.—See "Reinforced Concrete."

★Philadelphia, Pa.—Contract awarded Hoffman Eng. & Contr. Co., Pennsylvania Bldg., for erecting 3-story, 60 x 105-ft., and two 3-story, 60 x 150-ft. brick shops for Wm. Cramp & Sons Ship & Engine Building Co.; also alterations to present shop at Richmond and Norris Sts.; cost $58,000.

★Cleveland, O.—Contract awarded Sml. Austin & Son Co., 14230 Euclid Ave., for erecting factory at E. 49th St., and the Newburgh & South Shore RR. for Aluminum Castings Co., 6205 Carnegie Ave.; cost $125,000.

★London, Ont.—Contract awarded by McClary Mfg. Co. to J. Moran, 927 Maitland St., for erecting 4-story, brick and mill construction galvanizing plant; cost $60,000. John Moore, archt., 425 Richmond St.

Toronto, Ont.—See "Reinforced Concrete."

Transcona, Man.—See "Reinforced Concrete."

BUILDINGS
Public and Private

PROPOSED WORK.

Berlin, N. H.—All bids opened Oct. 5 by Supervising Architect, Washington, D. C., for the construction complete of U. S. postoffice, rejected, being in excess of amount available.

Brooklyn, N. Y.—Plans filed for 3-story brick office and garage building to be erected at Waverly Ave. and Fulton St. for Alex. Campbell Milk Co., 802 Fulton St.; cost $50,000. J. P. Benson, archt., 331 Madison Ave., New York.

Gloversville, N. Y.—All bids recently opened by Bd. Educ. (H. Van Voris, Secy.) for erecting $80,000 grammar school, rejected.

New York, N. Y.—Plans being prepared by Samuel Katz, 505 Fifth Ave., for 5-story apartment house to be erected at 18 St. Nicholas Pl. for Sonwil Holding Co.; cost about $90,000.

Plans filed for erecting following buildings: Six-story garage at 226 East Sixty-third St. for Walters Piano Co., cost $70,000, J. C. Ruhl, archt., 3207 Hull Ave.; 16-story store and loft building at 149 Fifth Ave. and 1-13 East Twenty-first St. and Broadway, for Estate Bradish Johnson, cost $450,000, Maynicke & Franke, archts., 25 Madison Sq.; 9-story apartment house at 66 East Seventy-seventh St. for 70 East Seventy-seventh Street Co., Inc., cost $175,000, Schwartz & Gross, archts., 347 Fifth Ave.; 16-story annex to Hotel Woodward at Broadway and Fifty-fourth St. for Ford Motor Co., estimated cost $700,000, Albert Kahn and Ernest Wilby of Detroit, Mich., assoc. archts; 14-story apartment house at Broadway and 105th St. for T. J. McLaughlin's Sons, estimated cost $550,000, Gaetan Ajello, archt., 1 West Thirty-fourth St; 5-story tenement house at 170th St. and Plymton Ave. for Robt. A. Winter, Jr., cost $50,000, Kreymborg Architectural Co., archts., South Boule. and 163d St.; 6-story tenement house at Morris Ave. and 183d St. for Morris Ave. Corp., cost $50,000, M. W. Del Gaudio, archt., 401 East Tremont Ave.; 5-story apartment building at Isham St. and Broadway for A-1 Building Co., cost $110,000, Moore & Landsiedel, archts., Third Ave. and 148th St.

Bridgeton, N. J.—Plans being prepared by Charles Z. Scholl, Reading, Pa., for high school to cost $150,000. Address School Board.

Elizabeth, N. J.—City Council contemplates issuing $75,000 bonds for erecting new fire engine house and purchase of new apparatus.

Jersey City, N. J.—Bd. Educ. voted to erect 16-room addition to School No. 35.

Newark, N. J.—Improvements to City Hospital to cost $120,000 under consideration. Address City Clerk.

Directors of German Hospital reported contemplate spending $100,000 for alterations and improvements.

Pittsburgh, Pa.—R. M. Trimble, Ferguson Blk., reported architect for Perry elementary school to be erected on Perrysville Ave. and Semicir St., North Side; cost $300,000. Address Bd. Educ.

York, Pa.—Reported School Bd. will soon let contract for erecting new school on Kurtz tract, for which $80,000 bonds were recently sold.

Cleveland, O.—Reported Saml. Gurss, 1261 E. 99th St., will erect a commercial and apartment building at Cedar Ave. and E. 95th St.; cost $50,000.

City Council and Mayor Harry L. Davis have approved issue of $100,000 bonds for improving city fire department. A. B. Sprosty, dir. pub. safety.

Reported Ernest Altschul, Rockwell Ave. and E. 9th St., will erect apartment building on E. 105th St. and Wade Park Ave.; cost about $50,000.

An office and mercantile building, costing about $75,000, is to be erected on W. 25th St. and Bridge Ave. M. B. Scharfeld, Society of Savings Bldg., may be able to give information.

Lebanon, O.—Village School Dist. voted in favor of issuing $60,000 bonds for erecting new high school. Address Village Clerk.

Middletown, O.—See "Industrial Plants and Warehouses."

Indianapolis, Ind.—High school bonds for $150,000 will be sold Nov. 14 by Bd. School Comrs.

Oak Park, Ill.—Willis S. Herrick, pres. of Avenue State Bank of Oak Park, has purchased site at Oak Park Ave. and North Boule. and intends erecting store, office and bank building to cost about $100,000.

Franklin, Wis.—Northwest Synod of German-American Reformed Church has voted to spend $100,000 for new buildings to be erected at Mission House College.

Minneapolis, Minn.—Long-Lamoreaux & Long, 830 Hennepin Ave., engaged to prepare plans for 125 x 150 ft., fireproof Y. M. C. A. building, probably 8 stories.

St. Cloud, Minn.—St. Raphael's Hospital Assoc. purchased site and intends erecting new hospital to cost about $150,000.

St. Paul, Minn.—Bd. Trustees (Joseph Levy, Pres.) Jewish Home for the Aged, 75 Wilkin St., considering plans for new $50,000 building.

Abilene, Kan.—W. H. Saylor, Gumbel Bldg., Kansas City, Mo., is architect for 2-story and basement, 90 x 150 ft., brick, cement and fireproof high school; cost $90,000. W. A. Stacey, Supt. Schools.

Billings, Mont.—Reported State Conference of Congregational Churches in session at Broadview, decided to erect a college in connection with Billings Polytechnic Institute to cost $300,000.

Little Rock, Ark.—Erection of hospital to cost $200,000 contemplated. Address City Clerk.

Beaumont, Tex.—See "Reinforced Concrete."

El Paso, Tex.—Plans completed by S. E. Patton, El Paso, for 3-story apartment house to be erected at 1021 Magoffin Ave. for Mrs. Ella B. Howe and Miss Maude B. Doane; cost $50,000.

Hubbard, Tex.—Reported erection of a sanitarium and bathhouse to cost about $50,000 contemplated. W. L. Odell of Hubbard may be able to give further information.

San Antonio, Tex.—School Bd. reported considering plans for new 3-story high school to replace Main Ave. High School; cost about $110,000.

Waco, Tex.—Plans being prepared by Geo. Burnett Co., Cameron Bldg., for hotel to be erected for C. C. McBurnett; cost about $150,000.

Los Angeles, Cal.—Preliminary plans prepared by Arthur G. Lindley, 310 Hollingsworth Bldg., for fireproof arcade building, 322 x 40 ft., to be erected on Broadway and Hill St. for J. Langman and Estes & Arnold, 1105 Trust & Savings Bldg.; probable cost $50,000.

Los Angeles, Cal.—See "Reinforced Concrete."

San Diego, Cal.—Sisters of Mercy contemplates erecting hospital, to cost $75,000.

Stockton, Cal.—Odd Fellows Lodge contemplates erecting Orphan Home here to cost $60,000.

Montreal, Que.—Contract soon to be let by F. Weeks, Windsor Hotel, Montreal, for erecting brick, steel, terra cotta and reinforced concrete theater for Loew's Montreal Theaters Co.; cost $500,000. T. W. Lamb, archt., 644 8th Ave., New York City.

Normandin, Ont.—Plans being prepared by J. P. Ouellett, 28 Famille St., Quebec, for stone church to be erected for Parish of Normandin; cost $125,000.

Trenton, Ont.—A by-law for new high school to cost $50,000 has been passed. Address H. Mayhew, chmn. school bd.

BIDS DESIRED.

Albany, N. Y.—Until Nov. 6 by Bd. Contract and Supply (Isidore Wachsman, secy.) for reconstructing school No. 9 located on Sheridan Ave., separate bids on plumbing, heating and ventilation, etc. Obenaus-Nicholas Co., archts., 119 State St., Albany.

Brooklyn, N. Y.—Until Nov. 15, by L. H. Pounds, boro. pres., for furnishing labor and material for excavation, foundations, and superstructures of, or in connection with Flatbush Ave. wing of Central Library building, at Prospect Park Plaza. Security $50,000. Also for plumbing work in connection with said building. Security $1,200.

New Hampton, N. Y.—Until Nov. 10, for erecting 4-story brick building for New York City Dept. of Corrections. Plans and specifications may be had at Room 2400, Municipal Bldg., New York City, or at the site of the work from Wm. Goldsmith, construction engr., New Hampton. Estimated cost $175,000.

Newark, N. J.—Until Nov. 3 by Common Council for alteration and additions to proposed police headquarters, cost about $160,000. Jordan Green, 27 Clinton St., archt.

Philadelphia, Pa.—Until Nov. 6 by Wilmer Krusen, M.D., dir. dept. pub. health and charities, City Hall, Philadelphia, for erecting buildings D, E, J, K and L and their connecting corridors, including plumbing, heating and electric work for Philadelphia Institution for Feeble Minded, Byberry, Philadelphia. Philip H. Johnson, archt., 1824-25 Land Title Bldg., Philadelphia.

Washington, D. C.—Until Dec. 4 at Treas. Dept., U. S. Coast Guard, Washington, D. C., for constructing a Coast Guard station, on the Siuslaw River, Ore., advertised in this issue.

Until Nov. 28 at Treasury Dept. U. S. Coast Guard, Washington, D. C., for constructing a Coast Guard Station at San Luis, Galveston Island, Tex., advertised in this issue.

New Orleans, La.—Until Nov. 17 by Jas. A. Wetmore, acting superv. archt., treas. dept., Washington, D. C., for remodeling U. S. Custom House at New Orleans, advertised in this issue.

Cincinnati, Ohio.—Until Nov. 16 by Bd. Educ. (Chas. W. Handman, bus. mgr.) for following work on East Hill high school: Excavation, concrete and masonry work; structural and ornamental iron, sheet metal and roofing, carpentry work, interior marble and tile work, lockers and hydraulic crane; cost of this contract $350,000; school when completed to cost $1,000,000.

Until Nov. 16, as a whole or separately, by Br. Educ. (C. H. Handman, bus. mgr.) for erecting Industrial Arts Bldg., tunnel "K" and power house in one specification, and gymnasium, tunnel "J" and stadium in another specification of the East Side High School, located at the corner of Madison Rd. and Erie Ave., Hyde Park. Prices of labor and material must be stated separately.

Cleveland, O.—Reported desired until Nov. 3 by Carl Lorenz, secy. library bd., 1375 Euclid Ave., for erecting library building on northeast side of Jefferson Ave.

Dayton, O.—Until Nov. 16 by C. J. Schmidt, clk. bd. educ., for erecting the Whittier School in Edgemont. Albert Pretzinger and Edward P. Musselman, archts., 1155-1162 Reibold Bldg., Dayton.

Until Nov. 16 by C. J. Schmidt, clk. bd. educ., for erecting the Cleveland school, located on Ohmer Park. Albert Pretzinger and Albert P. Musselman, archts., 1155-1162 Reibold Bldg., Dayton.

East St. Louis, Ill.—Until Dec. 22, by Jas. A. Wetmore, acting superv. archt., treas. dept., Washington, D. C., for extension and remodeling (including mechanical equipment and approaches) of the U. S. Post Office and Court House.

Rolfe, Ia.—Until Nov. 9 (readvertisement), by James Bruce, secy. Independent School Dist., for erecting school. Separate bids for heating, plumbing, electrical work, etc. G. L. Lockhart, archt., 285-288 Endicott Bldg., St. Paul.

Anoka, Minn.—Until Oct. 31 by State Bd. Control, State Capitol Bldg., St. Paul, for erecting infirmary bldg. at State Asylum, including heating, ventilating, plumbing, etc. C. H. Johnson, archt., 715 Capitol Bank Bldg., St. Paul.

Hibbing Minn.—Until Nov. 21 by D. D. McEachin, secy. water, light, power and bldg. comn., for erecting a municipal power plant. Charles L. Pillsbury Co., engrs. 805-811 Metropolitan Life Bldg., Minneapolis.

Wadena, Minn.—Until Nov. 2 by State Bd. Control, State Capitol, St. Paul, for erecting a tuberculosis sanatorium for Wadena and Todd counties. Sund & Dunham, archts., 514 Essex Bldg., Minneapolis.

Chadron, Neb.—Until Dec. 7, by Jas. A. Wetmore, acting superv. archt., Washington, D. C., for erecting U. S. Post Office and Court House at Chadron.

Cozard, Neb.—Until Nov. 3 by School Bd. (E. E. Dodson, secy.) for erecting high school; separate bids for plumbing, heating and ventilation, etc. R. A. Bradley & Co., archts., Exchange National Bank Bldg., Hastings.

Omaha, Neb.—Reported desired until Nov. 1 by Bd. Educ. for erecting a brick and concrete grade school; cost $112,000. Fred. W. Clark, archt., 682 Brandels Bldg., Omaha.

Beaumont, Tex.—See "Foundations, Piers and Dams."

Pueblo, Col.—Until Dec. 1 for erecting brick, stone and terra cotta fireproof city hall and auditorium; cost about $220,000. Wm. W. Stickney, archt., 89 Opera Block, Pueblo.

Fresno, Cal.—Until Nov. 8 by Bd. Co. Superv. (D. M. Barnell, clk.) for constructing addition to the Fresno County Hospital. Glass & Butner, archts., Fresno.

PRICES AND LETTINGS.

★Indicates award of contract.

★Bangor, Me.—Contract awarded E. C. Hodgins & Sons, Bangor, for erecting 8-story building on Harlow St. for Chas. W. Morse, at $60,000.

Chelsea, Mass.—Following bids reported opened Oct. 16 by James H. Malone, Mayor, for completing addition to Carter School: D. R. McKillop, 137 W. Brookline St., Boston, $130,175; D. J. MacDonald Co., Chelsea, $132,182; C. S. Cunningham Sons Co., 101 Tremont St., Boston, $132,852.

New Haven, Conn.—Lowest bid opened Oct. 18 by Supervising Architect, Washington, D. C., for installing elevators in U. S. postoffice submitted by Smith Rhea Co., Baltimore, Md., at $17,661.

★New York, N. Y.—Contract for the station finish work for part of the Seventh Ave.-Lexington Rapid Transit RR., Manhattan Boro. (bids opened Oct. 6) awarded by Pub. Service Comn. for First Dist., 120 Broadway, to Louis Wechsler, 1133 Broadway, at $382,521.

★Dover, N. J.—Contracts for erecting school awarded by Bd. Educ. as follows: General construction, R. W. Whitman & Co., 215 E. Blackwell St., $86,962; heating, plumbing and ventilating, J. T. Kerr & Co., 11 S. Warren St., $17,015.

★Trenton, N. J.—Contract awarded by City Comn. to S. W. Mather & Sons, Greenwood and Canal Sts., at about $68,734, for erecting 2-story brick fire and police building.

★Nicetown (P. O. Philadelphia), Pa.—Contract awarded F. W. Mark Constr. Co., 2816 N. 21st St., Philadelphia, for erecting 6-story, 55 x 157 ft. brick, steel, reinforced concrete, terra cotta and stone office building at Nicetown for Midvale Steel Co.

★Philadelphia, Pa.—Contract awarded Irwin & Leighton, 126 N. 12th St., for erecting 2-story and basement, stone, brick and reinforced concrete office building at 33d and Arch Sts. for Edw. W. Harris; cost $110,000.

Pittsburgh, Pa.—See "Reinforced Concrete."

Wilmington, Del.—Lowest bid opened Oct. 18 by Supervising Architect, Washington, D. C., for installing elevators in U. S. postoffice submitted by A. B. See Electric Elevator Co., Washington, D. C., at $4,600.

Buckhannon, W. Va. — Lowest bid opened Oct. 12 by Supervising Architect, Washington, D. C., for erecting U. S. post office submitted by V. E. Taylor, Huntington, at $38,800 for limestone, and Olin Gerlach, Frostburg, Md., at $42,500 for sandstone.

★Cleveland, O.—Contract awarded Geo. A. Rutherford, 2160 E. 18th St., for erecting market house at Euclid and Superior Aves., for a company being promoted by the W. W. Daviess Co., 729 Garfield Bldg.; cost about $110,000. W. S. Lougee, archt., 500 Marshall Bldg.

★Wilmington, O.—Contract awarded N. P. Eveland, Miamiville, for erecting motion picture house here for Chas. Murphy; cost about $50,000.

★Bedford, Ind.—Contract for erecting Masonic Temple on Dunn site awarded Leslie Colvin of Anderson, at $79,100.

Terre Haute, Ind. — See "Reinforced Concrete."

Beloit, Wis.—Following are lowest bids opened Oct. 9 by West Side School Bd. for erecting Burdge School: General construction, John Schneiberg, Beloit, $35,490; heating, Paul E. Mueller Co., Milwaukee, $8,288; plumbing, Sanitary Plumbing Co., Beloit, $5,508.

★Waterloo, Ia.—Contract for erecting Waterloo High School awarded to Anton Zwack, Dubuque, at $235,897 and plumbing to Zook & Bentz, Waterloo, at $49,450.

★Chisholm, Minn.—Contracts for erecting Russian-Greek Orthodox Church awarded as follows: General contract, Gus Anderson, Chisholm; mill work, Baxter Sash & Door Co., Duluth; iron and steel, American Bridge Co., Minneapolis; cost $55,000.

Dickinson, N. D.—Following are 4 lowest bids opened Oct. 16 by Supervising Architect, Washington, D. C., for erecting U. S. postoffice, (a) limestone, (b) sandstone: Chas. Weeks Sons, Des Moines, Iowa, (a) $71,287, (b) $74,000; W. D. Lovell, Minneapolis, Minn., (a) $74,322, (b) $78,770; Olson & Johnson Co., Missoula, Mont., (a) $74,430, (b) $74,680; Geo. W. Stiles Constr. Co., Rookery Bldg., Chicago, (a) $75,818, (b) $78,800.

★Clear Lake, S. D.—Contract for erecting 2-story and basement court house (bids opened Oct. 18) awarded A. M. Wold Constr. Co., Brookings, at $82,426.

★Portland, Ore.—Contract awarded McHolland Bros., 669 E. Everett St., for erecting $50,000 residence on Columbia River Highway for C. S. Jacobsen. Whitehouse & Fouilhoux, archts., Wilcox Bldg.

★Le Pas, Man.—Contract awarded Snyder Bros., Portage La Prairie, Man., for erecting brick court house and jail at $50,000.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Bayonne, N. J.—B. Y. Cresson, Jr., engr. state bd. of commerce and navigation, Trenton, has accepted plans for proposed terminals, docks, ferry slips and factory sites along New York Bay at Bayonne.

Pennsylvania.—State Water Supply Comn., Harrisburg, has approved applications for permission for following work:

Coatesville, Chester County, to make a change in the approved plans for Rock Run Dam, West Caln Township.

Fayette County, Republic-Connellsville Coke Co., Connellsville, to make change in or addition to river coal tipple, ice breakers, fender piling and harbor along right bank of Monongahela River, about 58 miles above Pittsburgh at what is known as Bridgeport mines.

H. C. Frick Coke Co., Pittsburgh, to construct a river tipple, ice breaker, fender piling and harbor along right bank of Monongahela River in what is known as Palmer Mine.

Butler County, Pittsburgh, Bessemer & Lake Erie RR. Co., C. F. Wentling,

superv. struct. engr., Butler, to fill openings and remove steel where old channel of Connosquenessing Creek crosses under its tracks in Butler Township.

Duluth, Minn.—The Great Northern Ry. Co. (A. H. Hogeland, ch. engr., St. Paul) contemplates rebuilding ore dock and enlarging shops, of steel and concrete construction; cost about $1,000,000.

Beaumont, Tex.—Bonds will be sold Nov. 21 by J. G. Sutton, city secy., for $230,000 for pier work; $150,000 for schools and $100,000 for waterworks improvements.

Boulder, Col.—Contract will be let about January by city for rock work on dam at Silver Lake and also for building at 24-in. c. i. pipe line from Lakewood to Silver Lake, a distance of about 5½ miles. John A. Weber, chmn. water com.

Seattle, Wash.—Charles D. Calley, bridge engr., 1525 Thirty-second Ave., preparing plans for constructing a dock 75 x 100 ft., timber and pile construction; cost $14,000.

BIDS DESIRED.

Newport, R. I.—Until Nov. 4 at Bur. Yards and Docks, Navy Dept., Washington, D. C., for constructing sea wall at the naval torpedo station.

Annapolis, Md.—Until Nov. 27, at Bureau Yards and Docks, Navy Dept., Washington, D. C., for constructing a reinforced concrete sea wall anchored to wood piles, at the U. S. Naval Academy.

Galveston, Tex.—Until Nov. 2 by John D. Kelly, city secy., for constructing concrete bulkhead, 4846 lin. ft. long, along crest line of the beach improvement fill from 6th to 18th St. A. T. Dicky, city engr., Galveston.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Albany, N. Y.—Following are four lowest bids opened Oct. 17 by W. W. Wotherspoon, state supt. pub. wks., for dredging, constructing bulkhead wall, pier and repairing two existing piers and bulkhead at Greenpoint in connection with Terminal Contract No. 19: Mason, Hilton & Co., 17 Battery Pl., New York City, $207,383; Riverside Contr. Co., 39 Cortlandt St., $219,217; W. Brown Baker, Herkimer, $227,820; Phoenix Constr. Co., 41 Park Row, New York City, $250,610.

★**New York, N. Y.**—Contract awarded Raymond Concrete Pile Co., 140 Cedar St., for constructing piles in foundations as follows: Jackson Shore apartments, Chicago, Ill., C. W. & Geo. L. Rapp, archts., 69 W. Washington St., Chicago, Ill.; building for Detroit United Rys. Co., Detroit, W. E. Wood Co., genl. contr., Ford Bldg., Detroit, Mich.; building for Standard Oil Co., La Salle, Ill., Schlinz & Bailey, archts. Piers for mooring dry docks as follows: 650 x 60 ft., reinforced concrete, piles and deck; 530 x 30 ft. and 1260 x 30 ft. timber piles, reinforced concrete dock; 750 ft. bulkhead; one set of concrete launching ways known as No. 1; all for Marine Dept. of Bethlehem Steel Co., at Sparrows Point, Md.; building for Buhl Malleable Iron Co., Detroit, Mich., and for apartment building for McLennan Constr. Co., 3101 Calumet St., Chicago, Ill.

★**Gulfport, Miss.**—Contract awarded by City Comrs. to W. J. Gurley, Mobile, Ala., at $100,667, for constructing 4½ miles of seawall.

★**Indianapolis, Ind.**—Contract awarded by Bd. Pub. Wks. to American Constr. Co., 1201 Georgia St., at $113,300, for constructing additional flood prevention walls along Fall Creek from Illinois St. to Talbott Ave.

★**Chicago, Ill.**—Contract awarded by Col. C. S. Ritchie, corps engrs., U. S. A., 508 Federal Bldg., to Great Lakes Dredge & Dock Co., Monroe Bldg., Chicago, at $53,862, for constructing timber crib bulkhead at Chicago harbor. Other bids: Fitz Simons & Connell Dredge & Dock Co., Chicago, $60,352; Byrne Bros. Dredg. & Eng. Co., 208 South La Salle St., Chicago, $64,158; Edw. Gillen Dock, Dredge & Constr. Co., 1112 North Erie St., Racine, Wis., $89,594 (bids opened Sept. 26).

Following are bids opened Oct. 17 by Col. C. S. Ritchie, corps engrs., U. S. A., 508 Federal Bldg., for constructing about 2730 lin. ft. rubble mound breakwater at Chicago harbor. To furnish and place all stone and construct the breakwater as specified. Price per ton of 2000 lb. Edw. Gillen Dock, Dredge & Constr. Co., 1112 North Erie St., Racine, Wis., $1.21 (recommended for award). Other bidders: Great Lakes Dredge & Dock Co., Monroe Bldg., Chicago, $1.29; Byrnes Bros. Dredg. & Eng. Co., 208 South La Salle St., Chicago, $1.64.

★**Duluth, Minn.**—Contract awarded by Missabe & Northern Ry. (H. L. Dressor, ch. engr., Duluth) to Barnett Record Co., Lyceum Bldg., for piling and foundation for new ore dock No. 4 for said railway. Entire cost about $1,000,000.

Orange, Tex.—Following are bids opened Oct. 20 by city for constructing creosoted timber wharf and bulkhead 600 ft. long: Wm. Moore & Son, Texas City, $40,703; Spencer & Howe Constr. Co., Port Arthur, $45,147; John Jacobson, Texas City, $45,573; Blodgett Constr. Co., Galveston, $50,342. E. U. Henry, city engr.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Portland, Me.—The Marigold Dredging Co., incorporated with a capital of $50,000, to carry on mining business. Directors: Benj. J. Sanderson, E. V. Mann of this city, and others.

Boston, Mass.—City Council and Gov. McCall has approved favorably of new Waterways Comn. in taking tract of land on both sides of Hayward's Creek at Quincy Point, for providing development of shipping facilities for manufacturing towns along that section of South Shore. The creek, which empties into Fore River, will be developed for water freight service.

Pennsylvania.—See "Foundation Piers and Dams."

Jacksonville, Fla.—Bd. Supervisors (J. G. Boyd, Pres.), Consolidated Bldg., will sell Nov. 15 $300,000 Baldwin Drainage Dist. bonds.

Jacksonville, Fla.—Bonds for $300,000 will be sold Nov. 1 by J. B. Boyd, pres. bd. co. supervs., for the improvement of Baldwin drainage dist.

Appleton, Wis. — Thos. W. Orbison, engr., Appleton, has been engaged to develop Pixley Rapids below Park Falls, at an estimated cost of $100,000.

Bemidji, Minn.—All bids opened by J. L. George, co. aud., for constructing Judicial Ditch No. 25, 324 miles long, rejected, being above estimated cost, which is $406,709. See "Bids Desired."

St. Peter, Minn.—Drainage of Timber Lake, 6 miles west of city, is contemplated; estimated cost $43,000. Address Comrs. Nicollet Co.

Flandreau, S. D.—Work on the proposed joint drainage ditch to drain about 2500 acres of land in Lake and Moody Counties will be started in the spring. Estimated cost $93,000. Address County Clerk.

St. Ignatius, Mont.—Reported U. S. Reclamation Service contemplates converting Lakes Angus McDonald and St. Mary into reservoirs as part of Blackhead irrigation project. Angus McDonald Lake to be raised 37 ft.

Dallas, Tex. — Dallas County Levee Improv. Dist. No. 1, recently organized, has voted $48,000 bonds. Address City Clerk.

McKinney, Tex.—Bonds for $30,000 Levee Improv. Dist. No. 1, will be issued for reclaiming 4000 acres in valley or Plot Grove Creek. Address W. L. Keen, clk. co. court, McKinney.

Amedee, Cal.—Honey Lake Valley Irrigation Dist. formed with J. C. Gilger, A. Piefer and G. Hollman as directors, to carry on final survey, water to be obtained from Eagle Lake, Susan River and Willow Creek, to be used for irrigation, in all about 30,000 acres. W. L. Wales, engr., Woodland, Cal.

California.—Applications have been filed with the State Water Comn., San Francisco, for permission to appropriate waters of Northern California:

Siskiyou County—Webb Bros. Co. of Yreka, 12 cu. ft. per second of water of Shasta River, in county, to include canal and pipe line 4 miles long, water to be diverted by pipes and ditches to water about 1200 acres; estimated cost $20,000.

Butte County, Lucerne Water Co., of Montague, for 50 cu. ft. per second of waters of Shasta River, for irrigating 5000 acres, water to be carried through pipe line and flume 1170 ft. long to main ditch; estimated cost $50,000.

R. White Head, Oakland, for 150 cu. ft. per second, of waters of Plumas Lake and Feather River, irrigating about 6309 acres; estimated cost $50,000.

Brawley, Cal.—Water Co. No. 8 contemplating constructing extensions to a number of irrigation canals. Address secretary.

Long Beach, Cal.—Citizens voted $300,000 bonds for harbor improvement, including dredging, deepening and improving channel, slips and waterfront; also constructing new channel between Long Beach and San Pedro harbors.

Long Beach, Cal.—City voted $300,000 bonds for dredging channel and digging channel 300 ft. wide connecting local harbor with San Pedro.

BIDS DESIRED.

Boston, Mass.—See "Miscellaneous."

Chelsea, Mass.—Until Nov. 6, at Bureau Yards and Docks, Navy Dept., Washington, D. C., Spec. No. 2268, for repairs, relocation and extension of present dry-rubble sea wall at naval hospital.

Newport, R. I.—Until Nov. 4 at Bureau Yards and Docks, Navy Dept., Washington, D. C., Spec. No. 2273, for constructing sea wall and filling at naval torpedo station.

Albany, N. Y.—Until Nov. 21, by W. W. Wotherspoon, supt. pub. wks., Capitol, for improving State canals as follows: Contract No. 30-A, Erie Canal, Sect. 4; Contract No. 98, Erie Canal, Sect. 10; Terminal Contract No. 101, advertised in this issue.

Brooklyn, N. Y.—Until Nov. 4, at Bureau Yards and Docks, Navy Dept., Washington, D. C., Spec. No. 2279, for dredging at the navy yard, Brooklyn, N. Y.

New York, N. Y.—Until Nov. 24 at U. S. Engineer Office, First Dist., 710 Army Bldg., New York, for dredging in Hudson River Channel, advertised in this issue.

Jersey City, N. J.—Until Nov. 2 by the Co. Mosquito Extermination Comn., Jersey City, (L. E. Jackson, secy.) for dredging, cleaning and widening Franks Creek, in Kearney.

Baltimore, Md.—Until Nov. 14, by State Roads Comn. for Contract No. Wo-16-Worcester Co., 55,000 cu. yd. of fill across Sinepuxent Bay between State Rd. and Ocean City, advertised in this issue.

New Orleans, La.—Until Nov. 3 at U. S. Engineer's office, Queen and Crescent Bldg., New Orleans, for constructing 498,000 cu. yd. earthwork in the Lafourche levee dist.

Sidney, Iowa.—Until Nov. 13 by F. B. Jenkins, co. aud., for filling culverts, 11,300 cu. yd. earthwork required. H. Gravenkamp, co. engr.

Montevideo, Minn. — Reported desired until Nov. 4 for constructing Ditch No. 25 consisting of 9850 ft. of 10 to 18-in. tile. Address J. J Stennes, co. aud.

New Ulm, Minn.—Until Nov. 6, by Louis G. Vogel, co. aud., for constructing county ditch No. 30, cost $11,659, and ditch No. 35, cost $2,994.

Redwood Falls, Minn.—Until Oct. 31 by L. P. Larson, co. aud., for constructing Judicial Ditches Nos. 17 and 18 of Redwood and Brown counties. Ditch No. 17, consisting of 102,686 ft. 6 to 32-in. tile, including bulkheads, intakes and 20,000 ft. of open ditch; Ditch No. 18, consisting of 71,250 ft. 6 to 30-in. tile, including bulkheads, intakes and 19,250 ft. open work; total cost $125,341. Also same date, separate bids for constructing Ditches Nos. 9 and 39. Ditch No. 9, consisting of 138,433 ft. 6 to 30-in. tile, including bulkheads, intakes and 39,940 ft. open work, and Ditch No. 39, consisting of 23,100 ft. 6 to 22-in. tile, including bulkheads, intakes and open work; total cost $127,208. James Reynolds, engr., Redwood Falls.

Auburn, Neb.—Until Nov. 4 by Bd. Comrs. of Drainage Dist. No. 3 for constructing channel 8½ miles long, 15 ft. deep, requiring removal of 325,186 cu. yd. material for main channel, and 8640 cu. yd. of lateral channels. J. F. Relf, engr., Falls City.

St. Ignatius, Mont.—Until Nov. 28 by Morris Bein, acting dir. U. S. Reclamation Service, St. Ignatius, for constructing a canal on the Flathead project, involving 195,000 cu. yd. excavation, advertised in this issue.

Butler, Mo.—Until Nov. 6 for constructing Drainage Levee, about 150,000 cu. yd. Will sell or lease two Lidgewood Drag Line machines now on ground ready for use. Address Joseph A. Flaming, engr. Butler.

Gregory Landing, Mo.—Until Nov. 9, by J. P. Foley, secy., Gregory Drainage Dist., for constructing 4½ miles of levee, advertised in this issue.

El Paso, Tex.—Until Nov. 24, at the office of U. S. Reclamation Service, Mills Bldg., El Paso, for canal excavation involving 185,000 cu. yd. and 29,000 cu. yd. levee work.

Nyssa, Ore.—Until Nov. 4 by Frank D. Hall, secy. Arcadia Drainage Dist., for constructing all ditches and concrete and wood structures in said dist.

Tiburon, Cal.—Until Nov. 13 at Bur. Yards and Docks, Navy Dept., Washington, D. C., for dredging at the Naval coal depot (California City Point), Tiburon.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Boston, Mass. — Following are bids opened Oct. 19 by Comrs. Waterways & Pub. Lands, State House, for dredging 4500 cu. yd. material in Boston Harbor: Bay State Dredg. Co., 247 Atlantic Ave., 48 cts. per cu. yd.; Boston Dredging Co., 40 Central St., Boston, 55 cts. per cu. yd.

Newport, R. I.—Following are four lowest bids opened Oct. 23, at U. S. Engrs. Office, Newport, for dredging in Providence River and harbor—(a) 1,865,000 cu. yd., (b) 359,000 cu. yd., (c) grand totals: J. S. Packard Dredg. Co., 1004 Turks Head Bldg., Providence, (a) 11 cts. per cu. yd., total $205,150; (b) 22½ cts. per cu. yd., total $80,775, (c) $285,925; Bay State Dredg. & Contr. Co., 247 Atlantic Ave., Boston, (a) 10 cts. per cu. yd., total $186,500, (b) 30 cts. per cu. yd., total $107,700; (c) $294,200; Maryland Dredg. & Contr. Co., 1515 Fidelity Bldg., Baltimore, (a) 13.6 cts. per cu. yd., total $253,640, (b) 20 cts. per cu. yd., total $71,800, (c) $325,440; Bowers Southern Dredg. Co., Galveston, Tex., (a) 14 cts. per cu. yd., total $261,100, (b) 20 cts. per cu. yd., total $71,800, (c) $332,900.

Connecticut—Following are bids opened Oct. 13, at U. S. Engrs. Office, New London, for dredging in harbors at New Haven, Norwalk and Stamford; for the three works separately: (a) New Haven Harbor, about 124,000 cu yd.; (b) Norwalk Harbor, 58,000 cu. yd.; (c) Stamford Harbor, 39,000 cu. yd. Maritime Dredging Co., 50 East Forty-second St., New York City (a) 18.5 cts. per cu. yd., total $22,940; (b) *17 cts. per cu. yd., total $9,660; (c) *22 cts. per cu. yd., total $8,850; Boston Dredging Co., 40 Central St., Boston, bid only on (a) *17.9 cts. per cu. yd., total $22,196. *Recommended for acceptance.

Albany, N. Y.—Following are the lowest bids opened Oct. 17, by W. W. Wotherspoon, supt. pub. wks., for various state contracts:

For constructing terminal basin in Lake Champlain at Rouse Point, engineer's estimate, $51,200; John E. Bryon & Co., Cohoes, $55,778; A. A. Barker, Waterford, $59,542; E. Brown Baker, Herkimer, $59,600; Great Lakes Dredge & Dock Co., Albany, $59,900.

Contr. No. 19A—Redredging and incidental work—Engineer's estimate $152,200: S. Kerbaugh Co., Inc., Buffalo, $167,591; Great Lake Dredge & Dock Co., Buffalo, $216,053; Eastover Constr. Co., Utica, $218,227.

Excavating channel in Oswego River—Engineer's estimate $25,280: H. S. Kerbaugh, Inc., Buffalo, $25,912; Jas. Stewart & Co., Inc., New York City, $29,980.

Placing bank protection along west shore of Hudson River, 5 miles north of Waterford, and work incidental thereto: Holler & Shepard, Rochester, $4,559; Farrell & McEntee, Ft. Edward, $4,565; Wm. B. Kimmey, Albany, $4,700; W. H. Allen, Mechanicsville, $5,246.

Constructing dock wall along Dead Creek, Dredge Ohio basin, construct bascule bridge across creek at Ohio St., Buffalo—Engineer's estimate $571,800: Walsh Constr. Co., Davenport, Ia., $523,584; Larkin & Sangster, Buffalo, $534,615; H. S. Kerbaugh, Inc., Buffalo, $554,500; Great Lakes Dredge & Dock Co., Buffalo, $562,480.

★**Albany, N. Y.**—Contract awarded Oct. 13 by W. W. Wotherspoon, state supt. pub. wks., to Scott Bros., Rome, at $52,486, for barge canal contract No. 44, excavating channel across old canal at New London, Oneida County.

St. Ignatius, Mont.—Following are four lowest bids opened Oct. 10 by U. S. Reclamation Service, St. Ignatius, for constructing canals and structures on the Flathead Project: J. Hilton, Millings, Sch. 1, $14,045; Sch. 2, $13,770; Sch. 3, $10,110; Mendenhal, Bird & Co., Springville, Utah, Sch. 1, $16,455; Sch. 2, $15,290; Sch. 3, $12,796, and Sch. 4, $26,533; Pearson Constr. Co., Portland, Ore., Sch. 1, $18,035; Sch. 2, $17,650; Sch. 3, $12,485; Sch. 4, $17,620.

New York, N. Y.—Following are bids opened Oct. 19 by Park Board for furnishing labor and material for filling in swamp lands in the southerly portion of Van Courtland Park, Bronx Boro. (a) filling in place, 126,000 cu. yd., (b) shrinkage and settlement (lump sum): Oscar Daniels Co., 233 Broadway (a) 59 cts. per cu. yd., total $74,340, (b) $100; Thos. J. Buckley Eng. Co., 303 Fifth Ave. (a) 62 cts. per cu. yd., total $78,120, (b) $100; Fleming, O'Brien & McEntegart, 116 Broad St., (a) 69.7 cts per cu. yd., total $90,322, (b) $2,500; Van Cortland Contr. & Improv. Co., 604 W. 47th St. (a) 75 cts. per cu. yd., total $94,500, (b) $5,000.

★**Jefferson, Iowa.**—Contract awarded by Joint Co. Bd. (Greene & Webster counties) for part of drainage project in said counties: Open work to Matthewson Bros., Erie, Ill., at 11 cts. per cu. yd., tile ditch work to Jefferson Cement Product Co., Jefferson, at $57,564. Lowest bid on tile was that of McHose Co., Boone, at $69,909, rejected as being too high.

★**Benson, Minn.**—Contract awarded by D. P. Carney, co. aud., to W. L. Sedgley, Worthington, Minn., at $14,653, for constructing Ditch No. 16 and branches (bids opened Oct. 9).

★**Eveleth, Minn.**—Contract awarded by Oliver Mining Co. to Lawrence McCann Co., Eveleth, at $125,000 for drainage system to consist of concrete ditch 50 ft. deep, 100,000 cu. yd. excavation.

★**Red Lake Falls, Minn.** — Contract awarded C. W. Rood Constr. Co., Grand Rapids, Wis., at $13,514, for constructing Judicial Ditch No. 64, covering about 11 miles in Polk and Red Lake Counties, Tilden and Grove Park Townships.

★**St. James, Minn.**—Contract awarded by J. C. Jensen, co. aud., to Hans Tonelson, Westbrook, Minn., at $18,858, for constructing Judicial Ditch No. 14, consisting of main ditch, 21,911 ft. 12 to 24-in. tile, and branches, 31,359 sq. ft., 6 to 14-in. tile.

★**Humboldt, Neb.**—Contract awarded by Drainage Dist. No. 4 (J. E. Wissler, chmn.) to Fred. W. Crane Co., Omaha, at 7 and 8 cts. per cu. yd. for constructing 7 miles of channel for South Fork Nemaha River, about 538,000 cu. yd. excav., 2155 cu. yd. laterals, river cleaning, etc. (bids opened Oct. 10).

★**Malta, Mont.**—Contract awarded by Secy. Interior, U. S. Reclamation Service, Malta, to Boothe & Knipe, Saco, at $28,384, for structures, laterals and waste-water ditches of the Nelson Reservoir, South Canal, Milk River Project, to consist of 10,000 cu. yd. excav., 40,000 lb. reinforcing steel, 1300 sq. yd. paving, etc., in vicinity of Saco and Beaverton.

Concrete Floor—Brooklyn, N. Y.—Following are detail figures of four lowest bids opened Oct. 19, by Bd. Pub. Service Comn., First Dist., 120 Bway., New York City, for constructing concrete track floors for part of Culver Rapid Transit RR.: (a) Snare & Triest Co., 233 Bway., $52,654; (b) The Jobson Gifford Co., 30 E. 42nd St., $57,180; (c) A. L. Guidone & Son, 52 Vanderbilt Ave., $57,614; (d) Kaufman & Garcey, 51 Chambers St., $69,337 (all in New York City).

	(a)	(b)	(c)	(d)
9,300 sq. ft.—For train platform and appurtenances in place, as follows: (m) For 6-in. reinforced concrete slab floors..	$0.50	$0.60	$0.52	$0.54
2,200 sq. ft.—(n) For 8-in. reinforced concrete slab floors....	0.55	0.95	0.58	0.60
48,000 sq. ft.—For mezzanine roof and floor construction, include appurtenances, as follows: (e) For concrete track floor over mezzanines, including waterproofing, reinforcing rods, etc.	0.75	0.84	0.80	1.05
800—(g) For ferrules for mezzanine roof drainage, including flanges (ea.)	2.50	2.00	3.00	3.00
6 ton—For steel for purposes not otherwise provided for, as follows: (a) For steel framing and shapes, with or without connections, painted and erected	160.00	150.00	200.00	125.00
1,000—For drilling holes in steel of the existing structure, including all incidental work (ea.)	0.50	0.50	0.35	1.00
30,000 sq. ft.—For metal lath and special wire forms in place: (c) For special wire forms	0.07	0.03	0.15	0.12
6,300 lin. ft.—For electric conduit, in place: (a) For three-fourths (¾) in	0.20	0.19	0.20	0.19
7,600 lin. ft.—For elec. conduit in place: (b) For one (1) in....	0.24	0.23	0.22	0.23
400—For cast-iron outlet boxes, in place (ea.)	1.00	0.55	0.55	1.00
500—For combination outlet boxes and ceiling rings of cast-iron (ea.)	3.50	4.25	3.00	3.00

Long Beach, Cal.—Following are four lowest bids opened Oct. 16, by Co. Bd. Supervs., Los Angeles, for constructing Signal Hill storm water drain, involving about 31,000 cu. yd. excav. and backfill, 11,266 lin. ft. 48-in. reinforced concrete pipe laid mainly below water, outfalls, etc.: Jas. Kennedy, Washington Bldg., $84,936; John Balch, $86,888; Bent Bros., Central Bldg., $91,000; Tryon & Brain, 501 Merchants Trust Bldg., $92,000. Bidders all of Los Angeles.

★**Los Angeles, Cal.**—Contract awarded by F. V. McPeak, 856 St. Andrews Pl., at $50,000 for excavating about 150,000 cu. yd. at site of warehouses and terminals to be constructed on East Seventh St. and Central Ave. for Los Angeles Terminal Co. Address John Parkinson, archt., 420 Title Insurance Bldg.

TUNNELS AND SUBWAYS

PROPOSED WORK.

Huntington, W. Va.—Contract will soon be let by city for constructing subway on East Tenth St., between Seventh and Eighth Aves.; cost about $75,000. A. B. Maupin, City Engr.

MISCELLANEOUS

PROPOSED WORK.

Transmission Line, Etc.—Port Henry, N. Y.—The Pub. Serv. Comn. has authorized the Port Henry Light, Heat & Power Co. to issue $414,000 bonds; $86,500 will be used for a hydroelectric plant at Fort Henry, $100,000 for purchase of land, a $58,000 for a high-tension transmission line, $115,300 for construction of a generating station, and the balance for minor purposes.

Incinerator—Trenton, N. J.—City contemplates constructing new four-furnace incinerating plant for city crematory. Leon D. Hirsch, City Clk.

Transmission Line—Angola, Ind.—Indiana Utilities Co. contemplates extending its transmission line from Angola to Fremont to supply electrical service in that town. While the line will carry 13,200 volts, it is designed for 33,000 volts. E. J. Condon, Jr., is supt. of constr.

Transmission Line—Marshalltown, Ia.—The Iowa Ry. & Light Co. of Cedar Rapids has applied to the Bd. of Supervs. for franchise to erect transmission lines over the highways of Marshal Co.

Park—Bemidji, Minn.—State Bd. of Investigation has decided to grant city $25,000 for park. Address City Clerk.

Transmission Line — Centerville, Ia.—Centerville Light & Traction Co. planning erecting 33,000-volt, three-phase, 60-cycle transmission line from Centerville to Allerton, a distance of 12 miles.

Park Improvement—Norfolk, Neb.—Park improvements bonds for $15,000 will be sold Nov. 20 by P. F. Stafford, city clerk.

Pipe Line—Tulsa, Okla.—See "Waterworks and Sewerage Systems."

Cement — Los Angeles, Cal.—Contract will soon be let by Pub. Serv. Comn. (Wm. Mulholland, ch. engr.) for 6000 bbl. of cement for use on the aqueduct project.

Transmission Line—Salt Lake City, Utah.—Utah Power & Light Co. is planning erecting electric transmission line to the Pacific property in the American Fork Dist.

Hydroelectric Plant—San Bernardino, Cal.—J. G. Van Zandt, Forest Home Resort, owner of San Gormgorio power project, has applied to the State Water Comn. for permission to appropriate waters of Mill Creek for generating power, constructing hydroelectric plant, utilizing the fall of 2230 ft. to develop 6333 hp. and constructing pipe line 5 miles long; cost about $500,000.

BIDS DESIRED.

Boston, Mass.—Until Nov. 1, by Edw. F. Murphy, comr. pub. wks., for dredging, filling, sewerage work for Strandway and old harbor improvement, South Boston.

Signal Towers—New York, N. Y.—Until Nov. 9 (readvertisement) by Public Service Comn. for First Dist., 120 Broadway, for constructing signal towers for parts of the Seventh Ave.-Lexington Ave., White Plains Road and Queens Boro. Subway, Rapid Transit Railroad.

Garbage—Wilkes-Barre, Pa.—Until Dec. 1 by Fred. H. Gates, city clk., for the collection and disposal of garbage, advertised in this issue.

Crane—San Diego, Cal.—Until Nov. 20 at Bur. Yards and Docks, Navy Dept., Washington, D. C., for furnishing one locomotive crane at the naval coal depot.

Toronto, Ont.—See "Waterworks and Sewerage Systems."

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Syracuse, N. Y.**—Following are four lowest bids opened Oct. 23 by State Fair Comn., 428 S. Salina St., for furnishing material and constructing 1 mile race track: John Young, Syracuse, $75,486 (awarded contract); Warsaw Constr. Co., Warsaw, $77,148; Thos. Holohan, Rochester, $83,564; Sullivan Constr. Co., Syracuse, $97,884.

★Following are bids opened Oct. 23 by State Fair Comn., 428 S. Salina St., for furnishing material and removing grand stand to other locations: Warsaw Constr. Co., Warsaw, $9,971 (awarded contract); Genesee Bridge Co., Rochester, $16,900; Tifft Constr. Co., Buffalo, $17,968.

Mail Handling Devices—Detroit, Mich.—Following bids opened Oct. 16, by Jas. A. Wetmore, acting superv. archt., Treas. Dept., Washington, D. C., for installing mail handling devices in U. S. post office and courthouse, Detroit: The Lamson Co., 100 Boylston St., Boston, $22,753; Alvey-Ferguson Co., Cincinnati, $23,700; Saml. Olsen & Co., Chicago, $23,900.

★**Transmission Line—Savanna, Ill.**—Contract awarded by Peoples Gas & Electric Co. for erecting 12-mile transmission line to C. A. Hoppin & Co. of Peoria. A. Siemens-Martin stranded ground wire and 45-ft. Bates expanded poles and outdoor type substations will be used.

Proposals

For Proposals Advertised See Pages 45, 46 and 47.

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.		See Eng. Record.
Oct. 30.	Front Royal, Va. Adv. Sep. 30 to Oct. 28.	Sep. 30
Oct. 31.	Durham, N. C. Adv. Oct. 21.	Oct. 21
Oct. 31.	Hartford, Conn. Adv. Oct. 21.	Oct. 21
Oct. 31.	Portland, Me.	Oct. 28
Oct. 31.	New York, N. Y.	Oct. 28
Oct. 31.	Toronto, Ont.	Oct. 28
Oct. 31.	St. Louis, Mo.	Oct. 28
Nov. 1.	Lansing, Mich. Adv. Oct. 14.	Oct. 14
Nov. 2.	Newark, N. J.	Oct. 21
Nov. 3.	Allegan, Mich.	Oct. 28
Nov. 6.	Brainard, Minn.	Oct. 21
Nov. 6.	Gaylord, Minn.	Oct. 21
Nov. 6.	Sedalia, Mo.	Oct. 28.
Nov. 6.	Emmetsburg, Ia.	Oct. 28
Nov. 6.	Plymouth, Moch. Adv. Nov. 28.	Oct. 28
Nov. 7.	Birmingham, Ala.	Oct. 28
Nov. 10.	East Youngstown, O.	Oct. 28
Nov. 15.	Aurora, Ill. Adv. Oct. 28.	Oct. 28
Dec. 1.	St. Cloud, Fla. Adv. Oct. 21.	Oct. 21
——	Granite City, Ill. Adv. Sep. 30.	Sep. 30
——	Chateauguay Basin, Que. Adv. Oct. 14.	Oct. 14
——	Buitenzorg, Java, Dutch East Indies Adv. Oct. 14.	Oct. 14

STRUCTURAL STEEL WORK

Oct. 31.	Trenton, N. J.	Oct. 28
Oct. 31.	Buffalo, N. Y.	Oct. 28
Nov. 1.	St. Charles, Mo.	Oct. 28
Nov. 1.	Canton, O.	Oct. 28
Nov. 2.	Washington, D. C. Adv. Oct. 14 to 28.	Oct. 14
Nov. 4.	Dayton, Ohio	Oct. 14
Nov. 4.	Union, O.	Oct. 28
Nov. 8.	Jackson, Miss.	Oct. 28
Nov. 9.	Bakersfield, Cal.	Oct. 28
Nov. 9.	Jackson, Miss.	Oct. 28
Nov. 13.	Melville, R. I.	Oct. 28
Nov. 13.	Ogilvie, Minn.	Oct. 28
Nov. 29.	Des Moines, Ia.	Oct. 28
Dec. 4.	Dothan, Ala.	Oct. 28
Jan. 1.	Mitchell, S. D.	Oct. 7

REINFORCED CONCRETE.

Nov. 1.	Kansas City, Mo.	Oct. 14
Nov. 3.	Charleston, S. C.	Oct. 28
Nov. 6.	Santa Barbara, Cal.	Oct. 28
Nov. 6.	New Ulm, Minn.	Oct. 28
Nov. 9.	Tecumseh, Okla.	Oct. 21
Nov. 6.	San Jose, Cal	Oct. 28
Nov. 9.	San Luis Obispo, Cal.	Oct. 21
Nov. 9.	Bakersfield, Cal.	Oct. 28
Nov. 9.	Doniphan, Mo.	Oct. 28
Nov. 9.	Santa Ana, Cal.	Oct. 28
Nov. 10.	Independence, Iowa	Oct. 14
Nov. 15.	Seale, Ala.	Oct. 28
Nov. 17.	New Martinsville, W. Va. Adv. Oct. 21, 28.	Oct. 21
Nov. 22.	Kansas City, Mo. Adv. Oct. 28.	Oct. 28
Dec. 1.	Knoxville, Tenn.	Oct. 28
Dec. 1.	Knoxville, Tenn. Adv. Oct. 14.	Oct. 14

ROADS AND PAVING.

Oct. 31.	Wilmington, Del Adv. Oct. 14.	Oct. 14
Oct. 31.	Waverly, Ia.	Oct. 21
Nov. 1.	Birmingham, Ala.	Oct. 14
Nov. 1.	Baltimore, Md.	Oct. 28
Nov. 1.	Auburn, Wash.	Oct. 28
Nov. 1.	Des Moines, Ia.	Oct. 28
Nov. 1.	Marietta, O.	Oct. 28
Nov. 1.	Bowling Green, O.	Oct. 28
Nov. 2.	Newark, N. J.	Oct. 21
Nov. 2.	Bridgeport, W. Va.	Oct. 28
Nov. 2.	Jennings, La.	Oct. 28
Nov. 2.	Bowling Green, O.	Oct. 28
Nov. 2.	Ohio	Oct. 28
Nov. 4.	Iuka, Miss.	Oct. 21
Nov. 4.	Atlantic City, N. J.	Oct. 28
Nov. 6.	Grenada, Miss.	Oct. 28
Nov. 6.	De Land, Fla	Oct. 28
Nov. 6.	Cleveland Heights (P. O. Warrensville), O.	Oct. 28
Nov. 6.	Long Island City, N. Y.	Oct. 28
Nov. 8.	Indiana.	Oct. 21
Nov. 8.	Ventura, Cal.	Oct. 28
Nov. 8.	Youngstown, O.	Oct. 28
Nov. 8.	Youngstown, O.	Oct. 28
Nov. 9.	Indiana.	Oct. 21
Nov. 9.	Lake Charles, La.	Oct. 28
Nov. 10.	Arcadia, Fla.	Oct. 14
Nov. 10.	Cincinnati, O.	Oct. 28
Nov. 10.	Cincinnati, O.	Oct. 28
Nov. 11.	Logan, W. Va. Adv. Oct. 21.	Oct. 14
Nov. 11.	Indiana	Oct. 28
Nov. 14.	Maryland Adv. Oct. 28.	Oct. 28
Nov. 17.	Santa Paula, Cal.	Oct. 28
Nov. 18.	Centerville, Ala.	Oct. 28
Nov. 21.	Albany, N. Y.	Oct. 28
Nov. 21.	Indiana	Oct. 28
Dec. 1.	Fillmore, Cal.	Oct. 28
Dec. 15.	Grove Hill, Ala.	Oct. 28

RAILWAYS

Dec. 6.	Portland, Ore. Adv. Sep. 30 to Oct. 14.	Sep. 23
Dec. 6.	Portland, Ore.	Oct. 28
——	Des Moines, Ia. Adv. Oct. 28.	Oct. 28

INDUSTRIAL PLANTS AND WAREHOUSES.

Nov. 15.	St. John, N. B.	Oct. 28
Nov. 15.	Paterson, N. J.	Oct. 28
Nov. 17.	Chicago, Ill.	Oct. 28

BUILDINGS.

Public and Private.

Oct. 31.	Woodbury, N. J.	Sep. 30
Oct. 31.	Potsdam, N. Y. Adv. Oct. 7 to 28.	Oct. 7
Nov. 1.	Hartford, Conn.	Sep. 30
Nov. 1.	Mishawaka, Ind.	Sep. 30
Nov. 1.	Cincinnati, Ohio	Oct. 7
Nov. 1.	Wellsburg, Ohio	Oct. 14
Nov. 1.	Murfreesboro, Tenn.	Oct. 21
Nov. 1.	Omaha, Neb.	Oct. 28
Nov. 2.	Garfield, N. J.	Oct. 21
Nov. 2.	Grants Pass, Ore.	Oct. 21
Nov. 2.	Wadena, Minn.	Oct. 28
Nov. 3.	Wellsville, O.	Oct. 21
Nov. 3.	Cozad, Neb.	Oct. 28
Nov. 3.	Newark, N. J.	Oct. 28
Nov. 3.	Cleveland, O.	Oct. 28
Nov. 4.	South Newburgh (P. O. Cleveland), O.	Oct. 21
Nov. 6.	Briggsdale, O.	Oct. 21
Nov. 6.	Philadelphia, Pa.	Oct. 28
Nov. 6.	Albany, N. Y.	Oct. 28
Nov. 8.	Fresno, Cal.	Oct. 21
Nov. 8.	Fresno, Cal.	Oct. 28
Nov. 9.	Rolfe, Ia.	Oct. 28
Nov. 10.	Wenatchee, Wash.	Oct. 7
Nov. 10.	Kansas City, Mo.	Oct. 21
Nov. 10.	New Hampton, N. Y.	Oct. 28
Nov. 12.	St. Cloud, Minn.	Sep. 30
Nov. 13.	Birmingham, Ala.	Sep. 23
Nov. 13.	Beaman, Ia.	Oct. 21
Nov. 14.	Media, Pa.	Oct. 7
Dec. 15.	Tucson, Ariz.	Oct. 14
Nov. 15.	Velasco, Tex. Adv. Oct. 21.	Oct. 21
Nov. 15.	Washington, D. C.	Oct. 21
Nov. 15.	Brooklyn, N. Y.	Oct. 28
Nov. 16.	Dayton, O.	Oct. 28
Nov. 20.	Yoakum, Tex.	Oct. 21
Nov. 20.	Kingman, Ariz.	Oct. 21
Nov. 21.	Rockville, Conn. Adv. Oct. 7, 14.	Oct. 7
Nov. 21.	Hibbing, Minn.	Oct. 21
Nov. 21.	Hibbing, Minn.	Oct. 28
Nov. 21.	Anoka, Minn.	Oct. 28
Nov. 22.	Franklin, Va.	Oct. 21
Nov. 27.	East Orange, N. J.	Oct. 7
Nov. 28.	Washington, D. C. Adv. Oct. 28.	Oct. 28
Dec. 1.	Pueblo, Col.	Oct. 28
Dec. 6.	Twin Falls, Idaho	Oct. 21
Dec. 7.	Chadron, Neb.	Oct. 28
Dec. 22.	East St. Louis, Mo.	Oct. 28
Jan. 1.	Webster, S. D.	Sep. 16

FOUNDATIONS, PIERS AND DAMS.

Oct. 30.	Wheeling, W. Va. Adv. Oct. 14.	Oct. 14
Oct. 31.	Washington, D. C. Adv. Oct. 7 to 28.	Oct. 7
Nov. 2.	Galveston, Tex.	Oct. 28
Nov. 4.	Newport, R. I.	Oct. 28
Nov. 14.	Sabine, Tex. Adv. Oct. 21, 28.	Oct. 21
Nov. 24.	El Paso, Tex.	Oct. 28
Nov. 27.	Annapolis, Md.	Oct. 28

EXCAVATION, DREDGING AND DRAINAGE.

Oct. 30.	St. Louis, Mo. Adv. Oct. 7 to 28.	Oct. 7
Oct. 31.	Tallahassee, Fla. Adv. Sep. 30, Oct. 7.	Sep. 30
Oct. 31.	Redwood Falls, Minn.	Oct. 28
Nov. 1.	Jacksonville, Fla	Oct. 28
Nov. 2.	Emmett, Idaho Adv. Sep. 30 to Oct. 14.	Sep. 30
Nov. 2.	Boise, Idaho	Oct. 21
Nov. 2.	Jersey City, N. J.	Oct. 28
Nov. 2.	Modesto, Cal.	Oct. 28
Nov. 3.	New Orleans, La.	Oct. 28
Nov. 4.	Plymouth, Ind.	Oct. 21
Nov. 4.	Tiffin, O.	Oct. 21
Nov. 4.	Montevideo, Minn.	Oct. 28
Nov. 4.	Brooklyn, N. Y.	Oct. 28
Nov. 4.	Newport, R. I.	Oct. 28
Nov. 4.	Nyssa, Ore.	Oct. 28
Nov. 4.	Auburn, Neb.	Oct. 28
Nov. 6.	Chelsea, Mass.	Oct. 28
Nov. 6.	Butler, Mo.	Oct. 28
Nov. 6.	New Ulm, Minn.	Oct. 28
Nov. 9.	Philadelphia, Pa. Adv. Oct. 7 to 28.	Oct. 7
Nov. 9.	Philadelphia, Pa. Adv. Oct. 7, 21.	Oct. 14
Nov. 9.	Gregory Landing, Mo. Adv. Oct. 28.	Oct. 28
Nov. 11.	Quincy, Ill.	Oct. 21
Nov. 13.	Terra Bella, Cal.	Oct. 21
Nov. 13.	Tiburon, Cal.	Oct. 28
Nov. 13.	Sidney, La.	Oct. 28
Nov. 14.	Norfolk, Va. Adv. Oct. 21.	Oct. 21
Nov. 14.	Baltimore, Md. Adv. Oct. 28.	Oct. 28
Nov. 15.	Jacksonville, Fla.	Oct. 21
Nov. 21.	Albany, N. Y. Adv. Oct. 28.	Oct. 28
Nov. 24.	New York, N. Y.	Oct. 28
Nov. 27.	Annapolis, Md.	Oct. 28
Nov. 28.	St. Ignatius, Mont.	Oct. 28

TUNNELS AND SUBWAYS.

Nov. 2.	Philadelphia, Pa. Adv. Oct. 7, 14.	Oct. 7
Dec. 7.	Philadelphia, Pa. Adv. Oct. 14, 21.	Oct. 14
——	Litchfield, Conn. Adv. Oct. 7.	Oct. 7

MISCELLANEOUS.

Oct. 30.	Lock Gates, Wheeling, W. Va. Adv. Oct. 14 to 28.	Oct. 14
Nov. 1.	Mail Lift, Miami, Fla.	Oct. 7
Nov. 1.	Strandway, Boston, Mass.	Oct. 28
Nov. 2.	Portland cement, Galveston, Tex.	Oct. 14
Nov. 6.	Lock gates, Louisville, Ky. Adv. Oct. 14 to 28.	Oct. 14
Nov. 6.	Cement, Fresno, Cal.	Oct. 21
Nov. 9.	New York, N. Y.	Oct. 28
Nov. 11.	Crane, Pearl Harbor, T. H.	Sep. 30
Nov. 11.	Crane, Vallejo, Cal.	Sep. 30
Nov. 20.	Crane, San Diego, Cal.	Oct. 28
Dec. 1.	Wilkes-Barre, Pa. Adv. Oct. 28.	Oct. 28
Dec. 6.	Grade Crossings, Portland, Ore. Adv. Sep. 30 to Oct. 28.	Sep. 30
Jan. 4.	Weaverville, Cal.	Oct. 21

Worst Car Shortage in History of Railroads Raises Prices and Makes Deliveries Difficult

Scarcity of Coal Threatens Many Lines of Engineering Production—Government Expert Says Foreign Trade Can Be Held Only on Basis of Exchange of Goods—Effect on Contractor's Credit—Steel Corporation Has Most Prosperous Quarter

THE CAR SHORTAGE which is hampering freight movements had by Oct. 1 developed into the worst ever experienced in this country. If the normal course of such shortage in the past is followed, this one should now be at its height, with no relief in sight before the end of the year. Combined with labor shortage at the mines, which is reported to have made it impossible to stock the usual amount of coal, this shortage threatens the country with a winter coal famine and has already advanced coal prices to unheard of levels in the East. Coke, pig iron, tile and many other things entering directly or indirectly into construction work seem already to be feeling the effects of this condition. These effects are expected to be more marked in the next two months. One leading tile manufacturer has announced that quotations issued Nov. 1 are good only for two weeks, as it is not at all certain that enough coal can be delivered at any price to make tile after that date at a normal rate. Furnace and foundry coke for nearby delivery in the Pittsburgh district have reached levels not touched even in the great coal strike. As high as $7.70 per ton at the ovens has been paid for furnace coke, compared with $2.50 a year ago.

With net earnings of nearly $86,000,000, much more than the sum of the net earnings for any two third quarters in its history, the U. S. Steel Corporation has again set a new high mark for quarterly income, as recorded in its report for the quarter ended with September. The corporation still has on its books more than 9,500,000 tons of unfilled orders.

Credit for Contractors and the Oversupply of Gold

Dr. E. E. Pratt, chief of the Bureau of Foreign and Domestic Commerce of the United States Government, has forcibly pointed out, in a speech at the annual banquet of the American Manufacturers' Export Association, Oct. 31, that our foreign commerce cannot continue after the war on the present basis of all take and no give. If we are to trade with Europe, we must take products in nearly equal value for those we send her. That European demand will slacken with peace he considers as highly improbable as that we could continue indefinitely to sell quantities of goods on credit with partial gold payments. Now, the $800,000,000 of surplus gold we have acquired in this way since 1914 seems already to be causing some anxiety. Mainly to reduce gold importations, American bankers are said to have arranged the $300,000,000 British loan which was recently offered for subscription almost before word of its consummation had reached the press. Certain it is that this surplus gold, on a foreign trade basis of goods for goods, would flow back to Europe, no matter how large a volume our foreign commerce after the war might reach. Besides increasing the money per capita in circulation here from $33.96 in August, 1914, to $40.62 at present, this addition to our gold reserve has formed the basis for an extension of bank credits which amount to $2,500,000,000, according to the recent estimate of an economist of high standing. What part of this $2,500,000,000 credit has been extended to the readers of this journal, or to clients of theirs who owe or will owe them money? When the gold supply of the world is again equally distributed—and many believe that it will be within a short time after the declaration of peace—not only the gold itself, but this huge total of bank credits based on the gold, may melt like snow in a hot sun. The wise contractor will not leave himself in a position where the declaration of peace would find him either in urgent need of credit or a creditor of firms which may themselves be caught in this position.

South Only Section Where Crops Increase Prosperity

With a large tobacco crop, with cotton above 18 cents and exports so far in the cotton year 58 per cent more than those of 1915, conditions in the South are generally prosperous for the first time in some years. This section, lagging behind the rest of the country since 1914, has not felt the labor shortage seriously this summer. Now, however, in view of promised activity, the South is becoming anxious over the rate at which it has recently lost negro labor to Eastern and Central states. One state is reported to be taking steps to prevent labor agents from furnishing men for any work outside the state.

In other sections, the government crop report for October shows that all of our main crops will be much smaller than last year. There is some consolation in the report, however, as prices range from 10 to 60 per cent higher than a year ago, and as the smallness of the agricultural yield has materially helped the railroad freight situation.

Iron and Steel

Finished steel in many lines has risen during the month, a notable addition to the list of items appearing in bold-faced type being iron and steel bars, which have been stationary since August. Bars are being rolled from discarded shell steel to meet the demand for prompt delivery, and this material commands a good premium over the Pittsburgh base. Plates have advanced steadily, and the quotations for universal plates, most generally used in engineering construction, are the lowest of the list. Shipbuilding plates have sold at 5 cents and more, and plates for car building are expected to command 4 cents in the face of new and large equipment orders. An American maker of cast-iron pipe is reported to have closed a contract for the delivery of 60,000 tons of pipe in a South American republic for a price in the neighborhood of $60 a ton.

Pig Iron—Practically every grade of pig iron has advanced sharply, and the increasing cost of coke and coal, due to shortage of cars and lack of labor at the mines, may have a still further effect on future prices both on iron and on finished steel. Pig iron prices per ton recently quoted are as follows:

No. 2x, Philadelphia	$22.50
No. 2, Birmingham	17.00
No. 2 furnace, Chicago	24.00
Basic, Pittsburgh	22.95

Steel Products—The list below shows numerous advances over last month. Prices are per 100 lb. at the mill or warehouse, and are the lowest now quoted:

	Immediate Delivery	Future Delivery	Warehouse
Pittsburgh:			
Structural material	$3.00	$2.75	$3.25
Plates	4.50	3.25	....
Steel bars	....	2.70	3.25
Iron bars	....	2.75	....
Rivets	....	4.00	....
New York:			
Structural material	....	2.87	3.35
Plates	....	3.67	4.00
Steel bars	3.02	2.87	3.35
Iron bars	....	2.67	3.25
Chicago:			
Structural material	....	2.99	3.25
Plates	3.54	3.44	3.75
Steel bars	....	2.89	3.25
Iron bars	....	*2.40*	3.25
Rivets	....	4.00	4.25

Sheets—Black sheets, No. 28 gauge, have advanced considerably since the first of October, and galvanized sheets of the same gauge have also gone up. Prices per 100 lb. at Pittsburgh and Chicago have recently been quoted as follows:

	Black	Galvanized
Pittsburgh	$3.30	$4.90
Chicago	3.59	4.69

Rails—At least one large road has already bought rails for 1918, and two other roads have made inquiries for rails to be delivered in the same year. Prices per ton at the points named continue to be quoted as follows:

	Open Hearth	Bessemer
Pittsburgh	$35.00	$33.00
Chicago	35.00	33.00

Cast Iron Pipe—The advance made during September was continued, and aside from the 60,000-ton contract noted above, the volume of business has been good. Prices per ton in car load lots at the points named continue to be quoted as follows:

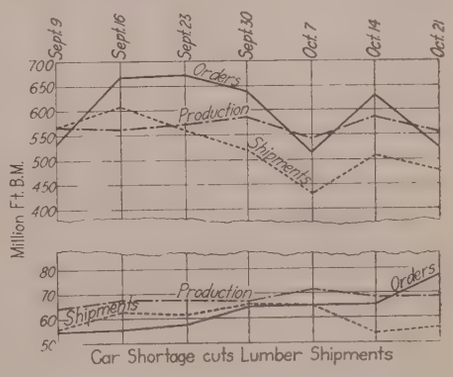
	Class A and Gas Pipe	Class B and Heavier
New York	$33.50	$32.50
Chicago	33.50	32.50
Birmingham	27.00	26.00

Wrought Pipe—Prices on lap-welded steel and iron pipe, plain ends, in carload lots, Pittsburgh, remain unchanged at the quotations given below:

	Black	Galvanized
Steel pipe, 2½ to 6 in.	$68.00	$93.00
Iron pipe, 2½ to 6 in.	90.00	116.00

Lumber

The car shortage is having a serious effect in curtailing lumber shipments, and, indirectly, orders. This is especially true of the South. Stocks in the East are broken, prices are advancing and those who failed to fill their lumber requirements last summer when the market favored the buyer from every angle may find difficulty shortly in supplying their needs. The Pacific Coast fir market has made a horizontal advance in all grades, dealers are said to have short stocks, and the car shortage is limiting shipments more than ever. The accompanying diagram, summarizing above recent reports from 152 to 168 Southern mills and below reports for



the corresponding weeks from 110 to 118 Pacific Coast mills, shows graphically how the mills are falling behind on deliveries. It is thought that but for this condition orders would be much heavier, as mills are reluctant to accept new business either for early delivery or for future delivery at present prices.

Yellow Pine—Wholesale prices per 1000 ft. b.m., f.o.b. the points named, have recently been quoted as follows:

	1 x 10, rough	2 x 10, D. & M.	8 x 8 —20	12 x 12 —20
Boston	....	*$31.00*	$32.00	$35.00
New York	$22.50	24.50	30.00	36.00
Cincinnati	32.00	29.00	26.00	29.75
Chicago	24.00	21.00	24.50	28.00
New Orleans	26.00	25.00	28.00	28.00
St. Paul	25.00	25.25	30.00	....
Kansas City	32.25	23.50	30.00	33.00

Price advances over those of last month printed in **bold faced type**, declines in *italics*.

Fir—Wholesale prices per 1000 ft. b.m., f.o.b. the points named, are as follows:

	1x10 Rough	2x10 D.M.	8x8 —20	12x12 —20
Boston	$46.50	$35.00	$35.00	$42.00
Chicago	....	....	31.25	31.25
St. Paul	24.00	21.25	32.50	34.00
Kansas City	27.00	....	27.00	28.00
Denver	20.00	....	24.00	24.00
Phoenix	38.00	38.00	34.00	34.00
*Seattle	14.50	14.50	14.50	14.50
*Los Angeles	21.00	21.00	21.00	21.00

*Base price.

Spruce and Hemlock—Recent prices, wholesale, per 1000 ft. B.M., f.o.b. the points named are as follows:

	Hemlock 1x10 Rough	Hemlock 8x8—20	Spruce 8x8—20
Boston	$28.00	....	$34.00
Chicago	20.00	22.00	....
St. Paul	*21.00*	28.00	....
Kansas City	27.00	27.00	....
*Seattle	14.50	14.50	14.50
*Los Angeles	21.00	21.00	21.00

*Base price.

Concrete Materials

Cement—Prices remain unchanged at the figures quoted below, which are per barrel to contractors, f.o.b. the points named, without containers:

Boston	$1.61	Memphis	$1.74
New York	1.32	Dallas	$1.[illegible]
Cleveland	1.54	St. Paul	[illegible]
Cincinnati	1.60	Pittsburgh	[illegible]
Detroit	1.55	Kansas City	[illegible]
Chicago	1.46	Denver	[illegible]
Atlanta	1.64	Houston	[illegible]
Jacksonville	1.60	Seattle	[illegible]
New Orleans	1.90	Los Angeles	[illegible]

Sand—Prices have advanced at several points, those quoted being in large lots to contractors, f.o.b. the points named:

Boston	$0.80	Kansas City	$0.60
New York	.80	Denver	.85
*Cincinnati	.75	Phoenix	1.00
Chicago	1.05	Seattle	.40
New Orleans	*.20	Los Angeles	.35
St. Paul	[illegible]		

*Price per ton.

Gravel and Crushed Rock—Price advances have been recorded in many localities. Shortage of labor has forced a large New York producer of crushed rock to withdraw quotations for the rest of the year. Prices per cubic yard to consumers in large lots, f.o.b. points named, are given below:

	Gravel ¾ in.	Gravel 1½ in.	Crushed Rock ¾ in.	Crushed Rock 1½ in.
Boston	$1.20	$1.10	*$1.00	*$1.00
New York	1.10	1.00	1.30	1.15
Cincinnati	†.70	†.70	†.90	†.90
Chicago	1.05	1.05	.85	.85
New Orleans	1.55	1.55	2.00	2.00
St. Paul	1.60	.90	1.50	1.44
Kansas City	2.25	2.00	1.35	1.25
Denver	1.25	1.25	.85	1.25
Phoenix	2.00	1.50	1.75	1.75
Seattle	.75	.40	1.50	1.50
Los Angeles	.85	.85	1.00	.95

*At crusher. †Per ton.

Brick and Paving Material

Brick—The price of common brick has advanced at three of the points quoted, and no further declines occurred during the month. Prices quoted below are per 1000, wholesale, f.o.b. the points named:

	Common	Paving
Boston	$11.50	$20.00
New York	7.75	....
Cincinnati	3.50	21.00
Chicago	7.00	....
New Orleans	7.40	30.00
St. Paul	8.00	*1.06
Kansas City	7.50	20.00
Denver	7.00	....
Phoenix	8.00	....
Seattle	7.50	28.75
Los Angeles	6.50	....

*Per square yard.

Stone and Wood Paving Blocks—Prices below are per square yard to contractors f.o.b. the points named:

	Granite stone block	4-in. wood block
Boston	[illegible]	[illegible]
New York	[illegible]	[illegible]
Cincinnati	[illegible]	[illegible]
New Orleans	[illegible]	[illegible]
St. Paul	[illegible]	1.48
Kansas City	[illegible]	[illegible]
Seattle	[illegible]	[illegible]

*Per 1000.

Asphalt—Prices per ton, wholesale, are quoted f.o.b. the points named:

	Kind	Price Per Ton
Cincinnati	Trinidad	[illegible]
New Orleans	Texaco	[illegible]
St. Paul	Sheet	[illegible]
Kansas City	Trinidad	[illegible]
Denver	Trinidad	[illegible]
Seattle		[illegible]
Los Angeles		10.00

Sewer Pipe and Tile

Sewer Pipe—Prices per linear foot in large lots to contractors, quoted recently f.o.b. points named, follow:

	8-in.	6-in.	8-in.	10-in.	24-in.	36-in.
Boston	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
New York	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Cincinnati	7.2	10.8	16.8	32.4	*30.5	[illegible]
Chicago	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
New Orleans	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
St. Paul	6.6	9.9	[illegible]	[illegible]	*104.5	300
Kansas City	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Denver	[illegible]	[illegible]	20	35	*25	[illegible]
Phoenix	7.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Seattle	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Los Angeles	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Hollow Building Tile—The great increase in the price of coal, 1 ton of which is required to burn 3 tons of tile, according to the manufacturers, will undoubtedly have a further effect on the market. New York quotations are good for two weeks only. Recent prices for exterior tile in large lots to contractors, per 1000, f.o.b. the points named, follow:

	4x12x12	8x12x12	12x12x12
Boston	$95.00	$150.00	$175.00
*Perth Amboy	70.00	119.00	175.00
Cincinnati	65.00	85.00	110.00
Chicago	54.00	101.25	140.00
New Orleans	77.50	137.50	170.00
St. Paul	48.00	81.00	115.00
Kansas City	46.75	90.00	126.00
Denver	90.00	150.00	200.00
Phoenix	100.00	175.00	....
Seattle	54.50	100.00	170.00
Los Angeles	40.00	75.00	....

*Quotation good for two weeks only.

Miscellaneous

Oil—Prices per barrel of 50 gal. to contractors at the points named are given below:

	Fuel	Black	Red Engine	Steam Cylinder	Gasoline
Boston	$4.50	$7.50	$12.50	$18.75	$11.50
New York	....	7.50	12.50	17.50	11.00
Cincinnati	2.75	5.00	*8.00*	15.00	*10.00*
Chicago	1.62	4.50	8.50	16.50	7.75
New Orleans	3.50	5.50	10.50	16.50	9.25
St. Paul	4.25	3.75	11.00	....	8.25
Kansas City	5.85	3.55	8.85	16.35	*7.40*
Denver	2.20	8.00	*15.00*	25.00	*10.00*
Phoenix	*1.75*	8.50	11.50	20.00	12.25
Seattle	1.50	5.00	10.00	*19.00*	9.75
Los Angeles	1.10	6.75	9.25	19.00	9.00

Manila Rope—Price per pound, full coils, ¾ in., 1 in. and 1½ in. rope, local delivery at points named:

Boston	$0.20	Kansas City	$0.1975
New York	.20	Denver	.21
Cincinnati	.25	Phoenix	.28
Chicago	.185	Seattle	.19
New Orleans	.20	Los Angeles	.175
St. Paul	*.22		

*¾-in., $0.21

Dynamite—Prices per 100 lb. for the grades named, to contractors, have recently been quoted as follows:

	20% Low Freezing	40% Gelatine	60% Gelatine	80% Gelatine
Boston	$18.00	$23.75	$28.75	$32.50
New York	....	22.00	27.00	....
Cincinnati	14.75	16.75	19.25	29.50
Chicago	13.50	18.75	22.75	28.25
New Orleans	16.25	18.25	20.75	....
St. Paul	17.00	20.78	25.75	29.50
Kansas City	15.00	20.75	25.75	29.75
Denver	14.00	19.75	24.75	28.75
Phoenix	....	*25.00*	....	....
Seattle	10.00	13.50	16.00	....
Los Angeles	17.00	25.00	30.00	....

Copper—Copper declined slightly during the month, recent quotations for New York electrolytic, early delivery, being at 28½ cents a pound. The undertone of the market, however, now shows a stronger tendency.

Lead—Lead has also fallen slightly in value during the month to 7 cents per pound, New York, or 6.92½ cents, St. Louis.

Price advances over those of last month printed in bold faced type, declines in *italics*.

WATERWORKS AND SEWERAGE SYSTEMS

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

PROPOSED WORK.

Worcester, Mass.—See "Buildings."

Herkimer, N. Y.—Citizens voted to spend $350,000 for constructing new water system. Address Harry Wood, city clk.

Rochester, N. Y.—See "Roads and Paving."

Thiells, N. Y.—See "Prices and Letting."

Watertown, N. Y.—Plans prepared by City Engineer for constructing sewers on Howk, Newell and Lepper Sts.

Jersey City, N. J.—Reported City Comrs. considering constructing sewer through property of Lehigh Valley RR. in Greenville; cost about $175,000. Michael I. Fagan, city clk.

Newark, N. J.—Plans being prepared by Morris Sherred, City Hall, engr. North Jersey Dist. Water Supply Comn., for development of Wanaque watershed. Reported the Commission will probably let contracts in March.

Rutherford, N. J.—Union Township Comrs. will issue $200,000 bonds for constructing sewer system and disposal works. John F. Woods, township clk.

Connellsville, Pa.—State Commissioner of Health directed city to construct sewage disposal plant. Address A. O. Bixler, city clk.

Hazleton, Pa.—City Commission considering extending sewerage system next summer; cost $50,000.

Monessen, Pa.—See "Roads and Paving."

Reading, Pa.—Construction of reservoir north of city line contemplated, work to begin in 1917. Address City Engineer.

Seward, Pa.—Construction of reservoir 500,000 gal. capacity and 12,000 ft. pipe lines contemplated. O. P. Thomas, engr., Leader Bldg., Johnstown.

Sunbury, Pa.—Construction of municipal waterworks contemplated. Address Borough Clerk.

Towson, Md.—Plans and specifications prepared for constructing sewer pipes and sewage disposal plant submitted to Comrs. Baltimore Co., cost $51,471 and $15,430 respectively. Address Co. Clk., at Towson.

Beaufort, N. C.—Bonds for $100,00 will be sold Nov. 22 by C. H. Bushall, city clk., for water, sewer and street improvements.

Cairo, Ga.—Election to be held Nov. 28 to vote $28,000 sewerage bonds, postponed from Oct. 31. Address J. H. Connell, city clk.

Sumrall, Miss.—Until Nov. 7 by the City for $20,000 bonds for constructing complete waterworks system. A. Kramer, engr., Magnolia.

Cincinnati, O.—City Council voted to construct sewers in Adelphi, Burr Oak, Ellis Sts., Columbia and Queen City Aves. Address Bd. Public Service.

Frank S. Krug, city engr., submitted to City Council estimates of cost of two sections of Millcreek interceptor, as follows: Section between Harrison and Marshall Ave., $[illegible] and section between Mitchell and Spring Grove Ave., $179,770. Contract for construction will soon be let.

City Council authorized issue of $18,700 bonds for city's share of cost for constructing sewers on Highland Ave., Corporation Alley, Cumber and Liberty Sts. and intersection of E. Epworth and Edgewood Aves.

Cleveland, Ohio.—Contract about to be let by city for rebuilding clear-water basin of Division Ave. Filtration plant; estimated cost of revamping the basin about $100,000. Address City Water Commissioner.

Greenfield, Ohio.—Village Bd. considering laying vitrified pipe sewers in Lynden Ave.; estimated cost $12,000. E. M. Conner, village clk.

Jefferson, Ohio.—City will spend $4,500 for gas engine, pump and other equipment for waterworks. Address T. B. Miller, city clk.

Newton Falls, Ohio.—Waterworks Comrs. considering spending about $7,000 for equipment for pumping station.

Norwood, O.—See "Roads and Paving."

Salem, Ohio.—City Council directed City Engineer to prepare plans for constructing sewage disposal plant; cost $71,568.

In a report to City Council, City Engineer estimates cost of storage basin at waterworks at $18,632.

Sidney, O.—See "Roads and Paving."

West View, O.—See "Roads and Paving."

Youngstown, O.—See "Roads and Paving."

Bicknell, Ind.—Reported Bicknell Water Co. will construct waterworks; cost about $100,000.

Quincy, Ill.—W. P. Bushnell, 1020 Vermont St., directed to prepare plans for a pumping plant to be constructed at head of Quimby Bay; cost, $85,900.

Rock Island, Ill.—City will purchase pump, 3,000,000 gal. capacity, for waterworks. Address M. T. Rudgren, city clk.

La Crosse, Wis.—Finance and Sewer Com. Common Council voted to construct 11 miles 12 to 42-in. pipe sewers; cost about $90,000. E. H. Hoffman, city clk.

Osceola, Wis.—Reported plans being prepared for constructing sanitary sewerage and water systems; cost about $35,000. L. P. Wolff, engr., 1000 Germania Life Bldg., St. Paul, Minn. Address City Clerk.

Washburn, Wis.—Election soon to be held to vote $27,000 bonds for sewers and street improvements. Address City Clerk.

Waupun, Wis.—Election will soon be held to vote $50,000 bonds for constructing storm sewers and pavements. Address City Clerk.

Burlington, Iowa.—No bids opened Oct. 19 by E. P. Wenestein, city clk., for constructing 4 miles concrete arch and concrete pipe sewers. New bids will be received soon.

Fayette, Iowa.—Plans reported being prepared for sewage disposal plant and sewerage system, 2½ miles 6 to 15-in. vitr. pipe required; cost $17,000. G. H. Bishop, engr., City Hall, Oelwein.

Grinnell, Ia.—Citizens will soon vote on bond issue of $10,000 for extensions to water mains. Address City Clerk.

Hanover, Kan.—Plans reported being prepared by city for constructing sewerage system and disposal plant; cost $30,000. Black & Veatch, engrs., 507 Interstate Bldg., Kansas City, Mo.

Sylvan Grove, Kan.—Reported preliminary plans being prepared for construction of sewer; cost about $20,000. W. B. Rollins & Co., engrs., 432 Railway Exchange Bldg., Kansas City, Mo. W. H. Briehan, city clk.

Grand Island, Neb.—Plans prepared for extensions to sewerage system; cost about $250,000. Address City Engineer.

Red Cloud, Neb.—Citizens voted $20,000 bonds for constructing lateral sewers. Address City Clerk.

Milbank, S. D.—Citizens voted $25,000 bonds for constructing filtration plant. F. L. Thompson, mayor.

Eldorado Springs, Mo.—About $20,000 is to be spent by city for improvements to waterworks. Address C. P. Ryan, city clk.

Independence, Mo.—Construction of new sewer system being considered; cost about $200,000. Address H. H. Pendleton, city engr.

Joplin, Mo.—City Council considering constructing filtration plant at city waterworks on Shoal Creek; cost $50,000. Burns & McDonald Engineering Co., 400 Interstate Bldg., Kansas City, engrs.

Kansas City, Mo.—Bd. of Pub. Wks. voted to construct sewers in Dists. Nos. 260, 320 and 444. Address J. A. Bermingham, city clk.

Springfield, Mo.—Contract will be let about December for about 6 miles 8, 10 and 12-in. vitr. pipe for sewers. Oscar Christman, engr. T. J. Moore, city clk.

Austin, Tex.—Hering & Gregory, 170 Broadway, New York City, engaged by city to prepare plans and specifications for sewage disposal plant, cost about $175,000. A. P. Woolridge, Mayor.

Barstow, Tex.—Construction of joint waterworks system for Barstow and Pecos contemplated; probable cost $200,000. H. La Salle of El Paso said to be interested.

El Paso, Tex.—Reported an election will probably be held to vote $30,000 sewerage bonds. Address City Clerk.

City Water Co. considering spending $110,000 for improvements, including installing Fulton Tosi engine at Mesa Pumping Station, laying 2 miles 24-in. water mains. Address City Clerk.

Hamlin, Tex.—Bonds for $35,000 will be sold Nov. 15 by the City for the construction of city reservoir and appurtenances. Loo Randals, city secy.

Mission, Tex.—Reported Mission Light & Water Co. will spend about $20,000 for improvements.

Oklahoma City, Okla.—City Comn. directed Guy McClure, city engr., to prepare plans for extending sewer mains; cost about $200,000.

Ringling, Okla.—Preliminary surveys being made by Wm. MacIntosh, Oklahoma City, for construction of sanitary sewer system. Address City Clerk.

Seattle, Wash.—Plans for installation of water mains in Shilshole Ave. submitted to Bd. Pub. Wks.; cost $26,000. L. B. Young, supt. waterworks.

Tacoma, Wash.—City will construct 15,230 ft. clay or cement pipe sewers; cost $18,850. L. A. Nicholson, city engr., City Hall.

McMinnville, Ore.—R. W. Jones, city engr., estimates waterworks extensions to Haskins Creek project will require 4 miles 14-in. and 8 miles 12-in. pipe; cost machine banded wood pipe, $65,000; dipped steel pipe, $125,000, and c. i. pipe, $160,000.

Portland, Ore.—Construction of reservoir on west side of city reported contemplated. Address Philip H. Dater, city engr.

Bakersfield, Cal.—Citizens on Oct. 24 defeated issue of $175,000 bonds for acquiring water system. Address City Clerk.

Brawley, Cal.—Preliminary plans prepared by G. R. Wade, city engr., for pipe line, concrete settling basins, pressure pipe line, etc. Election will probably be held to vote $20,000 bonds. Address City Clerk.

Corcoran, Cal.—Corcoran Water & Gas Co. will spend $10,000 for constructing 50,000-gal. tank and 80-ft. tower, lay new mains, extending distributing system and install pump.

Los Angeles, Cal.—Municipal Improvement Dist. No. 1 (Hollywood) voted $1,020,000 bonds for purchasing and improving privately owned waterworks. Improvements will include pipe lines to bring water from Los Angeles aqueduct, enlarging and extending distributing systems. Wm. Mulholland, ch. engr. Bd. Pub. Service, Knickerbocker Bldg.

Merced, Cal. — See "Structural Steel Work."

Albion, Idaho.—A. E. Uhl of Albion Water Co. petitioned Public Utilities Comn. at Boise for permission to construct waterworks in Albion; cost about $10,000.

Twin Falls, Idaho.—Preliminary estimates for constructing waterworks and distributing system completed by Louis C. Kelsey, Selling Bldg., Portland, Ore.; estimated cost $300,000. Reported contract will soon be let. Address City Clerk.

St. John, N. B.—Contract about to be let by City Council for about 3000 ft. 20-in. c. i. water pipe. R. W. Wigmore, comr.

Cornwall, Ont.—Plans being prepared by F. Stidwell for additions to pumping station and for installation of two centrifugal pumps and waterwheel, estimated cost $25,000. Address City Secretary.

Vancouver, B. C.—Bd. Wks. voted to construct sewer in Hastings Townsite Dist. in Pandora Section, Triumph and Albert Sts. Address City Engineer.

BIDS DESIRED.

New York, N. Y.—Until Nov. 6 by William Williams, comr. water supply, gas and electricity, Municipal Bldg., for furnishing, delivering and laying a 12-in. steel or wrought-iron water main and appurtenances on Queensboro bridge and hauling and laying connecting c. i. mains and appurtenances in the Boroughs of Manhattan and Queens; security $15,000.

New York, N. Y.—See "Roads and Paving."

Sonyea, N. Y.—Until Nov. 21, by Percy L. Lang, pres. bd. mgrs. Craig Colony for Epileptics, for additions and alterations to water supply at colony, advertised in this issue.

Plainfield, N. J.—Until Nov. 20 by the Common Council for constructing storm sewers, including 2960 ft. 45 to 27-in. sewer, 900 ft. 12 and 15-in. inlet connections, 10 manholes, 30 inlets, etc., advertised in this issue. John J. Carroll, city clk.

Washington, D. C.—Until Nov. 21 at the office Comrs. D. C., Dist. Bldg. (Olive P. Newman, chmn.), for constructing 7000 lin. ft. of masonry sewers, 6-ft. span to 2 ft. 9 in. span; 900 lin. ft. 30 ft. wide concrete floor in old sewer, advertised in this issue.

Until Nov. 7 at office Comrs. D. C., Dist. Bldg (Olive P. Newman, chmn.), for constructing sewers in the Dist., involving about 5500 lin. ft. of masonry and pipe sewers, 4 ft. diameter to 21 in. diameter, advertised in this issue.

Washington, D. C.—Until Nov. 28, by Comrs. D. C. (Oliver P. Newman, chmn.), for constructing 8200 lin. ft. of masonry sewers, 4-ft. 6-in. span, advertised in this issue.

New Orleans, La.—Reported desired until Nov. 14 by Lighthouse Inspector for purchase of 500 lengths of c. i. water pipe, 16 in. inside diameter.

New Orleans, La.—Reported desired until Dec. 21 by G. G. Earl, gen. supt. sewerage and water bd., for constructing three 12-ft. steel discharge pipes for drainage pumps.

Bellefontaine, Ohio.—Reported desired until Nov. 15 by the City for constructing sewers; cost about $65,000. C. A. Inskeep, city engr.

Mansfield, Ohio.—Until Nov. 8 by Secy. Bd. Control for improving Buckingham, Lily, Raymond and Harker Sts. by constructing sewers, also a sanitary sewer at the sewage disposal plant, in all about 3023 lin. ft. 6, 8, 24-in. straight pipe, 196 lin. ft. 6, 8-in. Y pipe, 1370 cu. yd. excav. 2000 cu. yd. new graded cinders, etc. Proposals may be obtained at the City Engineer's office. O. Hursh, dir. pub. service.

Shaker Heights (P. O. Cleveland), O.—Reported desired until Nov. 21 by Carl A. Palmer, village clerk, for constructing 6 and 8-in. water mains, sanitary sewers and grading, curbing, paving with brick, concrete, asphalt or bituminous macadam and laying sidewalks on portions of North Moreland Blvd., Warwick, Kemper and Fairmount Rds.

Troy, O.—Reported desired until Dec. 1 by L. A. Pool, supt. waterworks, for 1000 water meters.

Michigan City, Ind.—Until Nov. 28 by Bd. Pub. Wks. for installing two tube boilers in the boiler room of the City Waterworks, advertised in this issue. Alexander Spychalski, city clk.

West Allis, Wis.—Reported desired until Nov. 11 by Bd. Pub. Wks. for extending water mains and constructing sewers in Fiftieth, Sixty-ninth and Seventy-seventh Aves. E. G. Orbett, city engr.

Milwaukee, Wis.—Until Nov. 16 by Sewerage Comn. (John E. Fowles, secy.) for constructing extensions to intercepting sewer system, advertised in this issue.

Crosby, N. D.—Until Nov. 10 by W. D. Donovan, city aud., for constructing sanitary sewers, 3986 ft., manholes, inlets and automatic flood gates, etc., advertised in this issue.

Sherman, Tex.—Until Nov. 6 by City Clerk for constructing reinforced concrete reservoir, 120 ft. in diam., 16 ft. high, at Fairview Waterworks Station, advertised in this issue. O. J. S. Ellingson, city mgr.

Frederick, Okla.—Reported desired until Nov. 14, by the City, for furnishing water supply of 500,000 gal. per day. J. O. Morrow, city clk.

Oklahoma, Okla.—Reported desired until Nov. 8 by C. F. Semmelbeck, city clk., on all or any part of the following: C. i. water pipe, Class "B" standard specifications, 13,660 ft. 24-in., 3000 ft. 20-in., 5000 ft. 16-in., 6343 ft. 12-in. and 26,400 ft. 6-in.

San Diego, Cal.—Until Nov. 20 by Allen H. Wright, city clk., for constructing sewer system in University Heights, involving about 28,814 ft. of 8, 10 and 16-in. cement pipe, 156 ft. of 6, 10-in. c. i. pipe, 96 manholes, 6 flush tanks, etc.; cost $32,000. George Cromwell, city engr.

Salt Lake City, Utah.—Until Nov. 14 by Gordon Snow, city recorder for constructing sewer pumping station, cost $13,000, and out-fall sewer $85,000. Sylvester Q. Cannon, city engr.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Batavia, N. Y.**—Contracts awarded by city (bids opened Oct. 25) as follows: Superstructure pumping station for waterworks, to John Glade & Son, Batavia; for steam piping, to National Valve Mfg. Co., Pittsburgh; Chester & Fleming, engrs., Union Trust Bldg., Pittsburgh.

Newark, N. Y.—See "Structural Steel Work."

★**New York, N. Y.**—Contract for completing tunnel and sewer on W. 46th St. reported awarded to Old Colony Co., 103 Park Ave., New York City. Bids opened Oct. 9 by Marcus M. Marks, pres. Boro. Manhattan.

Thiells, N. Y.—No bids received Oct. 26 by Frank A. Vanderlip, pres. bd. mgrs. Letchworth Village, for alterations to storage reservoir and extensions to dam in Letchworth Village.

★**Atlantic City, N. J.**—Contract for laying fire service mains awarded to M. B. Markland, Atlantic City, at $81,749. Bids opened Oct. 26 by Bd. City Comrs. L. Van Gilder, supt. waterworks.

★**Sistersville, W. Va.**—Contract for constructing filtration plant for city awarded to Dayton & Francis, Martinsville, at $30,000.

★**Tarboro, N. C.**—Contract for constructing extension to sanitary sewer awarded to J. W. Pearce, Durham, at about $10,510. Bids opened Oct. 17. W. M. Platt, engr., Durham.

★**Copperhill, Tenn.**—Following contracts awarded by city (bids opened Oct. 18): Constructing waterworks and sewers to A. C. Brooks, Birmingham, Ala., hydrants, valves and sewer castings to Columbian Iron Wks. Reservoir 200,000 gal. capacity will be done by day labor. Walter G. Kirkpatrick, engr., 704 Farley Bldg., Birmingham, Ala.

★**Louisville, Ky.**—Contract for constructing pumping station on Ohio River awarded by Louisville Water Co. to Fruin-Colnon Constr. Co., Merchants Laclede Bldg., St. Louis, Mo., and Missouri Valley Bridge & Iron Co., 1129 Olive St., St. Louis, Mo., on a joint bid of $353,000.

★**New Boston, O.**—Contract for constructing waterworks reported awarded by city to Dravo Constr. Co., Diamond Bank Bldg., Pittsburgh, Pa.

★**Oakwood, Mich.** — Following bids opened by city Oct. 15 for constructing sewer system: Wm. Blank & Co., Highland Park, Ill., $255,920; Coleman & Tyler, 702 Kresge Bldg., Detroit, $177,398, and J. C. Carland & Co., Toledo, O., $166,008 (awarded contract). E. T. Kian, village clk.

Port Clinton, O.—Lowest bid opened by city for rebuilding Washington St. sewer submitted by C. L. Wright, Mt. Vernon, at $14,038.

★**Battle Creek, Mich.**—Contract for constructing storm water sewers awarded by City Council to Reniger Constr. Co., Marshall, at $11,003.

★**Flint, Mich.**—Contract for excavating of purification works awarded to E. D. Fink, Flint. Bids opened Oct. 17 by Bd. Water Comrs.

Oshkosh, Wis.—See "Structural Steel Work."

Burlington, Iowa. — See "Proposed Work."

★**Duluth, Minn.**—Contract for constructing sewer in Mesaba Range for Oliver Iron Mining Co. awarded to Lawrence-McCann Co., Eveleth, at $130,000.

Minneapolis, Minn.—Lowest bids opened Oct. 23 by K. E. Alexander, purchasing agent, for furnishing 30,000,000-gal. electric motor-driven centrifugal pump for waterworks submitted by Allis-Chalmers Mfg. Co., Milwaukee, Wis., at $19,975.

★**East Orange, N. J.**—Following are unit figures of 4 lowest bids opened by City Council on Oct. 9 for constructing Sect. 1 of storm drain in Halstead Valley of 3d Ward: (A)* Jos. L. Sigretto & Co., Woodhaven, L. I., N. Y. (awarded contract); (B) Wm. J. McCloud & Co., Elizabeth; (C) Jas. Ferry & Sons, Inc., Baltimore, Md.; (D) Harrison & Craig, 837 Broad St., Newark.

	770 Ft. 8 Ft. x 7 Ft. 9 In. Con. Sewer	1333 Ft. 7 Ft. 6 In. x 6 Ft. 6 In. Con. Sewer	1145 Ft. 6 Ft. 6 In. x 5 Ft. 9 In. Con. Sewer	542 Ft. 12 In. Vitr. Pipe	9 Manholes	19 Catch-Basins	Total
*(A)....	$20.00	$19.00	$18.00	$1.00	$70.00	$33.00	$63,136.00
(B).....	27.44	25.75	23.61	1.50	75.00	50.00	84,925.00
(C).....	32.00	26.75	25.00	1.50	100.00	60.00	91,776.00
(D).....	30.25	28.25	27.60	1.50	95.00	50.00	95,170.00

★**East Orange, N. J.**—Following are unit figures of 4 lowest bids opened by City Council Oct. 9 for constructing Sect. 2 of storm drain in Halstead Valley of 3d Ward: (A) Harrison & Craig, 837 Broad St., Newark; (B)* Jos. L. Sigretto & Co., Woodhaven, L. I., N. Y. (awarded contract); (C) Chas. Ippilito, 22 Hurlbut St., Orange; (D) Consolidated Eng. Co., 61 Gunther Bldg., Baltimore, Md.

Sect. 2—30-in. to 78-in. pipe.

Alternate (*a*) Reinforced Concrete Unit Pipe.

	700 Ft. 78 In. Pipe	302 Ft. 72 In. Pipe	688 Ft. 69 In. Pipe	678 Ft. 63 In. Pipe	725 Ft. 48 In. Pipe	1037 Ft. 45 In. Pipe	476 Ft. 42 In. Pipe	770 Ft. 39 In. Pipe	1089 Ft. 33 In. Pipe	1903 Ft. 30 In. Pipe	Sub-Totals
(A)....	$24.00	$21 80	$21.05	$19.00	$15.65	$13.15	$12.10	$12.10	$10.15	$8.70	$118,417
*(B)...	16.22	15.15	14.16	12.07	9.20	8.12	5.83	5.58	4.50	3.89	68,320
(C)....	25.38	23.32	22.42	19.28	15.09	12.35	11.14	9.65	8.63	7.74	113,913
(D)....	35.82	25.40	26.20	22.00	11.95	10.30	9.83	8.83	7.88	6.30	117,080

Alternate (*b*) Reinforced Concrete Segmental Pipe.

(A)....	$24.00	$21.80	$21.05	$19.00	$15.65	$13.15	$12.10	$12.10	$10.15	$8.70	$118,417
(C)....	25.38	23.32	22.42	19.28	15.09	12.35	11.14	9.65	8.63	7.74	113,913
(D)....	25.00	21.50	21.00	20.25	11.00	10.30	9.83	8.83	7.88	6.30	102,875

Alternate (*c*) Vitrified Segment Block Pipe.

(A)....	$24.00	$21.80	$21.05	$19.00	$15.65	$13.15	$12.10	$12.10	$10.15	$8.70	$118,417
(B)....	16.22	15.15	14.16	12.07	9.20	8.12	5.83	5.58	4.50	3.89	68,320
(C)....	25.38	23.32	22.42	19.28	15.09	12.35	11.14	9.65	8.63	7.74	113,913
(D)....	25.82	22.40	21.20	19.00	11.05	10.42	9.95	9.00	8.00	6.40	103,681

Sect. 2—12-in. to 27-in. pipe.

	Alternate 1988 Ft. *27 In. Con. Pipe	Alternate 1988 Ft. 27 In. Vit. Pipe	Alternate 1446 Ft. 24 In. Con. Pipe	Alternate 1446 Ft. 24 In. Vit. Pipe	1695 Ft. 22 In. Vit. Pipe	496 Ft. 20 In. Vit. Pipe	2765 Ft. 18 In. Vit. Pipe	2645 Ft. 15 In. Vit. Pipe	1962 Ft. 12 In. Vit. Pipe	606 Ft. 8 In. Vit. Pipe	3380 Ft. 12 In. Pipe Chutes	92 Manholes	129 Catch-Basins	Alternate Total with (*a*)	Alternate Total with (*b*)	Alternate Total with (*c*)
(A).....	$7.95	$8.50	$6.00	$6.50	$4.75	$4.00	$3.50	$3.00	$2.50	$2.00	$1.20	$50.00	$50.00	$191,768	$191,768	$191,768
*(B).....	3.82	3.82	3.18	3.18	3.00	3.08	2.17	2.17	1.60	0.90	1.25	48.00	33.00	115,447	.....	115,448
(C).....	7.20	7.89	6.23	6.63	5.48	4.96	4.06	3.47	2.88	2.09	2.10	55.00	75.00	198,138	198,138	198,138
(D).....	5.65	6.30	5.33	5.66	4.62	4.23	3.70	3.20	2.92	2.55	1.75	76.00	45.00	190,629	176,424	177,230

Philadelphia, Pa.—Following are unit figures of 4 lowest bids opened by Dept. City Transit on Oct. 24 for Contract No. 16, reconstructing sewer in Thompson St. from east of 7th St. to west of Broad St.: (I) Keystone State Constr. Co., 704 Pennsylvania Bldg., Design A, $215,416; Design B, $199,684; (II) Lombardi & Perna, 600 Lincoln Bldg., Design A, $221,450; Design B, $200,104; (III) Adolph Jaffola, 139 S. 50th St., Design A, $237,095; Design B, $241,549; (IV) Ryan & Reilly Co., 33d and Grays Ferry Ave., Design A, $257,030; Design B, $260,311.

	(I)	(II)	(III)	(IV)
Design A:				
426 lin. ft. brick sewer, 9 ft. 0 in. dia., in cradle.	$58.00	$66.00	$73.00	$93.80
100 lin. ft. brick sewer, 9 ft. 0 in. dia., min. sec.	51.00	62.00	70.00	81.85
1,194 lin. ft. brick sewer, 8 ft. 0 in. dia., in cradle.	64.00	65.00	69.50	72.00
1,466 lin. ft. brick sewer, 8 ft. 0 in. dia., min. sec.	62.00	64.00	69.00	73.00
Concrete special section (lump sum)	16,000.00	14,000.00	13,000.00	13,700.00
100 lin. ft. vitr. clay pipe, 6 in. dia., not in con.	1.00	3.00	.60	1.00
100 lin. ft. steel bound granolithic curb	2.00	4.00	3.00	1.00
$10,000 force account, expenditure	20%	10%	15%	20%
Design B:				
427 lin. ft. concrete sewer, 9 ft. 6 in. x 6 ft. 9 in., in cradle	$52.00	$59.00	$74.00	$94.80
100 lin. ft. concrete sewer, 9 ft. 6 in. x 6 ft. 9 in., minimum section	49.00	58.00	71.00	82.85
1,194 lin. ft. concrete sewer, 8 ft. 0 in. x 6 ft. 3 in., in cradle	58.00	58.50	71.50	73.00
1,466 lin. ft. concrete sewer, 8 ft. 0 in. x 6 ft. 3 in., minimum section	58.00	57.00	70.50	74.00
Concrete special section (lump sum)	16,000.00	14,000.00	13,000.00	13,700.00
100 lin. ft. vitr. clay pipe, 6 in. dia., not in con.	1.00	3.00	.60	1.00
100 lin. ft. steel bound granolithic curb	2.00	4.00	3.00	1.00
$10,000 force account, expenditure	20%	10%	15%	20%

★**Evanston, Ill.**—Following are unit figures of four lowest bids opened Oct. 13 by T. C. Brower, comr. pub. wks., for 12,500 lin. ft. vitr. salt glazed segmental block and salt pipe sewers: (a) C. T. Bartlett, Evanston, $47,252 (awarded contract); (b) Fred J. Ward, $49,274; (c) Chas. M. Porter Co., 118 N. La Salle St., Chicago, $49,999, and (d) The Ryan Co., 10 S. La Salle St., Chicago, $50,037.

	*(a)	(b)	(c)	(d)
220 ft. 5-ft. outlet	$11.87	$11.00	$12.50	$12.50
80 ft. concrete bulkhead	26.37	27.00	25.00	25.00
1 special manhole	39.55	50.00	60.00	60.00
420 ft. 5-ft. segmental block	9.36	9.00	9.00	8.60
430 ft. 4¾-ft. segmental block	8.14	8.30	8.50	8.20
430 ft. 4½-ft. segmental block	7.87	8.00	8.00	7.70
430 ft. 4¼-ft. segmental block	7.43	8.00	7.50	7.20
430 ft. 4-ft. segmental block	6.71	7.00	6.50	6.60
440 ft. 3¾-ft. segmental block	6.21	6.40	6.09	6.10
430 ft. 3½-ft. segmental block	5.70	6.00	5.70	5.70
420 ft. 3¼-ft. segmental block	5.28	5.80	5.40	5.40
1,300 ft. 27-in. tile	2.87	3.00	3.30	3.60
850 ft. 24-in. tile	2.11	2.50	2.70	2.65
660 ft. 22-in. tile	2.01	2.25	2.40	2.30
1,480 ft. 20-in. tile	1.76	1.90	1.75	1.90
660 ft. 18-in. tile	1.33	1.55	1.60	1.55
1,500 ft. 15-in. tile	1.10	1.10	1.20	1.25
2,420 ft. 12-in. tile	0.85	0.90	1.00	1.00
36 manholes	39.55	40.00	35.00	35.00
90 catchbasins	30.34	34.00	40.00	40.00

★**Long Beach, Cal.**—Contract awarded Jas. Kennedy, Washington Bldg., Los Angeles, at $84,936, by Bd. Superv., Los Angeles, for constructing Signal Hill storm drain in Drainage Improv. Dist. No. 1, involving about 31,000 cu. yd. excavation, 11,266 ft. 48-in. reinforced concrete pipe, etc. Bids opened Oct. 16.

Los. Angeles, Cal.—Following are approximate amounts of four lowest bids opened recently by Bd. of Pub. Wks. for constructing Florence Ave. sewer, 34,245 ft. long, requiring about 122 ft. concrete or 2-ring brick, 4048 ft. 38-in., 3593 ft. 34-in. and 5433 ft. 30-in. brick or concrete, 5229 ft. 20-in., 2654 ft. 16-in., 1216 ft. 8-in. and 5677 ft. 6-in. vitrified pipe, 80 manholes, flushtanks, Ts, Ys, bends, lampholes, etc.: John Radich, 308 Bullard Bldg., $113,511; T. J. Shea, 2039 Oxford Ave., $127,892; John Balch, $141,393; James Kennedy, Washington Bldg., $162,718.

★**New Glasgow, N. S.**—Contract for 2400 ft. 12 and 16-in. pipe and 1000 ft. 10-in. for gravity water system awarded as follows: Pipe laying, to Gammon & Weir, New Glasgow, and supplying pipe to Canada Iron Foundries. E. S. Fraser, town engr.

STRUCTURAL STEEL WORK

PROPOSED WORK.

Boston, Mass.—New York, New Haven & Hartford RR. (Edw. Gagel, ch. engr., New Haven Conn.) intends reconstructing 11 steel bridges in South Boston as follows: At Bolton, Athens, Silver and Gold Sts. (wood block roadway): At W. 2d, W. 3d, Broadway, W. 4th, W. 5th and W. 6th Sts. and Dorchester Ave. (granite block paving). Street approaches will be regraded and resurfaced; estimated cost about $1,000,000.

Lowell, Mass.—City Council considering constructing concrete bridge over Boston & Maine tracks at Lundberg St. Stephen Kearney, engr.

Buffalo, N. Y.—Citizens of Buffalo, N. Y., and Fort Erie and Bridgeburg, Ont., considering constructing bridge over Niagara River. T. Kennard Thompson, engr., 30 Church St., New York City.

Elizabeth, N. J.—Samuel L. Moore & Sons Corp., Elizabethport, intend constructing underground steel tank, 7 x 35 ft., on Fulton St., and 30-in. tile pipe, salt-water intake and concrete culvert from Staten Island South through shipyard to power plant. Fred. Ring, engr., 280 N. Broad St., Elizabeth.

Salem, N. J.—Bd. Freeholders rejected all bids for reconstructing two spans of Penn's Neck Bridge. Estimated cost $72,000. New bids for three different contracts will be asked. Address County Clerk.

Bethlehem, Pa.—Officials of city of Bethlehem and South Bethlehem counties of Northampton Lehigh, RR. officials and private citizens subscribing to fund for constructing 1188-ft. hill-to-hill bridge between the Bethlehems. Paul Kempsmith, chm. bridge com., Bethlehem.

Harrisburg, Pa.—City Comn. contemplate constructing $300,000 steel bridge over Walnut St. E. Z. Gross, comr. of parks.

Americus, Ga.—Comrs. Sumter and Dooly counties contemplate constructing 1100 ft. concrete and steel bridge over Flint River at Murray's Ferry on Americus-Vienna-Cordele highway, about 15 miles from here. Address County Clerk, Sumter.

Birmingham, Ala.—Officials of City and Birmingham Ry., Light and Power Co. considering eliminating grade crossing at Twenty-first St. by constructing viaduct. Address City Clerk.

Co. Comrs. contemplate constructing steel bridge over Black Creek. Address County Clerk.

Montgomery, Ala.—Election Nov. 7 for $50,000 bridge bonds to construct bridge between Montgomery and Wetumpa over Tallapoosa River. Montgomery County's share $42,000, Elmore County's share $7,500. 4-mile highway approach to bridge contemplated in latter county. Address County Clerk, Montgomery.

DeRidder, La.—Bridge bonds for $500,000 will be sold Nov. 22 by P. L. Ferguson, clk. police jury, Beauregard Parish.

Knoxville, Tenn.—Officials of city, Southern Ry. and Knoxville Ry. & Light Co. considering advisability of constructing one or more bridge over tracks. Sites under consideration are Broadway, Gay St. and State St. City has authorized $150,000 bond issue for proposed work. John E. McMillan, mayor.

Clay's Ferry, Ky.—Co. Comrs. Madison and Fayette counties contemplate constructing free bridge between Richmond (co. seat of Madison) and Lexington (co. seat of Fayette) over Kentucky River. Estimated cost $140,000. Election Nov. 7 in Madison Co. for $35,000 road and bridge bonds.

Akron, O.—Election Nov. 7 for $1,200,000 North Hill viaduct bond issue. U. G. High, co. clk.

Youngstown, O.—New span for East Federal St. Viaduct at Cedar St. under advisement by City Council. City has $800,000 for grade crossing eliminations. Max E. Brunswick, city solicitor.

Chicago, Ill.—See "Railroads."

Hager City, Wis.—Election Nov. 7 to decide proposed construction of $45,000 bridge over Wisconsin channel. O. J. Hohle, co. clk., Ellsworth, Wis.

Milwaukee, Wis.—Election Nov. 7 for $25,000 bridge construction bonds. E. G. Simmons, comr. pub. wks.

Fairfield, Ia.—State Highway Comn., Ames, contemplates constructing three 124-ft. steel truss spans, 18-ft. roadway, with concrete floor, over Skunk River, using substructure of present Merrimac Bridge. Don L. Teal, co. engr., Fairfield.

Minneapolis, Minn.—E. E. Terrell, co. surv., making survey for proposed bridge over Minnesota River at Lyndale Ave. Financial aid expected from State.

Royalton, Minn.—Co. Comrs. intend constructing new $30,000 bridge over Mississippi River to replace condemned one. Address County Clerk, Little Falls.

Kansas City, Kan.—Santa Fe RR., R. A. Rutledge, ch. engr., Topeka, Kan., has been requested by City Council to construct viaduct over 30 tracks on 44th St. in Argentine dist. C. W. Green, mayor.

Topeka, Kan.—Walter Arnold, co. engr., is preparing estimates for 160 ft. Baltimore steel truss bridge over Soldier Creek near Garfield and preparing plans for $5,000 bridge on county poor farm. Plans for rainbow arch concrete bridge have been submitted by Marsh Engr. Co., Des Moines, Iowa, and for Thomas concrete arch type, by Allen & Fulton, Topeka, for Soldier Creek bridge.

Canadian, Okla.—Plans are under consideration for an overflow bridge over South Canadian River on Jefferson highway. Private capital will probably construct bridge. Address County Clerk, McAlester.

Newkirk, Okla.—Co. Comrs. will soon let contracts for bridges between Sects. 18-19, T 25 and R 2, and repairing bridge over Arkansas River. Address County Clerk.

Oklahoma City, Okla.—Harry Adams, co. engr., preparing plans for 12 new bridges; estimated cost $25,000. Two bridges on Reno Ave. will be contracted for in November.

Independence, Wash.—Comrs. Grays Harbor and Thurston Counties contemplate constructing bridge over Chehalis River. Address County Clerk, Chehalis.

Seattle, Wash.—Plans submitted by A. H. Dimock, city engr., for construction of bridge over Northern Pacific Ry. Co.'s right-of-way and approach to Fremont Ave. bascule bridge, approved by Bd. of Pub. Wks.

Tacoma, Wash.—Contract will be let early in the new year for erecting 100 x 120-ft. fireproof, concrete, steel frame gymnasium for Stadium High School; cost $50,000. Heath & Gove, archts., National Realty Bldg.

Oregon City, Ore.—City Council considering plans of Southern Pacific Ry., W. Hood, ch. engr., San Francisco, Cal., for constructing steel viaduct over 14th St. to replace frame structure.

Corcoran, Cal.—See "Waterworks and Sewerage Systems."

Huntington Park, Cal.—Warman Steel Casting Co., Douglas Bldg., Los Angeles, will erect three foundry buildings here of steel frame, with concrete foundation, cement floors and corrugated iron exterior; cost $100,000.

Merced, Cal.—See "Waterworks and Sewerage Systems."

Merced, Cal.—Contract about to be let by H. A. Large, mgr. Crocker, Huffman Land & Water Co., for erecting 300,000-gal. steel tank on 120-ft. steel tower, installing 150-hp. pumping plant and drilling well.

Toronto, Ont.—Bd. Control, Harbor Comrs., officials of Canadian Pacific RR. and Terminal companies considering constructing 3 bridges over RR. tracks, water front viaduct or subway on Queen St., East., at Riverdale, to eliminate grade crossings. Address City Clerk.

BIDS DESIRED.

New York, N. Y.—Until Nov. 16, by Marcus M. Marks, pres. Manhattan Boro., for the improvement of the southerly portion of the Manhattan bridge. Security required $25,000.

Eatonton, Ga.—Until Nov. 21, by Bd. Comrs. (C. B. Alford, chm.), for constructing 160 ft. riveted truss span, 40-ft. steel approach and reinforced concrete piers and abutments across Murder Creek, at Freeman's Mills; roadway 12 ft.

Dayton, O.—Until Nov. 9 by Co. Comrs. (Walter H. Aszling, clk.) for reduction of grade and constructing bridges on New Troy Pike and Springfield Rd. in Butler Township; work includes 2073 cu. yd. excavation, 5465 cu. yd. of borrowed excavation, 1348 cu. yd. gravel in place, 539 cu. yd. 1:2:4 and 1:2½:5 concrete, 4156 lb. steel, 59 lin. ft. bridge hand rails.

Cleveland, Ohio.—See "Miscellaneous."

Rockport, Ill.—Until Nov. 13, by State Highway Dept., Springfield, at the Town Hall in Rockport, for constructing Dutch Creek bridge, to consist of two 60-ft. spans, 16-ft. roadway, in Atlas Township. Estimated cost $7,185.

Springhill, Neb.—Reported desired until Nov. 11 by Johnson County for constructing a steel bridge; cost $8,000. George Pike, co. engr.

Coquille, Ore.—Until Nov. 15 by Robt. R. Watson, co. clk., for constructing brdige over South Fork of Coquille River at Myrtle Point, on either of two sites; on the extension of Maple St. 180-ft. steel span is provided with alternates for wood, concrete pier and timber approaches. If Maple St. site is selected a similar proposition is called for, together with a concrete viaduct over the Southern Pacific Ry. tracks. Plans and specifications from the County Clerk on deposit of $5.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Newark, N. Y.**—Contract for elevated water tank at State Custodial Asylum for Feeble Minded (Ethan A. Nevin, supt.) awarded to Pittsburgh-Des Moines Steel Co., Pittsburgh, at $7,083.

★**Johnstown, Pa.**—Contract awarded by City Council to Hackedorn Contr. Co., Indianapolis, Ind., for bridge over Stonycreek River between 8th and 17th wards. J. W. Cramer, city clerk.

New Castle, Pa.—Contract awarded by Co. Comrs. to George Axe, New Wilmington, Pa., at $9,247 for grading, constructing bridges and culverts in county. Bids opened Oct. 18. J. R. Lamone, ch. clk.

★**Philadelphia, Pa.**—Contract awarded by Dept. Pub. Wks. to M. & J. B. McHugh, Commercial Tr. Bldg., for work on Green Lane bridge, at $8,000, and Erie Ave. bridge, over Pennsylvania & Reading Ry. tracks, at $18,700.

Washington, D. C.—Following are bids received Oct. 23 by Gen. Purchasing Officer, Panama Canal, for furnishing, under circular No. 1093, 138,000 steel reinforcing bars: R. C. Hoffman Co., Baltimore, Md., $84,690 (unit bid, 3.65c., 3.4c., 3.2c., 3.15c.); delivery 45 to 65 days; Concrete Steel Co., 42 Broadway, New York City, $85,380 (3.675c., 3.425c., 3.225c., 3.175c.); U. S. Steel Products Co., 30 Church St., New York City, $92,138 (3.97c., 3.72c., 3.395c.); alternate part ⅝ in. and ¾ in. only, $44,855 (3.29c., 3.215c.); alternate part of all items, $17,519 (4.405c., 4.155c., 3.905c., 3.83c.).

★**Cleveland, O.**—Contract awarded Hunkin-Conkey, 321 Cuyahoga Bldg., for erecting 3-story, 190 x 32 ft. steel addition to plant of National Tool Co., 1950 W. 112th St.; cost about $50,000. Osborn Eng. Co., archts., 740 Engineers Bldg.

★Contract awarded Campbell-Cockburn Constr. Co., 1840 E. 24th St., for erecting 220 x 162 ft. steel and concrete factory at 1132 Ivanhoe Rd. for Atlas Car & Mfg. Co.; cost $60,000. W. S. Ferguson Co., engrs., 1900 Euclid Ave.

Oshkosh, Wis.—Lowest bid opened by city for constructing water tower reported submitted by Larsen Constr. Co., Oshkosh, at $14,530.

★**Oskaloosa, Ia.**—Contract awarded Oct. 23 by Co. Comrs. to H. E. Whitlatch, Beacon, at $15,999, for 17 small bridges and culverts.

★**Storm Lake, Ia.**—Contracts awarded Oct. 17 by Co. Comrs. to Standard Bridge Co., Omaha, for 47,120 lb. structural steel (I-beam spans), at $3.80 per cwt., to Des Moines Bridge & Iron Co., Des Moines, for 159,910 lb. structural steel (I-beam spans), at $3.83 per cwt.; 146,000 lb. ½-in. sq. reinforcing bars, at $3.211 per cwt.; 54,000 lb. ¾ in. sq. reinforcing bars, at $3.111 per cwt. To Clinton Bridge Works, Clinton, for 257,650 lb. structural steel (I-beam spans), at $3.79 per cwt.; 140,000 lb. ½-in. sq. reinforcing bars, at $3.19 cwt., 40,000 lb. ¾ in. sq. reinforcing bars, at $3.09 cwt. All prices f.o.b.

★**Kansas City, Kan.**—Contract awarded by Kansas City Terminal Ry. Co. (J. V. Hanna, ch. engr., Kansas City, Mo.) to Arkansas Bridge Co., Waldheim Bldg., at $3,000,000, for 2 1-5 miles RR. bridge over Kaw Valley Bottoms, 25,000 tons steel, 200 cars rock, 1000 cars cement, 1000 cars sand, 3,000,000 ft. deck timber, 250,000 ft. false work and 200,000 ft. piling required.

Fort Worth, Tex.—Lowest bid received by City Council for Allen Ave. viaduct was $37,858, from C. T. Hodge, Fort Worth.

★**Seattle, Wash.**—Contract awarded Minneapolis Steel & Machinery Co., Spokane, by Bd. Pub. Wks., at $12,220, for steel for Fremont Ave. bridge over Lake Washington Canal.

★**Spokane, Wash.**—Contract awarded by Bd. Pub. Wks. to C. L. Graves, 2709 Sinto St., at $17,740, for repairing and strengthening Washington St. steel viaduct.

★**Los Angeles, Cal.**—Contract awarded Baker Iron Wks., Main and Ord Sts., at about $90,000 for structural steel work for 12-story and basement, 129 x 196 ft. steel and reinforced concrete theater, office, cafe and studio building to be erected at Third St. and Broadway for Stability Bldg. Co. C. J. Kubach, Merchants National Bank Bldg., secured contract for reinforced concrete foundation at about $20,000. A. C. Martin, archt., 430 Higgins Bldg.

★**Oroville, Cal.**—Contract awarded by Co. Comrs. to O. A. Peter, Oroville, for two steel and concrete bridges, one over Watt Slough on Butte City, Biggs road at $1,848, other over Lindo Channel on Palm Ave., in Chico, at $3,924.

REINFORCED CONCRETE

PROPOSED WORK.

Malone, N. Y.—Malone Light & Power Co. proposes constructing reinforced concrete bridge, 25 ft. long and 20 ft. wide, at Titusville hill dam.

Longport, N. J.—Plans being revised for proposed reinforced concrete sea wall. Appropriation, $275,000. Lowest bid of $560,000 recently received rejected by Borough Council. Address boro. clk.

Harrisburg, Pa.—State Roads Comn. intends constructing reinforced concrete bridge over Little Elk Creek, near Elkton, to replace wooden structure.

Philadelphia, Pa.—City Council intends constructing concrete bridges as follows: South St., over Schuylkill River, $400,000; two at Cobbs Creek Pkwy., $28,000; 34th St., near Grays Ferry, $60,000; Mt. Airy, $60,000, and Harvey St., Manaysink sect., $10,000. Address Chief Engineer Bureau of Surveys, Dept. Pub. Wks.

Scranton, Pa.—Preliminary plans being considered for 6-story, reinforced concrete garage to be erected for Lackawanna Automobile Co. Edw. and Harold Conrad, 134 Adams Ave., may be able to give information.

Valdosta, Ga.—Co. Comrs. contemplate constructing concrete bridge over Withlacoochee River with government aid. Gordon Tillman, co. engr.

Biscay, Minn.—Co. Comrs. contemplate replacing with reinforced concrete bridge recently destroyed. F. D. Stocking, co. aud., Glencoe.

New Richland, Minn.—Co. Comrs. rejected all bids for reinforced concrete bridge here. New bids shortly be asked. Thos. Peterson, co. aud., Waseca.

Anthony, Kan.—Co. Comrs. contemplate constructing 65 concrete bridges of various sizes, from culverts to 9-span structures. Cost $123,000. Election Nov. 7 for bonds. Address County Clerk.

Coldwater, Kan.—O. T. Reece, engr., preparing plans for number of reinforced concrete bridges throughout county.

Topeka, Kan.—See "Structural Steel."

Kansas City, Mo.—Bd. Pub. Wks. intends constructing 127 ft. long, 26 ft. wide reinforced concrete bridge over Brush creek on Elmwood Ave. L. Oppenstein, pres. bd.

Seattle, Wash.—Port of Seattle Comn., C. E. Remsberg, secy., contemplates constructing, by day labor, reinforced concrete tank at Bell St. Terminals for storage of Soya bean oil; cost $8,000. G. F. Nicholson, ch. engr.

Plans being prepared for 2-story, 120 x 120-ft. concrete and brick store and market building to be erected on 1st Ave. and Pike St. for Chas. Frye of Frye Packing Co., Seattle; cost $60,000.

Plans completed for 21-stall round house, machine shop and store house of brick and concrete construction, to be erected on Hanford and Occidental Sts. for Northern Pacific Ry. Co. (W. L. Darling, ch. engr., St. Paul, Minn.); cost $100,000.

San Bernardino, Cal.—Anderson Co., San Bernardino, plans erecting 5-story, 150 x 55-ft. reinforced concrete office building at 3d and E Sts.

Santa Barbara, Cal.—Contract will be let about Nov. 15 by J. Corbley Poole, archt., Santa Barbara, for erecting 3-story, 150 x 100 ft. reinforced concrete academy building, containing theater, gymnasium, offices, laundry, etc., for Prince Hopkins Institution. Mayberry & Parker, engrs., Pacific Electric Bldg., Los Angeles.

Sarnia, Ont.—Imperial Oil Co., Sarnia, plans erecting new brick and concrete factories, costing $200,000.

Toronto, Ont.—Plans being prepared by J. Francis Brown, Bd. of Trade Bldg., for brick and concrete bake shops to be erected for Harry Webb Co.; cost $75,000.

Waimapitas, Ont. — See "Miscellaneous."

BIDS DESIRED.

Morgantown, W. Va.—Reported desired until Nov. 11 by State Road Bureau, West Virginia University, for 6 reinforced concrete bridges.

Arvada, Wyo.—Reported desired until Nov. 8 by J. J. Withrow, co. clk., Sheridan, for constructing concrete abutments for a 150-ft. bridge across Powder River.

Sherman, Tex.—See "Waterworks and Sewerage Systems."

PRICES AND LETTINGS.

★*Indicates award of contract.*

Brooklyn, N. Y.—See "Miscellaneous."

★**Warren, Pa.**—Contract awarded by Co. Comrs. to National Concrete Co., Indianapolis, at $10,000, for supervising construction of new bridge over Allegheny River.

★**Dana, W. Va.**—Contract awarded by Co. Comrs. to B. C. Coit, Charleston, at $6,800 for constructing reinforced concrete bridge over Campbells Creek. Bids opened Oct. 7.. P. J. Walsh, engr.

★**North Yakima, Wash.** — Contract awarded by City Comrs. to Yakima Constr. Co., at $4094 for constructing concrete bridge and spillway over waterway on North 6th Ave.

★**Spokane, Wash.**—Contract awarded by City Council to Olson & Johnson, Missoula, Mont., at $32,880 for constructing Post St. concrete bridge. Unit price, concrete, $15 per cu. yd.; steel, .055 per lb. Morton Macartney, city engr.

Los Angeles, Cal.—See "Structural Steel Work."

Oakdale, Cal.—See "Excavation, Drainage and Dredging."

San Bernardino, Cal.—Following are 3 lowest bids opened Oct. 12 by Bd. Supervs. (A. S. Guthrie, clk.) for erecting 3-story and basement reinforced concrete and brick county hospital: F. O. Engstrum Co., Fifth and Seaton Sts., Los Angeles, $89,997; Cresmer Mfg. Co., Riverside, $99,114; Jacobs Constr. Co., H. W. Hellman Bldg., Los Angeles, $109,359. Lyman Farwell, archt., 615 Story Bldg., Los Angeles.

San Francisco, Cal.—See "Waterworks and Sewerage Systems."

★**Upland, Cal.**—Contract awarded R. E. Millsap, 929 W. 49th St., Los Angeles, at $5,620, by City Council, for 1170 ft. concrete culvert in 19th St. Bids opened Oct. 16. Chas. P. Fuller, city clerk.

★**Clarksdale, Ariz.**—Contract awarded Cement Gun Co., Haas Bldg., Los Angeles, Cal., for erecting 3-story reinforced concrete hospital for United Verde Copper Co.; cost about $75,000. Arthur R. Kelly, Archt., Story Bldg., Los Angeles, Cal.

★**Kingman, Ariz.**—Contract awarded J. B. Lammers & Co., Phoenix, at $51,156 for erecting 1-story and basement, 125 x 150 ft. reinforced concrete store building for Lovin & Withers Co. Lescher & Kibbey, archts., Bank of Arizona Bldg., Phoenix.

★**New Toronto, Ont.**—Contract awarded Toms Constr. Co., Toronto, for erecting concrete factory for Browns Copper & Brass Rolling Mills Co.; cost $60,000.

ROADS AND PAVING

PROPOSED WORK.

Maine.—State Highway Comn., Paul D. Sargent, engr., Augusta, rejected all bids for 3.7 miles gravel road in Thomaston and South Thomaston as being too high. Lowest bid submitted by H. L. Baker, Woolwich, Me., at $17,741.

Albany, N. Y.—City Council intends repaving, together with repair and replacement of curbs, sidewalks, driveways, laying of sewers, etc., in Beaver, Chapel, Chestnut and other streets. David E. Pugh, city clerk.

Babylon, L. I., N. Y.—Town Board considering $28,000 road improvements. Chas. Heling, supt. highways.

Rochester, N. Y.—City Council intends improvements as follows: Asphalt resurfacing on Caroline St. (estimated cost $6,100, maximum per sq. ft. $2.35), and Gregory St. ($6,900, $3.25); grading, walks and sewer in Kansas St., $11,000; sanitary and storm sewer in Blossom St., $3,700; widening Tonawanda St., $20,000; drainage ditch in Augustine St., $2,500. Joseph A. Crane, city clerk.

Spencertown, N. Y.—See "Roads and Paving, Prices and Lettings."

Utica, N. Y.—Bd. Contract and Supply, Joseph Kemper, city engr., estimates paving Walnut St. from West Ave. to York St. at $11,143; Sunset Ave. from Arnold Ave. to city line at $15,170; resurfacing Miller St. from South to Eagle Sts., at $5,189.

Asbury Park, N. J.—Bd. Comrs. intend paving on concrete foundation 26,000 sq. yd. on Main St.; surface material undecided. . Estimated cost $100,000. Contracts will probably be awarded in February. Geo. W. Pittenger, street comr.

Atlantic City, N. J.—City Comrs. intend issuing $239,000 improvement bonds as follows: $15,000 for Absecon Boule. entrance; $60,000 for City Park improvement at Rhode Island Ave. and Gardner's Basin; $11,000 for jetty purposes; $3,000 for reconstructing boardwalk between Pacific and Atlantic and New Hampshire Aves.; $150,000 for paving various streets. Address City Clerk.

New Brunswick, N. J.—City Comn. sold $60,000 street improvement bonds. Address City clk.

Rutherford, N. J.—Town Council, with state aid, intends paving Union Ave. with Amiesite. Estimated cost $15,000. Address Town Clerk.

Arnold, Pa.—Boro. Council contemplates grading and curbing portions of Richmond, 15th, 16th and 17th Sts. and Woodmont and Stanton Aves. Chas. W. Hanawalt, chief burgess.

Beaver, Pa.—State Highway Comn., F. B. Black, comr., Harrisburg; County Comrs. and Township Supervs. contemplate finishing Monaca-Aliquippa State Aid Highway begun last summer.

Monessen, Pa.—Election Nov. 7 to approve issuing $110,000 bonds for grading, curbing, paving and constructing lateral sewers throughout boro. J. E. Pittman, secy.

Progress, Pa.—Co. Comrs. contemplate constructing concrete bridge over Paxton Creek near here. Address County Clerk, Harrisburg.

Smethport, Pa.—Citizens will vote Nov. 7 on $750,000 good road bonds. Address County Clerk.

Washington, Pa.—Co. Comrs. considering constructing highway from Avella to Claysville. Address County Clerk.

West View, Pa.—Borough will vote Nov. 7 on $34,183 contemplated sewer and paving work. Address Boro. Clerk.

Wilkes-Barre, Pa.—B. K. Finch, city engr., estimates cost of proposed paving on Beech, Brook, Westminster and Horton Sts. at $14,000.

Wilmington, Del.—Contracts will soon be let for resurfacing Concord Turnpike, Faulk Rd. and Centreville-Kennett Sq. Rd. James Wilson, co. engr.

Fort Hunt, Va.—Citizens Mt. Vernon Dist. seeking county aid for reconstructing 2½ miles of Fort Hunt road from River road to Fort Hunt and ⅞ mile of River road from Sherwood Hall to Gum Springs. Address Harrie White, ch. road com.

Richmond, Va.—City Council has appropriated $75,000 for Chamberlayne Ave. extension from Graham Rd. to Ginter Park to Calhoun St., on south side of Shockoe Valley. Chas. E. Bolling, city engr.

Fayetteville, W. Va.—Co. Comrs. contemplate improving 40 miles of road in Fayetteville Dist. with reinforced concrete, bituminous concrete or brick. Estimated cost $60,000. J. K. McGrath, road engr., Mount Hope, W. Va.

Keyser, W. Va.—Bids received by County Court for road construction in New Creek Dist. exceeded estimates. New bids may be asked. Address County Clerk.

Wheeling, W. Va.—Geo. Steenrod, co. road engr., surveying proposed highway from National road at Elm Grove to Mt. de Chantal.

Wilkesboro, N. C.—Co. Comrs. sold $250,000 road construction bonds. Address County Clerk.

Atlanta, Ga.—Highway Comrs. of Henry, Spalding, Clayton and Pike counties contemplate constructing Atlanta-Macon section of Dixie Highway via Jonesboro, Hampton, Griffin, Barnesville and Forsyth. Estimated cost $1,000 to $2,000 a mile. Judge T. E. Patterson, ch. state highway comn.

Co. Comrs. contemplate top-soil dressing numerous roads throughout county. Address County Clerk.

Atlanta, Ga. — Highway Comrs. of Henry, Spalding, Clayton and Pike counties contemplate constructing Atlanta-Macon section of Dixie Highway via Jonesboro, Hampton, Griffin, Barnesville and Forsyth. Estimated cost $1,000 to $2,000 a mile. Columbus, Dawson, Albany, Macon, Milledgevile, Eatonton, Madison and 5 other inter-county highways are under contemplated construction with Federal aid. Judge T. E. Patterson, ch. state highway comn.

Cartersville, Ga.—Citizens will soon vote on $60,000 road bond appropriation. Address County Clerk.

Sumter S. C.—City Council considering letting $75,000 additional paving contracts. L. D. Jennings, mayor.

Florida.—Federal road appropriation of $56,000 has been distributed in following counties where equal amounts will be raised for contemplated National Highway hard-surfaced road: Baker, $14,000; Nassau, $3,000; Columbia, $5,000; Oskaloosa, $10,000. Remaining $24,000 will be distributed in same manner in Duval and other counties. Address State Highway Comn., Tallahassee.

Monticello, Fla.—Citizens approved $67,000 Dixie Highway road construction bonds. Address County Clerk.

Wetumpa, Ala.—See "Montgomery, Ala., Structural Steel."

De Ridder, La.—Co. Comrs. have large sums available for contemplated road work. Address County Clerk.

Crowley, La.—Co. Comrs. have large sums available for contemplated road work. Address County Clerk.

Monroe, La.—Co. Comrs. sold $500,000 road bonds. About 1000 miles good roads construction contemplated. Address County Clerk.

New Roads, La.—Police Jury intend selling, Dec. 4, $123,000 road bonds for 40 miles gravel road. Louis Tavoure, pres. police jury.

Canton, Miss.—Bd. Supervs. sold $126,000 road bonds. Address County Clerk.

Additional road bonds for $30,000 will be sold Nov. 8 by Bd. Co. Supervs. D. C. McCool, clk.

Greenwood, Miss.—Bd. Supervs. sold $100,000 of $600,000 good road bonds recently authorized. Address County Clerk.

Jackson, Miss.—Bd. Supervs. sold $100,000 road bonds. This makes $600,000 issued by 1st and 5th road dists. Address County Clerk.

Liberty, Miss.—Bd. Supers. considering issuing $100,000 road construction bonds. Address Chancery Clerk.

Marshall, Miss.—Co. Comrs. appropriated $20,000 for Pigeon Roost road extension. Grading and graveling of 16 miles of Endora-Memphis road from Tunica Co. to Tennessee line also contemplated. Address County Clerk.

Centerville, Tenn.—Highways bonds for $225,000 will be sold Nov. 22 by John H. Clagett, co. judge.

Jackson, Tenn.—Co. Court approved plans for 65 miles of contemplated gravel roads throughout county submitted by A. M. Nelson, state highway engr.

Lewisburg, Tenn.—Byhalia separate road dist. voted $35,000 to improve 20 miles road. Address County Clerk.

Memphis, Tenn.—S. W. McCleskey, engr., preparing plans for $20,000 gravel road, 10 miles long, across northeast corner of DeSoto County.

Burkesville, Ky.—Citizens of county subscribing fund for building pike with state aid from Burkesville via Edmonton to Horse Cave on L. & N. RR. Address Co. Clerk.

Owingsville, Ky.—Co. Comrs. contemplate spending $24,000 ($12,000 state aid) for reconstructing Owingsville-Sharpsburg road, 12 miles long. Address County Clerk.

Paducah, Ky.—Co. Comrs. contemplate constructing numerous roads throughout county with state and federal aid and $200,000 worth of bonds to be voted Nov. 7. Address County Clerk.

Ashtabula, O. — Street improvement bonds for $36,000 will be sold Nov. 4 by the City Aud. A. T. Faulkner, city clk.

Bexley, O.—Election Nov. 7 for bond issue to pay village's portion for paving Drexel, Columbia and N. Commonwealth Aves. Jennings, Lawrence & Lindsay, engrs., Columbus, O. Chester A. Miller, village clk.

Canton, Ohio.—City Council intends grading, laying stone or concrete curbing, sawed stone or concrete sidewalks, brick crosswalks and storm water drainage on Greenfield Ave., S. W., from Navarre Rd., S. W., to Nineteenth St., S. W. W. Edgar Jackson, city clk.

Cleveland, Ohio.—Citizens will vote Nov. 7 on $3,000,000 repaving bonds. Address City Clerk.

Delaware, Ohio.—Roads bonds for $88,300 will be sold Nov. 16 by W. V. Aldrich, Co. aud.

Hamilton, Ohio.—Co. Comrs. will construct 15 miles concrete road in 1917 with state aid; estimated cost $180,000. Contracts will probably be awarded in February. Fred M. Hammerle, co. engr.

Marion, O.—City Council intends spending $39,000 on street improvements. Address City Clerk.

Marion and Crawford Counties intend constructing 4 miles crushed stone road along county line; estimated cost $28,492. Contracts will be awarded probably in December. Address County Clerk, Marion.

Norwood, O.—City Council intends grading and paving Parmelee and Wakefield Places from Mound Ave. to Spring St., with bituminous macadam and laying concrete curbs, gutters, sidewalks and sewers. Approximate estimate of work to be done as follows: 6500 cu. yd. grading, 2150 lin. ft. concrete curb and gutter, 10,750 sq. ft. cement sidewalks, 1150 sq. ft. broken stone, 1150 lin. ft. 8-in. pipe, 150 cu. yd. screenings, 9600 gals. bitumen for binder, 3500 sq. yd. rolling, 300 lin. ft. 6-in. pipe, 300 lin. ft. ⅝-in. lead pipe, 6 manholes. W. F. Bonner, clk.

Sidney, O.—City Council retained W. J. Sherman Co., Toledo, to prepare plans and supervise construction of large amount of paving and sewer work throughout city.

Youngstown, Ohio.—Frank Lillie, city engr., estimates cost of proposed widening of West Federal St. 17 ft. on each side, from Deibel's Corner to Spring Common, as $200,000 to $250,000.

Street improvement bonds for $42,615 and waterworks extension bonds for $50,000 will be sold Nov. 20 by J. R. Edwards, city aud.

Fort Wayne, Ind.—Bd. Pub. Works intends improving Watkins, Jackson and Taylor Sts. and Forest Ave. by grading and paving with cement and laying sidewalks. V. W. Becker, city clk.

Grand Rapids, Mich.—Co. Comrs. (Alvah W. Brown, chmn. road com.) considering following work (concrete preferred), in 1917: Grandville road, Wyoming Township, $20,000; Dutton road, $12,000; Canal road, $12,000; West Bridge, $12,500; Walker-Alpine $18,000; Algoma-

Solon $5,000; Nelson-Spencer, east of Cedar Springs, $8,000; Courtland-Oakfield, $7,-879; Cannon-Grattan, $3,500; Vergennes, $8,000. Total, $106,879.

Jackson, Mich.—City Council contemplates paving West Main, Blackstone and other streets at cost of $278,000. Bond election Nov. 6. A. W. D. Hall, city engr.

Montague, Mich.—Co. Comrs. contemplate constructing 16-mile highway between Montague and New Era with federal aid. Address Co. Clk., Muskegon.

Saginaw, Mich.—City Council considering paving Germania Ave. and constructing crosswalks and laying cement sidewalks in numerous streets. H. S. Gay, city clerk.

Bloomington, Ill.—City Council considering paving portions of Grove, Front, E. Jefferson and five other streets. Address City Clerk.

Chicago, Ill.—City Council Streets and Alleys Comn. intends spending $400,000 next year on street improvements in wards as follows: $116,000 for asphaltic cement paving on limestone in 29th, and $279,500 for asphalt paving in 5th.

Lincoln, Ill.—Bd. Local Improv. contemplates spending $50,000 for paving 22 blocks in 1917.

Pontiac, Ill.—Bd. Local Improv. intends paving with monolithic North Walnut, Elmwood, Second and West Moulton Sts.

Eau Claire, Wis.—Co. Comrs. have under consideration $500,000 good roads bond issue. Address County Clerk.

Washburn, Wis.—See "Waterworks and Sewerage Systems."

Waupun, Wis.—See "Waterworks and Sewerage Systems."

Boone, Iowa.—City Council considering paving 6 miles of streets. M. McCormick, city engr.

Duluth, Minn.—City Council considering grading roadway 20 ft. wide in Greysolon Place from 27th Ave. East to Congdon Boule. Estimated cost $10,000. Address City Clerk.

Princeton, Minn.—Co. Comrs. considering graveling state roads Nos. 1 to 6. Estimated cost $75,000. W. C. Doane, co. aud.

Erie, Kan.—City Council contemplates paving Fourth St. from city limits on the west to city limits on the east. P. W. Kyle, city clk.

Hastings, Neb.—City Council contemplates 50,000 sq. yd. asphalt paving and 31,000 lin. ft. curb and gutters on N. Burlington, Kansas Ave. and other streets in the spring. Estimated cost $100,000. N. M. Collier, city engr.

Bd. Supervs. contemplate levying $35,-000 for road and bridge work in 1917. Federal aid promised. Address County Clerk.

Neihart, Mont.—Co. Comrs. appropriated $40,000 as county's share of proposed $80,000, 16-mile, 14-ft. wide, 4-ft. ditch. Government highway of natural rock and shale to be constructed between Monarch and north end of county-government park-to-park road above Neihart. Address County Clerk, Great Falls.

Townsend, Mont.—Citizens of county will vote Nov. 7 on $30,000 permanent road improvement bonds. Address County Clerk.

Kansas City, Mo.—Bd. Pub. Wks., L. Oppenstein, pres., intends paving, grading, laying curbs, gutters and sidewalks in numerous streets, of which some are South 10th and 19th Sts.; asphalt, brick and concrete specified.

Conway, Ark.—City Council considering paving new 6th St. improvement dist. Address City Clerk.

Lincoln, Ark.—Lincoln-Morrell Road Dist., C. O. Patterson, chmn., Lincoln, contemplates constructing 8 miles of road.

Bonham, Tex.—Property owners voted $40,000 good road bonds. Address County Clerk.

Fredericksburg, Tex.—Co. Comrs. considering completing portion of Puget Sound-to-the-Gulf Highway that passes through county, with county road and private subscription funds. Address County Clerk.

Rusk, Tex.—Road Dist. No. 1 voted $250,000 good road constr. bonds. Address County Clerk.

Taylor, Tex.—City sold $64,000 street improvement bonds. Contract for street improvements will shortly be let. Address City Clerk.

Vernon, Tex.—City Comn. rejected all bids submitted for paving about 15 blocks in business sect. New bids will be asked; estimated cost $75,000. Address City Clerk.

Bellingham, Wash.—Co. Comrs. contemplate spending $176,055 on road and bridge work in 1917. C. M. Adams, co. engr.

Castle Rock, Wash.—State Highway Comn., Olympia, contemplates reconstructing portion of Pacific Highway and eliminating steep grade at Tom Brown's Hill, near here.

Colfax, Wash.—Co. Comrs., John M. McGraw, co. engr., have $68,713 for permanent highways, $35,000 for road and bridge work, and $47,572 for state highway work in 1917.

Ephrata, Wash.—Co. Comrs have funds for road and bridge work in 1917 as follows: Permanent highways, $24,000; road and bridge, $60,000; road dist fund, $65,-000. E. H. Stradling, co. engr.

Everett, Wash.—Co. Comrs. (W. C. Bickford, co. engr.) contemplate spending $1,194,000 in 1917 for highway construction work. Mae Weatherbee, co. aud.

Goldendale, Wash.—Co. Comrs. contemplate spending in 1917 $21,416 for permanent highway, $15,000 for bridges and roads, $52,205 for road dist. work. Lyman W. Ward, co. engr.

Ilwaco, Wash.—Town Council contemplates paving 40 ft. wide and laying concrete walks, curbs and gutters, catch basins and wire bound water mains in First St. from Eagle to Spruce St. J. A. Howerton, town clk.

Kalama, Wash.—Co. Comrs. contemplate spending $117,000 for road and bridge work in 1917. R. C. Westwick, co. engr.

Mt. Vernon, Wash.—Reported Co. Comrs., A. L. Strong, co. engr., estimate proposed road and bridge work in 1917 as follows: Permanent highways $34,858, road and bridge fund, $56,137, road dist. fund $106,128.

North Yakima, Wash.—City Council intends grading and paving with concrete or gravel bitulithic East Yakima Ave. R. V. Hopper, city clk.

Pasco, Wash.—Co. Comrs., J. W. Hamilton, co. engr., have $15,000 for permanent highways, $29,800 for road and bridge work and $61,120 for road dist. work in 1917.

Pomeroy, Wash.—Co. Comrs., Radford W. Rigsby, co. engr., have $16,000 for Permanent Highways, $11,398 for Road and Bridge work, and $20,608 for Road Dist. work in 1917.

South Bend, Wash.—Co. Comrs. contemplate spending $178,413 in 1917 as follows: Permanent highways, $21,941; bridge and road fund, $52,884; Road Dist. Fund, $103,588. Chas. B. Nims, co. engr.

Spokane, Wash.—City Council contemplates grading, laying concrete walks, etc., on Nevada and Hamilton Sts. and Grave Ave. at estimated cost of $21,000. Morton Macartney, city engr.

Stevenson, Wash.—Co. Comrs., H. Bueche, co. engr., have $7,932 for permanent highways, $21,500 for road and bridge work, and $39,000 for road dist. work in 1917.

Waterville, Wash.—Co. Comrs. have road funds for 1917 work as follows: $17,392 for permanent highways; $24,527 for bridges and roads; $30,000 road dist. fund. Robt. F. Foster, co. engr.

Eugene, Ore.—County Court and State Highway Comn. considering extending Lane-Coos highway from Eugene to Marshfield. Address County Clerk.

Medford, Ore.—City Council contemplates hard surfacing numerous streets in city; estimated cost between $630,000 to $830,000. Address City Clerk.

Oregon City, Ore.—Co. Comrs. intend hardsurfacing about 10 miles of road known as East 82d St. Road, leading north toward Portland. H. H. Johnson, co. engr.

Portland, Ore.—Reported Co. Comrs., John B. Yeon, co. roadmaster, will soon spend $600,000 on road and bridge work.

Salem, Ore.—State Highway Comn., John H. Lewis, state engr., considering constructing seven roads with co-operation of Federal Forestry Dept.

Eureka, Cal.—J. A. Shaw, co. engr., estimates cost of proposed permanent highways in Ferndale section at $180,000; bids to be called for soon.

Hanford, Cal.—City Trustees considering paving material to be used for street work in 1917. Edw. M. Lynch, engr., Glendale.

Los Angeles, Cal.—City Council considering paving Mt. Washington Drive; estimated cost $80,000. Homer Hamlin, city engr.

Modesto, Cal.—Election Nov. 7 for $1,-480,000 good road bonds for county work. Address County Clerk.

Oroville, Cal.—Co. Supervs. considering improving 3½ miles on Paradise-Chico or Neal road from Eckles corner southerly; improve Birch St. for ¼ mile from Neal road to Paradise with rock; repair oiled road between Magalia and Paradise with crushed rock, 5 miles via Old Paradise; raise bridges at east and west approaches to College Hill, replacing same with concrete ones. Address County Clerk.

Pomona, Cal.—City Trustees will shortly ask voters to approve $20,000 street paving and repairing bonds. Address City Clerk.

Sacramento, Cal.—Election Nov. 7 on $15,000,000 good road bonds throughout state. Address Secy. State Highway Comn.

San Francisco, Cal.—M. M. O'Shaughnessy, city engr., estimates contemplated highway, boulevard and road projects at $3,000,000.

Santa Rosa, Cal.—Bd. Supervs. considering constructing new 3-mile road, with bridges and culverts, connecting lower Alexander Valley with Healdsburg, M. P. Youker, co. engr.

Challis, Idaho.—Citizens of county will vote Nov. 7 on $100,000 for state highway construction. E. J. Michael, co. clk.

Windsor, Ont.—City Council contemplates paving with concrete Howard St. Estimated cost $25,000. M. J. Brain, city engr.

BIDS DESIRED.

Brooklyn, N. Y.—Until Nov. 8 by L. H. Pounds, boro pres., for improving with permanent asphalt pavement on 6-in. concrete foundation portions of Bay Nineteenth, Twelfth and Eighty-first Sts., Caton Ave. and other streets, in all about 13,515 sq. yd., together with curb, etc.; total security $10,300.

New York, N. Y.—Until Nov. 10, by Marcus M. Marks, pres. Manhattan Boro., for paving aind repaving with granite block on a sand foundation portions of 181st St., No. 1, 2810 sq. yd. granite block; No. 2, 2810 sq. yd. second-hand granite block. Security required $4,300; also, same date, for extension of sewers in portions of 172nd, 188th, and 189th Sts., etc., together with manholes, sidewalks, and curb, etc. Security required $2,600.

Flemington, N. J.—Until Nov. 9 by Township Committee for improving Flemington-Sand Brook Rd., in all about 15,600 sq. yd. of surface pavement. A. O. Robbins, township atty., 92 Main St.

South Amboy, N. J.—Until Nov. 13, by Bd. Freeholders (Asher W. Bissett, clk.), for repairing South Amboy-Sayreville Rd., Sect. I, with warrenite surface upon a concrete foundation; estimated amount of surface and foundation work required, each 17,580 sq. yd. Alvin B. Fox, co. engr., 137 Smith St., Perth Amboy.

Greenville, S. C.—Reported desired until Dec. 15 by City Clerk for paving and constructing sidewalks; cost $130,000.

Ormond, Fla.—Until Nov. 15 by Bd. Bond Trustees (J. Milligan, chmn.) for constructing 23,000 sq. yd. of hard-surface street work, requiring curbing, grading and drain pipe, also a municipal dock and concrete approach from Atlantic Ocean Beach, advertised in this issue. C. M. Rogers, engr.

Henderson, Ky.—Until Nov. 7 by the City for constructing a roadway beginning at Fifth St., extending to Twelfth St. through the waterworks ground and through Atkinson Park, to include removal of 30,000 cu. yd. of dirt. J. W. Johnson, mayor.

Armstrong Mills, O.—Until Nov. 8, by N. K. Pugh, clk. of Washington Township, Belmont Co., for grading, draining, culverting, bridging, macadamizing and paving with brick or other suitable material about 4900 ft.

Shaker Heights (P. O. Cleveland), Ohio.—See "Waterworks and Sewerage Systems."

Sidney, Ohio.—Reported desired until Jan. 1 by T. Blake, city engr., for paving 6 miles of streets.

Youngstown, Ohio.—Reported desired until Nov. 8 by City Clerk, for repaving a number of streets and grading and sewering of other streets.

Spokane, Wash.—Until Nov. 9, by the city, for grading and building wall on 15th Ave. and grading, curbing and sidewalks on portions of Nevada and Rowan Aves. Leonard Funk, comr. pub. wks.

Watts, Cal.—Until Nov. 14 by V. R. Franklin, city clk., for improving portions of Wall and Ann Sts., Sunland, Queen Aves., in all about 79,110 sq. ft. of oil-bound rock macadam paving 3-in. thick, 5054 lin. ft. curb., 25,270 sq. ft. sidewalks; cert. check or 10 per cent bond.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Freetown, Mass.**—Contract awarded by State Highway Comn., Boston, to Zebulon L. Canedy, East Taunton, at $8,400, for resurfacing with stone and asphalt section of public road in this town. Bids opened Oct. 27.

Williamstown, Mass.—Low bidders on work opened Oct. 24 by Massachusetts Highway Comn., Boston, for Section 2 of highway, 6231 ft., between Pownal, Vt., and Williamstown, Mass.: Davis & Brock, Brookline, $25,948; Alco Constr. Co., Boston, $27,626; Perini & Bianchi, Ashland, $28,251.

Albany, N. Y.—Bids received Oct. 26, for constructing following highways, by State Highway Comn., 55 Lancaster St., Albany:

Road No. 5607—Franklin-Machias, Cattaraugus Co., 4.73 miles: The Vedder Constr. Co., Delevan, N. Y., 72,798; Wm. F. Felton, Buffalo, N. Y., 74,485.

Road No. 5608—Machias-Delevan, Part 1, Cattaraugus Co., 2.17 miles: The Vedder Constr. Co., Delevan, N. Y., $33,180; Wm. F. Felton, Buffalo, N. Y., $33,763.

Road No. 1381—Fredonia-South Dayton, Part 3, Chautauqua Co., 3.90 miles: Wm. F. Felton, Buffalo, N. Y., $49,807; Dickinson & Mangano, Silver Creek, N. Y., $55,867.

Road No. 1469—Silver Creek-Forestville, Chautauqua Co., 4.94 miles: Wm. F. Felton, Delevan, N. Y., $85,094; Constantine Constr. Co., Buffalo, N. Y., $85,393; Dickinson & Mangano, Silver Creek, N. Y., $92,336.

Road No. 1473—Otselic-Smyrna, Part 1, Chenango Co., 3.06 miles: Paddelford & King, Sherburne, N. Y., $43,184; Edward P. Arbogast, Shroudsburg, Pa., $45,773.

Road No. 5622—Holland-Yorkshire, Part 1, Erie Co., 5.19 miles: Harper & Higginson, Inc., Newburgh, N. Y., $106,950; Frank L. Cohen, Buffalo, N. Y., $119,076.

Road No. 621—St. Johnsville-Oppenheim, Part 2, Fulton Co., 2.90 miles: Couchy & Darling, Dolgeville, N. Y., $29,-970; D. J. Snell, Canajoharie, N. Y., $31,-401; Alfred H. Flynn, Albany, N. Y., $31,573.

Road No. 1256—Gunn Corners-Fishers Landing, Part 1, Jefferson Co., 6.65 miles: Henry P. Burgard, Buffalo, N. Y., $79,831; Mascetti & Holley, Torrington, Conn., $82,021; The Pathfinder Constr. Co., Fulton, N. Y., $82,748; Rock-Griffin Co., Winthrop, N. Y., $89,469.

Road No. 1351—Groveland-West Sparta, Livingston Co., 2.05 miles: Atlanta Constr. Co., Atlanta, N. Y., $34,856; Ribstein-Holter Co., Inc., Rochester, N. Y., $35,880; McCarthy & Wall, Mt. Morris, N. Y., $35,-905.

Road No. 1466 — Churchville - Adams Basin, Monroe Co., 6.33 miles: Ribstein-Holter Constr. Co., Rochester, N. Y., $70,-815; Newport Constr. Co., Herkimer, N. Y., $71,818; Hendrickson-McCabe Constr. Co., Syracuse, N. Y., $72,337; Chambers & Barnes, Rochester, N. Y., $72,424.

Road No. 1377—Gloversville-West Perth, Fulton Co., 3.74 miles: H. A. Schaupp, Gloversville, N. Y., $38,994; E. Browe Baker, Herkimer, N. Y., $43,040.

Road No. 513—Amsterdam-Morris Corner, Montgomery Co., 2.49 miles: Carl F. Snyder, Amsterdam, N. Y., $21,793.

Road No. 5625—Fayetteville-Chittenango, Part 1, Onondaga Co., 3.94 miles; Eagle Paving Co., Syracuse, N. Y., $64,236.

Road No. 5630—Weedsport-Jordan, Part 2, Onondaga Co., 1.76 miles: Charles Semper, Syracuse, N. Y., $28,699; Kennedy Constr. Co., Albany, N. Y., $35,319.

Road No. 5612—Waddington-Massena, Part 1, St. Lawrence Co., 9.12 miles: Henry P. Burgard Co., Buffalo, N. Y., $139,811; Kennedy Constr. Co., Ltd., Montreal, P. Q., $141,103; Mascetti & Holley, Torrington, Conn., $141,966; Mecca Constr. Co., Inc., Morristown, N. Y., $142,287.

Road No. 1460—Gansvoort So.-Glens Falls, Saratoga Co., 6.74 miles: John J. Guinan Contr. Co., Brooklyn, N. Y., $105,-791; John B. Dower,, Ballston Spa, N. Y., $106,754.

Road No. 1417—Wallkill-Newburgh, Part 1, Ulster Co., 3.12 miles: John A. Jova, Inc., Newburgh, N. Y., $35,782; DeGraff & Hogeboom, Kingston, N. Y., $35,855; Harper & Higginson, Inc., Newburgh, N. Y., $36,086.

Road No. 1418—Milton Landing-Milton, Ulster Co., 0.55 mile: Harper & Higginson, Inc., Newburgh, N. Y., $14,287.

Road No. 1465—Ulster Landing-Glesco, Ulster Co., 2.79 miles: C. T. Schoentag, Saugerties, N. Y., $34,966; DeGraff & Hogeboom, Kingston, N. Y., $37,614.

Road No. 5632—Sodus-Alton, Wayne Co., 5.85 miles: Harradine Bros., Spencerport, $81,816; Chambers & Barnes, Rochester, N. Y., $82,109; Hembdt & Washington, Monticello, N. Y., $82,962; Hendrickson-McCabe, Syracuse, N. Y., $86,094.

Road No. 1472—Sloanesville-Charleston, Part 1, Schoharie Co., 1.84 miles: John A. Jova, Inc., Newburgh, N. Y., $31,461.

Road No. 1420—Bradford-Tyrone, Schuyler Co., 3.01 miles: Willis L. Frost, Watkins, N. Y., $30,909; Atlanta Constr. Co., Atlanta, N. Y., $31,418.

Road No. 1474 — Kanona-Prattsburg, Part 2, Steuben Co., 4.99 miles: Atlanta Constr. Co., Atlanta, N. Y., $46,151; Greenfield Constr. Co., Hornell, N. Y., $48,222; T. H. Gill Co., Binghamton, N. Y., $48,-339; Kennedy Constr. Co., Albany, N. Y., $48,880; F. T. Meckes, Long Pond, Pa., $58,831.

Road No. 1475—Horning-Hornby, Steuben Co., 6 miles: Atlanta Constr. Co., Atlanta, N. Y., $69,320.

Road No. 1476—Seely Creek-Caton, Part 2, Steuben Co., 4 miles: Atlanta Constr. Co., Atlanta, N. Y., $49,406; Greenfield Constr. Co., Hornell, N. Y., $51,464; John A. Jova, Inc., Newburgh, N. Y., $52,953.

Road No. 1477—Wayland Village, Steuben Co., 2.83 miles: Atlanta Constr. Co., Atlanta, N. Y., $53,262; Kennedy Constr. Co., Albany, N. Y., $56,879.

Road No. 1463 — Liberty-Woodbourne, Part 2, Sullivan Co., 5.63 miles: Armstrong & Trowbridge, Middletown, N. Y., $64,697; George Mesler, Liberty, N. Y., $65,385; Woodruff-Edgecomb Co., East Branch, N Y., $66,250.

Completion of Road No. 763—Hollowville-Craryville, Columbia Co., 7.14 miles: John A. Jova, Inc., Newburgh, N. Y., $43,805.

Completing Road No. 1162—Stonehouse-Stormville, Dutchess Co., 5.16 miles: Fulton Engineering Co., Inc., Albany, N. Y., $43,237; A. T. Moran, New York City, $45,300.

Completing Road No. 1321—Conesus-Wayland, Livingston Co., 8.35 miles: Fred J. Kenney Constr. Co., Buffalo, N. Y., $84,682; Atlanta Constr. Co., Atlanta, N. Y., $115,018.

Completing Road No. 1045—Cambria-Lockport, Niagara Co., 5.13 miles: Hammond-Tracey Constr. Co., Middleport, N. Y., $11,645.

Brooklyn, N. Y.—Following are bids opened Oct. 27 by L. H. Pounds, boro. pres., Boro. Hall, on regulating and repaving with permanent asphalt on 6-in. concrete foundation Ashland Pl. from DeKalb Ave. to Fulton St., as follows: Sicilian Asphalt Paving Co., 14 Park Row, New York City, $17,011; Cranford Co., 190 Montague St., Brooklyn, $17,319; and Uvalde Asphalt Paving Co., 1 Broadway, New York City, $17,374.

Contract awarded by Boro. Brooklyn, L. H. Pounds, pres., Borough Hall (bids opened Oct. 26). For asphalt paving: To Crawford Co., 190 Montague St., Brooklyn, at $11,958, on Bay 34th St.; to Sicilian Asphalt Paving Co., 41 Park Row, New York City, at $5571, on Ashland Pl., and at $17,011 on Fulton St.

★**Rochester, N. Y.**—Contract awarded by Bd. Contract and Supply to Frank V. Brotsch Co., E. & B. Bldg., at $11,985 for paving with asphalt block Rosedale Ave., and at $9,036 for sewer, grading and sidewalks in Indiana St.

Spencertown, N. Y.—State Highway Comn., Albany, rejected only bid of $65,852, received from Anonio Colamseo, Hudson, as it exceeded engineer's estimate, for constructing Columbia Co. highway, known as "Quigg Road," between Austerlitz and Spencertown. Reported new bids will be asked.

Newark, N. J.—Low bidders on work opened Oct. 19 by Bd. Street and Water Comrs. for paving with bitulithic on 6-in. concrete foundation, (a) Northern Constr. Co., Wiss Bldg., (b) Standard Bitulithic Co., Essex Bldg.: Custer Ave. from Seymour Ave. to Osborn Terrace (a) $8,197, (b) $8,110; Porter Pl. from Lyons Ave. to Stengel Ave. (a) $4,399, (b) $4,345; Salem St. from South Orange Ave. to Rockland Terrace (a) $6,654, (b) $6,473. Unit price on each contract (a) $2.55, (b) $2.50.

Washington, D. C. — Following are the unit prices for paving of successful bidder, W. F. Brenzier Co., Washington, D. C., on work opened Oct. 10 by Comrs. District of Columbia: Item No. 1, grading, cu. yd.; 2, setting 6 in. x 20 in. granite or bluestone curb, lin. ft.; 3, ditto, 8 x 8 in.; 4, paving or repaving cobble granite block gutters, sq. yd.; 5, vitrified block gutters on gravel base; 6, ditto on 3-in. concrete base; 7, cement curb, lin. ft.; 8, 18-in. cement gutter; 9, 24-in. cement gutter; 10, cement concrete roadway, sq. yd.; 11, granite block roadways, sq. yd.

Bid A, Item 1, 33c.; 2, 40c.; 3, 35c.; 4, 60c.; 5, $1.25; 6, $1.50; 7, 70c.; 8, 59c.; 9, 75c.; 10, 89c.; 11, 75c. Bid B, Item 1, 45c.; 2, 30c.; 3, 35c.; 4, 50c.; 5, $1.25; 6, $1.50; 7, 70c.; 8, 60c.; 9, 75c.; 10, 89c.; 11, 60c. Alternate Bid B, Item 1, 31c.; 2, 40c.; 3, 35c.; 4, 50c.; 5, $1.25; 6, $1.50; 7, 79c.; 8, 60c.; 9, 75c.; 10, 89c.; 11, 70c. Bid C, Item 1, 35c.; 2, 30c.; 3, 35c.; 4, 50c.; 5, $1.25; 6, $1.50; 7, 75c.; 8, 60c.; 9, 75c.; 10, 89c.; 11, 60c.

Following are four lowest bids received Oct. 24 by Comrs. Dist. of Columbia for grading work on following streets: (1) Rhode Island Ave., 25,000 cu. yd., (2) Todd Pl., 4700 cu. yd., (3) Franklin St., 7000 cu. yd., (4) Massachusetts Ave., 70,000 cu. yd.: (a) H. F. Voight Co., (b) Geo. Hyman, (c) G. B. Mullen, (d) E. G. Gummell, (e) Hoover & Hoover, (f) W. F. Cush, all of Washington, D.C.; (g) H. C. Frior, Baltimore, Md.; (b-1) 32c., (c-1) 33c., (f-1) 36c., (g-1) 38c.; (e-2), 43.5, (f-2) 48.9c., (b-2) 52c., (a-2), 55c.; (a-3, 17.5c., (b-3) 21c., (d-3), 28c., (c-3), 24c., (d-4) 23c., (a-4) 26c., (c-4) 27c. Alternate 24.75c., (b-4) 28c.

★**Wellsburg, W. Va.**—Contract awarded by Co. Comrs. to C. F. Hamilton, Franklin, Pa., at $155,683, for constructing 7 miles of Bethany Pike and 3 miles of Riker road with brick. Bids opened Oct. 20. C. A. Eichelberger, co. engr.

★**Holly Springs, Miss.**—Contract awarded by Co. Comrs. to R. A. Callahan, Potts Camp, for 14 miles road work, including bridges, culverts, etc. Bids opened Oct. 5. Walter G. Kirkpatrick, engr., Birmingham, Ala.

★**New Albany, Ky.**—Contract awarded by Co. Comrs. Oct. 28 to Saml. T. Games, Louisville, at $11,350, for constructing Main St. and Silver Hills Highway.

★**Osnaburg, O.**—Contract awarded Oct. 16 by Co. Comrs., Canton, to Hahn Constr. Co., Canton, at $25,000, for paving Lincoln Highway through Osnaburg.

★**Terre Haute, Ind.**—Contract awarded by Co. Comrs. to Campbell & Hawkens, Brazil, Ind., at $20,847, for improving with crushed stone 3 miles of Fruitage Ave. south of Wabash Ave.

★**Ancona, Ill.**—Contract awarded by Co. Comrs. to A. L. Booth, Gardner, Ill., at $13,602, for paving with asphalt macadam near here. Address County Clerk, Pontiac.

★**Leavenworth, Kan.**—Contract awarded Oct. 26 by City Comrs. for resurfacing 45,000 sq. yd. on Broadway to Watts & Ammerman, Saline, $47,990. Bids opened Oct. 24.

Omaha, Neb.—Bids opened Oct. 17 for paving with brick Center St. Road, as follows: Hugh Murphy Co., $2.64 sq. yd.; John A. Beebe, $2.68 sq. yd.; both of Omaha; E. Geiger Constr. Co., Leavenworth, Kan., $3.86 per lin. ft. Frank Dewey, co. clk.

★**University Place, Neb.** — Contract awarded Abel Constr. Co., Lincoln, by City Council for paving with brick, concrete foundation, 4,500 sq. yd. on Warren Ave. at $10,000. Bids opened Oct. 14. C. C. Gates, city clerk.

★**Dallas, Tex.**—Contract awarded Oct. 20 by City Council to Texas Bitulithic Co. at $26,728 for paving Gaston Ave. from Fitzhugh to Haskell.

★**Sumner, Wash.**—Contract awarded by City Council to Erickson, Anderson & Ricker, Seattle, at $24,842, for paving Ryan and other streets. Monty Hulse, city engr.

★**Los Angeles, Cal.**—Contract awarded by City Council to Fairchild-Gilmore-Wilton Co., Pacific Electric Bldg., at $17,762 for 17,023 sq. ft. bitulithic pavement on concrete base, 12,222 sq. ft. Warrenite pavement, 17,356 sq. ft. concrete pavement, and 3400 lin. ft. cement curb, sanitary sewer, etc., in Bluff Pl., and to Geo. R. Curtis, 2440 E. 26th St., at $12,180 for laying 43,180 sq. ft. asphalt pavement and 15,784 sq. ft. cement walks, etc., in Mariposa Ave.

★**San Diego, Cal.**—Contract awarded by City Council to Fairchild-Gilmore-Wilton Co., Pacific Electric Bldg., Los Angeles, at $17,359, for constructing 4-in. concrete pavement with asphalt surface on 115,000 sq. ft. on Biological grade, Torrey road, near La Jolla. Bids opened Oct. 17.

New York, N. Y.—Following are four lowest bids opened Oct. 24 by Pres. Bronx Boro., Mun. Bldg., Crotona Park, for regulating, grading, setting curb, etc., in W. 238th St., from Broadway to Riverdale Ave.: also constructing steps and appurtenances in W. 238th St., between Spuyten Duyvil Rd. and Waldo Ave.: (a) Spadaro Contr. Co., 827 E. 217th St., $45,556; (b) P. J. Duffy, 230 W. 75th St., $46,412; (c) O. Daniels Co., Woolworth Bldg., $46,881; (d) F. Schneider, 1531 Westchester Ave., $49,439.

	(a)	(b)	(c)	(d)
3,600 cu. yd. earth excav.	$1.00	$0.75	$0.50	$0.40
4,400 cu. yd. rock excav.	2.00	0.75	2.50	1.20
42,500 cu. yd. filling	0.42	0.585	0.41	0.66
3,320 lin. ft. bluestone curb	1.00	0.70	1.00	0.90
240 lin. ft. concrete curb (1 year guarantee)	0.50	1.00	0.50	0.40
5,900 sq. ft. bluestone flagging	0.25	0.22	0.24	0.26
10,500 sq. ft. 2-course concrete sidewalks (1 year guarantee)	0.16	0.16	0.17	0.15
3,080 sq. ft. bridgestone	0.50	0.45	0.50	0.45
350 cu. yd. dry rubble masonry	2.00	2.00	3.00	1.35
60 cu. yd. rubble masonry in mortar	4.00	4.00	4.00	4.50
15 cu. yd. Class A concrete	6.00	6.75	7.00	8.00
90 cu. yd. Class B concrete	5.00	6.75	6.00	5.00
5 cu. yd. broken range ashlar masonry	10.00	15.00	20.00	10.00
250 lin. ft. vitr. pipe drains, 12 in. in diam.	2.00	1.00	0.75	1.00
25 lin. ft. vitr. pipe drains, 8 in. in diam.	1.00	1.00	0.75	1.00
15 lin. ft. vitr. pipe drains, 6 in. in diam.	1.00	1.00	0.75	1.00
3,000 ft. board measure of timber	40.00	30.00	0.01	0.01
395 lin. ft. granite coping	3.00	4.50	4.00	3.25
2,250 lin. ft. new guard rail	0.25	0.49	0.30	0.20
965 lin. ft. granite steps	1.75	2.00	2.00	2.00
800 lb. steel reinforcement bars	...	0.05	0.05	0.08
3,750 sq. ft. sodding	...	0.05	0.05	0.04
1 special inlet	25.00	100.00	50.00	100.00
2 manholes	50.00	40.00	50.00	75.00
1 special receiving basin	200.00	150.00	150.00	100.00
6 lamp posts	25.00	30.00	40.00	25.00
380 lin. ft. iron pipe railing	1.50	1.50	1.50	2.00
1 subway conduit system	500.00	300.00	700.00	300.00
Sinkage, shrinkage and settlement	...	100.00	0.01	0.01

★**Tucson, Ariz.**—Contract awarded by City Council for paving portions of Main, Meyers, Court and other streets to Warren Brothers Co., Boston, Mass., at following prices:

Approximate Quantities:	Unit Prices.
2,660 sq. yd. 2-in. bitulithic on 5-in. concrete base	$2.233
8,512 sq. yd. 2-in. bitulithic on 4-in concrete base	2.116
2,128 sq. yd. 5-in. bitustone pavement	1.731
25,132 sq. ft. concrete sidewalk	0.16
2,300 sq. ft. sidewalk to be removed	0.08
4,540 lin. ft. concrete curb	0.56
300 lin. ft. curb to be removed	0.125
33 sq. yd. bitulithic pavement removed and replaced	2.50
6,450 lin. ft. concrete gutter	0.57
179 lin. ft. concrete parapet wall to be removed and replaced	1.10
2 railtops for culverts at Alameda and Main Sts. approximately 88 ft. (lump sum)	176.00
2,320 lin. ft. 18-in. vitr. salt glazed sewer pipe laid	2.40
500 lin. ft. 20-in. vitr. salt glazed sewer pipe laid	2.82
1,765 lin. ft. 8-in. vitr. salt glazed sewer pipe laid	1.02
9 manholes (each)	74.75
8 sewer connections (each)	6.00

RAILWAYS
Steam and Electric

PROPOSED WORK.

Rumford, Me.—Rumford Falls & Bethel Street Ry. Co. chartered to construct electric railway.

Depew, N. Y.—Buffalo & Depew Ry. (E. W. Hendryx, ch. engr., Depew) will construct an extension from Depew to Bowmansville, distance 2 miles, and from Depew to Lancaster, distance ½ mile.

New York, N. Y.—See "Buildings."

Salem, N. J.—Salem & Pennsgrove Traction Co. considering extending line from Salem to Quinton. Carl V. Martin, secy., 705 Stock Exchange Bldg., Philadelphia.

Collegeville, Pa.—Public Service Comn. of Pennsylvania granted to Perkiemen Valley Transit Co. permission to construct railway from Collegeville to Green Lane. Jas. L. Wolcott, pres., Dover, Del.

Norristown, Pa.—Plans being made by Montgomery Transit Co. (N. H. Larzelere, pres., Norristown), to construct an extension to Souderton.

Pottsville, Pa.—Lehigh & New England RR. (R. H. Wilbur, genl. mgr.) 437 Chestnut St., Philadelphia, considering extending line to Pottsville.

Steelton, Pa.—The Steelton & Highspire RR. (controlled by Bethlehem Steel Co.) considering constructing railroad from Steelton to Highspire.

Montgomery, W. Va.—Charleston Interurban RR. (S. Miller, Gallaher, supt. Charleston) contemplates constructing 10½-mile extension to Montgomery in 1917.

Savannah, Ga.—Savannah Electric Co. (H. C. Foss, mgr., Savannah) contemplates constructing 4-mile extension to Millhaven Line.

Volanta, Ala.—Reported Mobile, Volanta & Pensacola RR. (M. H. Miller, genl. mgr., Volanta) will let contracts within next four weeks for 20 miles of rails. The company plans to build 40 miles of new track.

Biloxi, Miss.—Plans being considered by Biloxi Fruit Growers Asso., for construction of line between Biloxi and Ocean Springs.

Ashland, Ky.—L. M. Hunter of Owensboro contemplates constructing railway between Ashland and Russell.

Cleveland, Ohio.—The Cleveland Southwestern & Columbus Ry. Co. (E. F. Schneider, gen. mgr., 525 Garfield Bldg.) will lay 100-lb. rails from Toledo & Ohio Central RR. track to eastern corporation line of Bucyrus next spring. Foundation will be cement and rails laid on steel ties.

Chicago, Ill.—Reported Chicago & Interurban Traction Co. (O. G. Talmadge, pres., 88th St. and Vincennes Ave.) plans to reconstruct double track lines, with 91-lb. 7-in. T rail on wooden ties set in concrete, with slag or crushed stone foundation and granite block paving.

Reported Chicago & Northwestern RR. (W. H. Finley, ch. engr., Jackson Boule. and Franklin St.) will soon commence elevation of tracks through township of Proviso and villages of Maywood, Bellwood and Melrose Park; cost about $2,000,000.

Genoa, Ill.—Woodstock & Sycamore Traction Co. (J. P. Mason, gen. mgr., Genoa) contemplates electrifying road. Company operates line between Sycamore, Genoa and Marengo, distance 26 miles.

Olney, Ill.—Mississippi Valley RR. & Navigation Co. incorporated to construct railroad through Vermilion, Edgar, Clark, Cumberland, Jasper and other counties. Capital, $100,000. Among incorporators are John C. Curtis, Huntington, Ind., and R. S. Roland, Olney.

Waukegan, Ill.—Chicago, North Shore & Milwaukee RR., Highwood, will rehabilitate all tracks in Waukegan.

Boone, Iowa.—Construction of a railway from Boone to Woodward contemplated. Boone Commercial Asso. interested.

Cresco, Iowa.—Reported St. Paul Southern Electric Ry. (E. J. Pratt, supt., Webb City, Mo.) will construct extension to Cresco.

Kansas City, Kan.—See "Steel Structural Work."

Lawrence, Kan.—Kansas City, Kaw Valley & Western RR. (O. K. Williamson, ch. engr., Bonner Springs) considering constructing extension to Topeka.

Dickinson, N. D.—Construction of a railway from Dickinson to Amidon contemplated; cost about $18,000 per mile. City Clerk may be able to give further information.

Valier, Mont.—Reported Valier branch of Great Northern Ry. Co. (A. H. Hogeland, ch. engr., St. Paul, Minn.) will be extended east to connect with Havre-Great Falls line.

Galena, Mo.—Work about to begin by Southwest Missouri RR. on constructing an extension from Galena to Baxter Springs, Kan.

Clarksville, Ark.—Construction of electric railway from Clarksville to Hagarville, Silex and other points contemplated. Address Railroad Committee, Clarksville.

Houston, Tex.—San Antonio, Gonzales & Houston Interurban Ry. Co. will construct railway from Houston to San Antonio. Steve Holmes, pres., Leesville.

Rockport, Tex.—Construction of railroad from Rockport to Lamar contemplated. Address Chas. C. Johnson, pres. Rockport Development Co., for further information.

Bartlesville, Okla.—W. K. Palmer Co., 919 Baltimore Ave., Kansas City, Mo., is in the market for about 35 miles of interurban railway, including rails, ties, all track and overhead material, cars and substation equipment for Oklahoma & Northern Traction Co. for line to be constucted from Bartlesville, Okla., east to Miami, Okla., and Joplin, Mo., with branch from Miami, Okla., to Columbus, Kan., and Baxter Springs, Mo., about 130 miles.

Leavenworth, Wash. — Reported Great Northern Ry. Co. (A. H. Hogeland, ch. engr., St. Paul, Minn.) will spend $150,000 in improvements in terminal yards at Leavenworth, increasing trackage facilities and building roundhouses at Leavenworth and Wenatchee.

Northport, Wash. — Reported Great Northern Ry. Co. (A. H. Hogeland, ch. engr., St. Paul, Minn.) plans extensive improvements on S. F. & N. line to Northport, work to consist of new roadbed and heavier steel.

Klamath Falls, Ore.—Election to be held Nov. 14 to vote $300,000 bonds as subsidy to construct Oregon-California & Eastern RR. Robt. E. Strahorn is interested.

Myrtle Point, Ore.—Reported Smith-Powers Logging Co., Marshfield, plans extending railroad distance of about 30 miles.

Newport, Ore.—Surveys being made by Portland, West Coast RR. & Navigation Co. (H. J. Fitzgerald, mgr., Portland) for proposed railroad from Newport to Portland via McMinnville.

Corcoran, Cal.—Construction of a 20-mile railroad southeast from Corcoran contemplated. Jas. Cornwell and Stoddard Jess, pres. First National Bank, Los Angeles, at Los Angeles, interested.

Dixon, Cal.—Sacramento Valley Electric RR., Melville Dozier, Jr., ch. engr., 443 Holbook Bldg., San Francisco, plans to construct extension from Dixon to Woodland.

Irwin, Cal.—Tidewater Southern Ry. (J. H. Wallace, ch. engr., Stockton) considering constructing 8-mile extension.

Vollmer, Idaho.—Nez Perce & Eastern Ry. Co. (C. E. Hawkins, supt., Lewiston, Idaho) will construct extension from Tammany, Wash., to Waha and Vollmer, Idaho.

Salt Lake City, Utah.—Plans being made for electrification of Salt Lake & Los Angeles Ry. (Jos. Nelson, gen. mgr., Salt Lake City) and construction of an extension to Garfield; cost about $300,000.

Hamilton, Ont.—City Council and Hydro Commission are planning constructing an electric incline railway to cost $200,000. Mayor Walters, chmn. of board.

Eston, Alta.—Canadian Northern RR. considering extending line from Eston 35 miles west. M. N. MacLeod, gen. mgr., Winnipeg, Man.

Saskatoon, Sask.—City Council considering constructing connecting link between Clarence Ave. Line with Second Ave. Line via 25th St. Bridge; estimated cost $10,000.

BIDS DESIRED.

Laurel, Mont.—Until Nov. 8 by Engineering dept. Northern Pacific Ry. Co., St. Paul, Minn., for constructing a branch line from Laurel, Mont., to the Lake Basin dist., a distance of 35 miles.

PRICES AND LETTINGS.
★*Indicates award of contract.*

★**New York, N. Y.**—Contract for installing tracks on 7th Ave.-Lexington Ave. line from Broadway and 43d St. to Battery, and from West Broadway and Murray St. to Fulton and Joralemon Sts. awarded to Engel & Hevenor, 220 Broadway. Bids opened Sept. 18 by Bd. Public Service for First Dist., 120 Broadway.

★**Madison, Wis.**—Reported contract for constructing 195 miles of single-track railroad from Madison to Portage, Prairie du Sac and Janesville, for Wisconsin Interurban System, reported awarded to Jas. Stewart & Co., 30 Church St., New York City. Jas. E. Jones, Portage, interested. Work will begin in spring, 1917.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

New York, N. Y.—See "Foundations, Piers and Dams."

Hoboken, N. J.—Plans filed for erecting pier and shed at the foot of 15th St. for Hoboken Land & Improv. Co.; cost about $250,000. Henry Steers, Inc., engrs., 17 Battery Pl., New York City.

Jersey City, N. J.—Reported Lehigh Valley RR. (E. B. Ashby, ch. engr., 143 Liberty St., New York) will erect new terminal buildings on piers Nos. 4 and 5, Black Tom Dist.; cost about $65,000.

New Brunswick, N. J.—Simplex Automobile Co. (Edw. M. Hagar, pres.), Jersey Ave., contemplates erecting aeroplane factory and automobile body plant.

Philadelphia, Pa.—Carnegie Steel Co. reported contemplates erecting extensive steel plant here.

Roanoke, Va.—Reported plans completed for $380,000 freight station to be erected on Commerce and Park Sts. and Ernest Ave. for Norfolk & Western RR. (Jos. E. Crawford, ch. engr., Roanoke.)

Mobile, Ala.—Cuban Molasses Co., Mobile, will erect an additional tank with a capacity of about 1,700,000 gal.; cost about $10,000. Contract for the foundation has been let to Jett-Muths Constr. Co. of Mobile.

New Orleans, La.—Morris & Co., meat packers, S. Front and St. Joseph Sts., reported contemplate spending about $100,000 for erecting addition to plant.

Canton, O.—Reported Hornblower & Weeks, 42 Broadway, New York City, have purchased plant of United Steel Co. at Canton, O., and not at Canton, Md., as previously stated.

Cleveland, O.—Reported Bamberger-Reinthal Co., 2621 E. 9th St., will erect a $100,000 factory at 6118 Kinsman Rd.

Reported Colburn Machine & Tool Co., Franklin, Pa., will erect a $100,000 plant on Ivanhoe Rd. near Belt Line RR. Schauffler Realty Co., 318 Leader-News Bldg., may be able to give information.

Plans being prepared by W. S. Ferguson Co., 1900 Euclid Ave., for 300 x 500 ft. factory to be erected on E. 93d St. for Columbia Axle Co., E. 72d St. and the New York Central RR.; estimated cost about $250,000.

Plans being prepared by Geo. S. Rider, 512 Century Bldg., for new plant to be erected for National Acme Mfg. Co., 7500 Stanton Ave.; cost about $300,000.

Cleveland, O.—See "Reinforced Concrete."

Chicago, Ill.—Reported a 7-story, 130 x 100-ft. factory is to be erected on Erie and Orleans Sts. for McCormick Estate and leased to Alexander Bauer; cost about $150,000. John A. Chapman, 30 N. La Salle St., may be able to give information.

Milwaukee, Wis.—Wrought Washer Mfg. Co., 46 S. Bay St., will erect a $50,000 brick warehouse addition.

Duluth, Minn.—Diamond Calk Horseshoe Co. (Otto Swanstrom, pres.), 4630 Grand Ave., contemplates enlarging plant to cost $55,000.

Minnesota Radiator Co., 59th Ave., W. (Geo. C. Olmstead, genl. mgr.) intends improving plant; cost $60,000.

Kelley-How-Thomson Co. (G. W. Wells, sec. and treas.), S. 5th Ave., W., proposes erecting addition to plant, costing about $70,000.

Stone Ordean Wells Co. (R. A. Horr, mgr.), 201 S. 5th Ave., W., will enlarge plant; cost about $70,000.

Mandan, N. D.—Mandan Commercial Club reported contemplates erecting packing plant to cost between $150,000 and $300,000.

Kansas City, Mo.—Nourse Oil Co., 1317 W. 8th St., will erect plant for manufacturing oil specialties to cost $100,000.

Chelsea, Okla.—Marion Refining Co., Claremore, Okla., reported organized with A. M. White pres., and contemplates erecting refinery of 1000-bbl. capacity.

Astoria, Ore.—Astoria Flouring Mills, Astoria, reported contemplating doubling capacity of plant to 1200-bbl. per day.

Huntington Park, Cal.—See "Structural Steel Work."

Los Angeles, Cal.—Plans being prepared by R. D. King, 519 Van Nuys Bldg., for 2-story, 200 x 300 ft., brick paper box factory, to be erected on Pacific Boule., for R. W. Pridham Co.

San Pedro, Cal.—Reported Union Oil Co., Union Oil Bldg., Los Angeles, intends erecting $2,000,000 refining plant at San Pedro.

Jerome, Ariz.—Geo. Mitchell, Jerome, plans erecting 1000-ton smelter to handle ores from Jerome district mines; cost about $500,000.

Mayer, Ariz.—Great Western Smelters Corp. (Ernest Le Duc, pres.) proposes erecting 1000-ton smelter to handle copper ores.

Reported Stoddard Milling Co., Mayer, plans doubling capacity of flotation plant for handling copper ores. Present capacity 150 tons daily.

Oatman, Ariz.—Reported Big Jim Gold Mining Co. (A. G. Keating, mgr.), Oatman, plans erecting extensive reduction plant to handle gold ores.

Prescott, Ariz.—Maricopa Queen Oil Co. (W. S. Wilhelm, genl. mgr., Long Beach, Cal.) intends erecting reduction plant to handle gold ores at New State mine.

Cash Mines Co. (N. H. Getchell, mgr., Prescott) contemplates installing 100-ton flotation plant to handle gold ores.

Ogden, Utah.—Continental Oil Co., W. 24th St, will erect new warehouse at 20th St. and Wall Ave.; estimated cost $70,000.

Sydney, N. S.—Contract soon to be let for erecting $65,000 mill here for Atlantic Milling Co. (J. J. McKenzie, mgr.), Pictou, N. S.

St. John, N. B.—Reported Canadian Government Railway, the Intercolonial (C. B. Brown, ch. engr., Moncton, N. B.) contemplates erecting 500,000-bu. capacity grain elevator here.

Acton, Ont.—Reliance Shoe Co., 350 Sorauren Ave., Toronto, plans erecting brick factory here to cost $55,000. All new machinery to be installed.

Toronto, Ont.—See "Reinforced Concrete."

Lulu Island, B. C.—Shell Oil Co., head office London, England, reported to have secured site and plans erecting $5,000,000 oil refinery to handle oil to be brought from various parts of Western Canada and also from California.

PRICES AND LETTINGS.
★*Indicates award of contract.*

★**Philadelphia, Pa.**—Contract awarded Harry Gill, Jr., 2515 Germantown Ave., for erecting 2-story, 80 x 264-ft. brick warehouse at 969 N. 2d St. for Bell Co.; cost $150,000.

Washington, D. C.—Following are four lowest bids opened Oct. 25 by Superv. Archt., Washington, D. C., for general construction of equipment shops to be erected for Postoffice Department: Davis Constr. Co., Washington, D. C., $120,936; National Fireproofing Co., Washington, D. C., $125,686; M. A. Weller Co., Washington, D. C., $128,600; Hammet Fireproofing Co., Washington, D. C., $129,683. Lowest bidder for mechanical equipment was W. G. Cornell Co. Washington, D. C., at $47,849.

Cleveland, O.—See "Structural Steel Work."

★**Cleveland, O.**—Contract awarded Wm. C. Owen Co., 449 Leader-News Bldg., for erecting 3-story, 400 x 80 ft., factory for Big Four Tire & Rubber Co., 736 New Guardian Bldg.; cost about $225,000.

★**Mimico, Ont.**—Contract awarded Toms Constr. Co., Toronto, for erecting brick factory for Dominion Abrasive Wheel Co.; cost $65,000.

New Toronto, Ont.—See "Reinforced Concrete."

★**Vancouver, B. C.**—Contract reported awarded McDonald, Nettleton & Bruce, Vancouver, for erecting brick and stone offices and freight warehouses for Canadian Northern Pacific Ry.; cost $125,000. Pratt & Ross, archts., 1011 Electric Ry. Chambers, Vancouver.

BUILDINGS
Public and Private

PROPOSED WORK.

Amesbury, Mass.—High School bonds for $125,000 sold. Address Bd. Educ.

Pittsfield, Mass.—Plans prepared by P. F. McLaughlin, 24 North St., for 2-story, 150 x 120 ft., brick building, to be erected at North and Bradford Sts., for Lemuel G. Lloyd; cost about $50,000.

Westboro, Mass.—Edw. I. Wilson, 101 Tremont St., Boston, engaged to prepare plans for $60,000 high school to be erected here. Address School Bd.

Worcester, Mass.—School and water bonds amounting to $80,000 sold. Address City Clerk.

Hartford, Conn.—Travelers Insurance Co. (Louis F. Butler, pres.), 700 Main St., contemplates additions costing about $1,000,000.

Brooklyn, N. Y.—Beth Moses Hospital Society (Isaac Levin, pres., 476 Willoughby Ave.) considering erecting Jewish Hospital at Hart St. and Stuyvesant Ave., to cost $150,000.

New York, N. Y.—Plans filed for erecting following buildings: 5-story brick apartment house at Ft. Washington Ave. and 170th St. for One Seventy Building Co., cost $260,000, Gronenberg & Leuchtag, archts, 303 Fifth Ave.; 4-story brick school at Jennings St. and Prospect Ave. for Bd. Educ., cost $175,000, C. B. J. Snyder, archt., 500 Park Ave.; 5-story fireproof residence at 110 E. Seventy-first St. for Edmund Coffin, cost $60,000, Hill & Stout, archts., 299 Madison Ave.; 3-story fireproof garage and dwelling at 162 E. Ninety-second St. for Williard D. Straight, cost $50,000, Delano & Aldrich, archts., 4 E. Thirty-ninth St.; 13-story brick store and loft building at 24 Union Sq. for Union Square Building Corp., cost $400,000, W. G. Pigueron, archt., 15 Broad St.; 5-story brick tenement house at Willis Ave. and 144th St. for Benenson Realty Co., cost $50,000, Chas. Schaefer, Jr., archt., 401 Tremont Ave.; alterations and additions to Broad Street Hospital, cost $80,000, Wm. N. Smith, archt., 101 Park Ave.; 14-story fireproof apartment hotel at 736 West End Ave. for Alvin Holding Corp., cost $260,000, Arthur Tobo, archt., 105 W. Fortieth St.; 13-story fireproof apartment house at 303 W. 104th St. for The 905 West End Ave. Corp., cost $550,000, Gaetan Ajello, archt., 1 W. Thirty fourth St.; 13-story fireproof apartment house at 648 West End Ave. for 650 West End Ave. Corp., cost $250,000, Schwartz & Gross, archts., 347 Fifth Ave.

Interborough Rapid Transit Co. will construct a power house, one story, 60 x 100 ft., at 139th St. and Alexander Ave.; cost about $40,000.

Syracuse, N. Y.—Bd. Educ. approved tentative elevation and floor plans submitted by Russell & King, Snow Block, for proposed 2-story, 40-room brick school to be erected in Onondaga Valley; estimated cost $150,000.

Trus. Syracuse University contemplate erecting two additions to Hospital of the Good Shepherd; cost about $100,000.

Bayonne, N. J.—Erection of new school at the Boulevard and W. 48th St. reported approved by Bd. Educ.; cost about $350,000.

Hoboken, N. J.—See "Foundations, Piers and Dams."

Orange, N. J.—New Jersey Orthopedic Hospital plans erecting new hospital to cost about $200,000.

Johnstown, Pa.—Reported contract will be let about Dec. 1 by School Bd. for erecting one and 2-story, 70 x 200 ft., brick, stone and terra cotta high school; cost $200,000. J. E. Adams and Geo. Wild, assoc. archts., Johnstown.

Philadelphia, Pa.—Medical Bd. of Philadelphia Hospital reported in favor of rebuilding Hospital on present site at 34th and Spruce Sts.; $1,000,000 available.

Pittsburgh, Pa.—Plans being prepared by W. G. Wilkins, Westinghouse Bldg., for proposed 13-story building to be erected at Strawberry Way and Grant Boule. for Atlantic Refining Co.; estimated cost 1,000,000.

Scranton, Pa.—See "Reinforced Concrete."

Wilkes-Barre, Pa.—Plans completed by C. W. Evans, Wilkes-Barre, for 3-story, 80 x 140 ft. brick and stone parish house to be erected for St. Stephen's Episcopal Church; cost $100,000.

Washington, D. C.—Tom Moore, The Northumberland, reported interested in erecting 5-story, fireproof film exchange building at 418 8th St., N. W.

Morgantown, W. Va.—Plans for an agricultural building, costing about $150,000, have been approved by Bd. of Regents and Bd. of Control of West Virginia University.

Louisville, Ky.—A permit has been granted First Church of Christ (Scientist) for erecting new edifice at Third St. and Ormsby Ave.; cost $90,000.

Baltimore, O.—School bonds amounting to $60,000 reported sold by Liberty Union Village School Dist. at Baltimore.

Cleveland, O.—Reported plans being prepared for 6-story mercantile building to be erected on Superior Ave. and E. 12th St. for Jay E. Latimer, 208 Erie Bldg.; cost about $70,000.

East Cleveland, O.—City Council considering issuing $100,000 bonds to erect city hospital. W. E. Minshall, Mayor, 1409 Williamson Bldg., Cleveland.

Hamilton, O.—Plans of Geo. Barkman, Hamilton, approved for new lodge building to be erected on present site for Hamilton Lodge No. 39, Knights of Pythias; cost about $65,000.

Lebanon, Ohio.—Bausmith & Drainie, Gerke Bldg., Cincinnati, engaged to prepare plans for proposed $60,000 high school. Address Clk. School Bd.

Warrensville, O.—City Council and Mayor Harry L. Davis, Cleveland, approved issue of $100,000 bonds for enlarging city's tuberculosis sanitarium at Warrensville. F. H. Betz, city archt., city hall, Cleveland. Lamar T. Beman, dir. pub. welfare, Cleveland.

Lafayette, Ind.—Plans being prepared by Chas. Nicol, Lafayette, for fireproof, 77 x 138 ft. concrete, brick and tile automobile salesroom and service station to be erected at Columbia and Sixth Sts. for Murdock Realty Co.

Sullivan, Ind.—All bids opened Oct. 28 by Bd. Co. Trus. (Ortha L. Springer, secy.) for erecting County Hospital rejected. Work will be readvertised and contract let in about sixty days.

Walkerville, Mich.—School Bd. considering plans for new high school.

Alton, Ill.—Erection of $75,000 Home for Orphans reported contemplated. Address City Clerk.

Chicago, Ill.—Edw. M. Bertha, 4151 Grand Boule., plans erecting a 36-apartment building on 50th St. and Woodlawn Ave. to cost $150,000.

Clinton, Ia.—Bragnier & Behr, Clinton, contemplate erecting new undertaking parlors, costing $75,000.

Englewood, Ill.—Bd. Educ., Oct. 20, decided to issue $500,000 bonds for erecting addition to high school.

Milwaukee, Wis.—Tentative plans prepared for first section of new Columbia Hospital to be erected at Hartford and Maryland Aves.; cost $100,000. Address F. L. Sivyer, pres. bd. dirs.

Erection of 4-story hospital addition to Milwaukee Protestant Home for the Aged, Downer and Bradford Aves., contemplated; cost $50,000.

Chamber of Commerce (A. Krause, pres.) reported in favor of erecting new Chamber of Commerce building; probable cost $1,000,000.

Sioux City, Ia.—Erection of $300,000 Masonic Temple, reported contemplated here.

Hanska, Minn.—Village of Hanska considering calling election to vote bonds for erecting new consolidated and high school building; cost between $60,000 and $100,000. Address Village Clerk.

Northfield, Minn.—Reported Trus. Carleton College contemplates spending $300,000 for new buildings.

St. Paul, Minn.—J. C. Nolan, 623 Iglehart St., secured site at 3d and Market Sts. and intends erecting building to cost $50,000.

Winnebago, Minn.—Bd. Educ. contemplates calling election to vote bonds for erecting high school to cost about $50,000.

Hastings, Neb.—Citizens voted $200,000 school bonds. Address Secy. Bd. Educ.

Omaha, Neb.—St. Mary's Congregational Church intends erecting new edifice to cost $150,000.

Dillon, Mont.—Reported Harry Andrus, Dillon, intends erecting 3-story and basement, brick and cement hotel on S. Idaho and Glendale Sts.; cost $100,000.

Fairview, Mont.—Moorman & Co., 501 Minnehaha St., St. Paul, Minn., are architects for brick and stone bank building to be erected here; cost about $60,000.

Kansas City, Mo.—Howard Memorial and Hyde Park Methodist Churches contemplate erecting new edifice to be known as Trinity Church; $50,000 available.

Dumas, Ark.—Bonds for $15,000 for erecting electric light plant will be sold Nov. 28 by Bd. Improv. Dist. No. 2, advertised in this issue.

San Angelo, Tex.—C. C. McBurnett, San Angelo, intends erecting hotel to cost $150,000.

Snyder, Tex.—County Comrs. considering calling election to vote bonds for erecting city-county hospital. Address Mayor.

Estes Park, Col.—E. O. Stanley, owner of Stanley Hotel, Estes Park, reported contemplates erecting another hotel to cost about $200,000.

Tulsa, Okla.—Reported Sand Sorings Interurban Ry. Co. (W. B. Craig, genl. mgr., Tulsa) intends erecting 4-story office and terminal passenger station building at Main and Archer Sts.; also a passenger station at the crossing on 3rd St.; cost $150,000.

Seattle, Wash.—See "Reinforced Concrete."

Tacoma, Wash.—See "Structural Steel Work."

Fresno, Cal.—Plans being prepared by Eugene Mathewson, Forsyth Bldg., for 6-story and basement, 100 x 75 ft., concrete, steel and brick office building to be erected on J and Mariposa Sts. for Mrs. Nellie Mason, New York City; probable cost $165,000.

Erection of 6-story hotel contemplated at Tulare and M Sts.; probable cost $200,000. Chas. Teague, 1720 K St., reported interested.

Fresno, Cal.—M. R. Parra, owner of Plaza Theater, Van Ness Boule. and Fresno Sts., plans erecting new $50,000 theater.

Long Beach, Cal.—Ernest E. Gagon, mgr. Empress Theater, Long Beach, contemplates erecting $150,000 theater.

Modesto, Cal.—Citizens voted $135,000 bonds for erecting high school. Address Clerk, Modesto Union High School Dist.

Oakland, Cal.—Reported erection of $75,000 county hospital contemplated. Address County Clerk.

Porterville, Cal.—School Bd. contemplates calling election to vote $100,000 bonds for erecting high school.

San Bernardino, Cal.—See "Reinforced Concrete."

Santa Barbara, Cal.—See "Reinforced Concrete."

Willows, Cal.—All bids recently opened by Superv. Archt., Washington, D. C., for erecting U. S. Postoffice rejected, being in excess of amount available.

Kentville, N. S.—Erection of new buildings, costing $60,000, contemplated for Kentville Sanitarium. Address Superintendent.

Lauzon, Que.—Contract will soon be let by C. Quay, Ville Quay, Levis, Que., for rebuilding Home for Aged, brick construction; cost $55,000.

Dundas, Ont.—John Bertram Sons Co., Dundas, contemplate erecting $50,000 brick office building.

London, Ont.—Watt & Blackwell, Bank of Toronto Bldg., engaged to prepare plans for $60,000 brick addition to Queen Alexandria Sanatorium.

Vancouver, B. C.—Reported Bd. Park Comrs. asked City Council to submit a by-law at January election providing $75,000 for erecting a winter swimming natatorium at English Bay.

BIDS DESIRED.

West Roxbury, Mass.—Until Nov. 10, by Schoolhouse Comrs., City of Boston (Joseph P. Lomasney, chmn.), for erecting an elementary school for upper grades, Mt. Vernon St.

New York, N. Y.—Until Nov. 13, by C. B. J. Snyder, supt. school bldgs., Park Ave. and 59th St., for alterations in and additions to Public School No. 4, on the northwesterly corner of Fulton Ave. and E. 173rd St., Boro. of Bronx. Security required $60,000.

Beaver Falls, Pa.—Until Nov. 28 by Jas. A. Wetmore, acting superv. archt. treas. dept., Washington, D. C., for remodeling U. S. Post Office.

Charleroi, Pa.—Reported sketches desired until Nov. 21 by Ira L. Nickeson, boro. clk., for a 100 x 66 ft. municipal building to be erected at Fourth St. and Fallowfield Ave.

Norfolk, Va.—Until Nov. 11 at Bureau Yards and Docks, Navy Dept., Washington, D. C. (F. R. Harris, chmn.) for erecting brick building with reinforced concrete footings, columns, beams and floors, plastered hollow terra-cotta tile (or gypsum block), partitions, etc., for student officers' quarters.

Huntington, W. Va.—Until Nov. 10 by Bd. Educ. (J. K. Oney, secy.) for erecting 20-room school to be located at Collis Ave. and 26th St. Verus T. Ritter, archt., Huntington.

Wheeling, W. Va.—Until Nov. 28 at U. S. Engineer Office, Wheeling, for erecting two 2-story, 14-room double houses at Dam No. 21, Ohio River, advertised in this issue.

Birmingham, Ala.—Until Nov. 13 by Jas. A. Wetmore, acting superv. archt. treas. dept., Washington, D. C., for erecting (excluding mechanical equipment) U. S. Post Office and Court House.

Columbus, Miss.—Until Dec. 7 by Mayor and Bd. Councilmen for erecting a high school. Plans can be had of P. J. Krouse, archt., Meridian, on deposit of $5.

Warrensville, O.—Reported desired until Nov. 20 by Bd. Educ. (Guy W. Skwiner, clk.), for erecting high and grade school addition, 2-story and basement, 70 x 101. A. W. Rust Co., archts., 8451 Broadway, Cleveland.

Kenosha, Wis.—Until Nov. 20 (readvertisement) for erecting 3-story clubhouse for B. P. O. E. No. 750 (C. E. Randall, chmn. bldg. comn., 730 Exchange St.); probable cost $100,000. R. A. Messmer & Bro., archts., Majestic Bldg.

Waupun, Wis.—Until Nov. 10, by B. Kastein, clk. school bd., for erecting 2 school buildings: Foeller & Schober, archts., Green Bay, Wis.

Marshalltown, Ia. — Reported desired until Nov. 13, by Bd. Educ. (E. G. Elliott, secy.), for erecting high and grade school, Reimer & Herlin, archts. First National Bank Bldg.

Bonne Terre, Mo.—Until Dec. 21 by Jas. A. Wetmore, acting superv. archt., treas. dept., Washington, D. C., for erecting a complete U. S. postoffice.

Eureka Springs, Ark.—Until Dec. 11 by Jas. A. Wetmore, acting superv. archt., treas. dept., Washington, D. C., for erecting U. S. postoffice

Dumas, Ark.—Until Nov. 28 by Bd. of Comrs. Electric Light Improv. Dist. No. 2 for completing electric light plant, advertised in this issue. H. W. Wright, engr., McGhee.

PRICES AND LETTINGS.

★Indicates award of contract.

★Skowhegan, Me.—Contract awarded by Superv. Archt., Washington, D. C., to W. H. Fissell & Co., Marbridge Bldg., New York City, for construction complete of U. S. postoffice, at $57,650.

Cobleskill, N. Y.—Following are lowest bids opened Oct. 27, by Hon. D. D. Frisbie, pres. bd. trus., Agricultural Hall, Albany, for erecting dairy buildings at Schoharie State School of Agriculture: General construction, Viscousi & Burnham, Schenectady, $30,950; plumbing and drainage, also heating, Conkling, Kerber & Hanlon, Rochester, at $4,561 and $1,900 respectively.

Eastview, N. Y.—Following are three bids reported opened by Westchester Co. Bldg. Comrs. at White Plains for erecting new power house at Eastview for the almshouse, penitentiary and hospital: Oscawana Bldg. Co., 101 Park Ave., New York, $48,970; Clark & Spray, Tarrytown, $64,423; P. J. Brennan & Son, 624 Madison Ave., New York, $67,200.

★New York, N. Y.—Contract for erecting 10-story Manhattan Trade School for Girls at Lexington Ave. and Twenty-second St., reported awarded Thos. Dwyer, Bway. and 216th St.; cost $250,000.

Bayonne, N. J.—Following are bids opened Oct. 20 by Super. Archt., Washington, D. C., for erecting U. S. postoffice (a) limestone, (b) sandstone: E. T. Abbott Constr. Co., 1123 Broadway, New York City (a) $95.890, (b) $98,600; Frymier & Hanna Co., New York City (a) $106,794 (b) $112,000; W. H. Fissell & Co., Marbridge Bldg., New York City (a) $131,700, (b) $142,500.

Elizabeth, N. J.—Bids opened Oct. 18 by Bd. Freeholders for additions and improvements to Bonnie Burn Sanatorium at Scotch Plains, totaling $57,000, including following: carpenter, work, A. H. Milne, 125 W. 2d St., Plainfield, $19,600; plumbing, John Doyle, 13 Union Ave., Cranford, $4,473; heating, F. A. Vanderweg, Roselle $3,110.

Du Bois, Pa.—Following are bids opened Oct. 19 by Superv. Archt., Washington, D. C., for erecting U. S. postoffice (a) limestone, (b) sandstone: R. S. Moore, Lafayette, Ind. (a) $90.647, (b) $93.769; Thos. W. Cissell, Wooster, O. (a) $91,000, (b) $93 900; W. H. Fissell & Co., Marbridge Bldg., New York City (a) $94,900, (b) $100,000.

★Philadelphia, Pa.—Contract for erecting 2-story, stone, tile and terra cotta buildings for Carson College for Girls awarded Jacob Myers Sons Co., Witherspoon Bldg.; cost $350,000. Albert Kelsey, archt., Perry Bldg.

★Cincinnati, O.—Contracts awarded by John W. Wendt, of Fredk. A. Schmidt Co., 134 E. Fourth St., for erecting $50,000 apartment building at Besuden Ave. and Madison Rd., include following: Brick, A. C. McKenzie, 3222 Wold Ave.; cut stone, Cincinnati Cement Products Co., 2016 Dana Ave.; iron, Grimm Iron Works, 2431 Spring Grove Ave.

★Contracts awarded by Bd. Educ. for erecting East Hill High School, include following: Brick and stone, David Hummer Bldg. Co., 2629 Spring Grove Ave., $70,350; plumbing and gas piping, Wm. Hillenbrand Co., 2307 West Eighth St., $44,143; cement work, Chas. V. Maescher & Co., 617 Hunt St., $8,136. See "Bids Desired."

★Flint, Mich.—Contracts for erecting 2-story and basement Dort School, costing $100,000 awarded as follows: General construction, Clark & Rogers; heating, T. J. Henderson, Jr.; plumbing, Sterner Co. (bidders all of Flint).

★Grand Rapids, Mich. — Contracts awarded by Bd. Educ. for erecting Walker School as follows: General construction, Chas. Hoertz & Sons, Grand Rapids, $41,500; plumbing, Richards Plumbing & Heating Co., 330 Bridge St., N. W., $5,475; heating, Adolph Leitlet Iron Wks., 211 Erie St., N. W., $4.294; sheet metal, Grand Rapids Sheet Metal & Roofing Co., 917 Ottawa St., $1,038.

★Oskaloosa, Ia.—Contract for erecting new building for Penn College awarded Arthur H. Neumann & Co., Des Moines, at $93,175.

★Duluth, Minn.—Contract awarded Lounsberry & McLeod, Lonsdale Bldg., Duluth, for erecting Y. M. C. A. and club building at Morgan Park; cost about $60,000. Dean & Dean, archts., 167 W. Washington St., Chicago, Ill.

★Austin, Tex. — Contract reported awarded Jas. Stewart & Co., Inc., 30 Church St., New York City, for erecting new educational building for University of Texas; cost $250,000.

San Bernardino, Cal.—See "Reinforced Concrete."

Kingman, Ariz.—See "Reinforced Concrete."

Clarksdale, Ariz.—See "Reinforced Concrete."

★Toronto, Ont.—Witall & Sons, 156 St. Helens Ave., secured contract to erect brick and stone museum building for Art Museums; cost $60,000. Darling & Pearson, archts., 2 Leader Lane.

★Toronto, Ont.—Wickett Bros., Deer Park Crescent, Toronto, secured contract to erect brick, concrete and steel convent **buildings for St. Joseph's** Novitiate, Kingston Rd.; cost $200,000.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Rochester, N. Y.—City contemplates constructing municipal dock in the new ward, for developing Port of Rochester. Address City Clerk.

Hoboken, N. J.—The Lackawanna RR. (G. J. Ray, ch. engr., Hoboken) has filed plans for foundations for ferry house at foot of 14th St.; estimated cost $50,000.

Philadelphia, Pa.—Contract will soon be let by city for constructing three new piers along Delaware River, cost $2,500,000. Geo. Webster, dir. dept. wharves, docks and ferries.

Pass Christian, Miss.—Sea wall bonds for $150,000 will be sold Nov. 7 by W. A. Terrill, city clerk.

Superior, Wis.—Minneapolis, St. Paul & Sault Ste. Marie Ry. (C. N. Kalk, ch. engr., Minneapolis) will extend ore dock 564 ft.; cost $332,000.

Seattle, Wash.—C. W. Wiley, mgr., Seattle Constr. & Dry Dock Co., reports company is contemplating constructing a $500,000 floating dry dock.

Tillamook, Ore.—Election will be held Nov. 7 to vote on question of adding 125 sq. mi. to Port of Tillamook. Address Clerk, Port of Tillamook Dist.

St. George, Utah.—Clarence C. Jarvis, 376 5th Ave., Salt Lake City, is preparing plans for constructing a series of dams on the Rio Virgin River in Washington County to reclaim about 25,000 acres; cost about $750,000. Work will probably begin in the spring.

Wahnapitae, Ont.—See "Miscellaneous."

BIDS DESIRED.

Ormont, Fla.—See "Paving and Roads."

Longport, N. J.—Following are bids opened Oct. 26, by Wm. S. Gilmore, town clerk, for constructing and maintaining about 6000 lin. ft. reinforced concrete seawall, 36 reinforced concrete groynes, etc.: (a) Sutton & Corson Co., 739 Asbury Ave., Ocean City, N. J., $560,139; (b) Edw. L. Bader, Atlantic City, $569,030; (c) Jas. Ferry & Son, Baltimore, Md., $583,997. All bids rejected.

	(a)	(b)	(c)
7,400 lin. ft. reinforced concrete box sections	$122,100.00	$125,800.00	$148,000.00
4,000 lin. ft. reinforced concrete posts	9,000.00	8,400.00	8,000.00
8,600 sq. ft. reinforced concrete slabs	6,450.00	4,300.00	4,300.00
1,160 lin. ft. creosoted yellow pine piles	1,566.00	2,320.00	1,160.00
10,300 lin. ft. creosoted yellow pine piles	4,635.00	5,150.00	10,300.00
30 cu. yd. concrete	540.00	420.00	600.00
150 lin. ft. reinforced concrete box sections	4,500.00	6,000.00	4,500.00
680 lin. ft. creosoted yellow pine piles	918.00	1,020.00	1,020.00
120 lin. ft. concrete piles	828.00	780.00	840.00
2,280 lin. ft. timber groynes and breastwork	17,100.00	18,240.00	22,800.00
2,920 cu. yd. reinforced concrete seawall, precast stepped slab	96,360.00	84,680.00	87,600.00
4,240 cu. yd. reinforced mass concrete	114,480.00	131,440.00	118,720.00
25,200 sq. ft. reinforced concrete slabs	22,680.00	25,200.00	20,160.00
14,800 lin. ft. reinforced concrete piles	66,600.00	74,000.00	88,800.00
8,500 lin. ft. reinforced concrete piles	25,500.00	25,500.00	17,000.00
91,000 cu. yd. filling	54,600.00	43,600.00	45,500.00
400 lin. ft. drain pipe	150.00	160.00	80.00
18 cu. yd. plain concrete	378.00	360.00	270.00
120 lin. ft. timber piles	54.00	60.00	46.80
600 sq. ft. creosoted sheeting	450.00	600.00	300.00
Cutting and removal of boardwalk and existing structures on line and seaward of seawall	11,250.00	11,000.00	4,000.00

Norfolk, Va.—Following are bids opened Oct. 21, by Bureau Supplies and Accounts, Navy Dept., Washington, D. C., for constructing Dry Dock No. 4: (a) H. P. Converse & Co., 88 Broad St., Boston, Mass.; (b) Maryland Dredging & Contr. Co., Fidelity Bldg., Baltimore, Md.; (c) Geo. Leary Constr. Co., 17 State St., New York City, N. Y.; (d) Arthur McMullen & O. Hoff, 149 Bway., New York City, N. Y.

Items	(a)	(b)	(c)	(d)
1—Cofferdam and pump	$240,000.00	$400,000.00	$374,040.00	$150,000.00
2—Excav. inside dock to line 3 ft. above bottom	1.565	2.20	0.90	1.80
3—Excav. below 3 ft. above mentioned	1.546	2.20	1.20	2.50
3x—Excav. below 3 ft. pile dock	1.546	2.20	1.45	3 00
4—Excav. outside dock, prism lines	3.215	2.20	1.30	5.00
5—Dredging	0.23	0.25	0.40	0.22
6a—1:2:3 mass concrete	6.85	6.50	5.25	8.75
6x—1:2:3 mass concrete for pile dock	6.87	6.50	5.25	8.75
6b—1:2½:5 concrete waterproofed	7.78	7.25	7.00	9.50
7—1:2:4 reinforced concrete	7.66	12.00	6.50	15.00
8—Round piling	0.47	0.30	0.40	0.75
8x—Round piling under pile dock	0.42	0.30	0.35	0.75
9—Timber sheet piling, ft	70.18	80.00	135.00	0.08
10—Steel sheet piling	0.051	0.07	0.09	0.045
11—Granite	2.55	2.00	2.50	2.25
12—Structural steel	0.07	0.07	0.05	0.05
13a—Galvanized steel	0.14	0.10	0.20	0.16
13b—Coated steel	0.15	0.07	0.16	0.11
14—Reinforcing rods, floors, walls, pump, wells, etc	0.045	0.04	0.0675	0.05
15—Wire reinforcement	0.102	0.07	0.09	0.13
16—Cast-iron pipe	0.035	0.04	0.04	0.04
17—Cast-iron pipe specials	0.061	0.04	0.065	0.08
18—Cast-iron miscellaneous	0.0975	0.07	0.115	0.075
19—Miscell. galvanized cast steel	0.155	0.15	0.29	0.20
20—Miscell wrought iron	0.135	0.35	0.27	0.16
21—Miscell. malleable cast iron	0.325	0.10	0.37	0.14
22—Composition and bronze	0.70	1.00	0.70	0.85
23a—Wrought-iron pipe	0.28	0.40	0.75	1.00
23b—Fittings	0.115	0.20	0.35	0.23
23c—Valves	7.66	7.00	10.00	10.70
24a—Piping, hand rails, stairs, etc., lb.	...	0.20	0.35	ft. 0.50
24b—Stanchions, hand rails, stairs, etc., lb.	...	0.15	0.36	0.37
24c—Fittings, hand rails, stairs, etc., lb.	...	0.20	0.50	0.35
24a, 24b and 24c total.....$881.00				
25a—Stanchions, guard rails and coping	...	0.15	0.30	0.37
25b—Chain, guard rails and coping	...	0.35	0.30	0.15
25a and 25b total.....$1,728.00				
26—Crane rail	0.0383	0.03	0.07	0.35
26f—Frogs, ea	95.70	250.00	120.00	110.00
26g—Switches, ea	70.18	170.00	120.00	130.00
27a—Oak	121.22	100.00	ft. 0.10	ft. 0.10
27b—Pipe	89.00	80.00	ft. 0.10	ft. 0.11
27c—Maple	104.00	90.00	ft. 0.10	ft. 0.12
28—Vitr. electric conduits	1.30	1.20	0.20	0.15
29a—Metal electric conduits	0.51	0.40	0.70	0.38
29b—Outlet boxes	77.00	40.00	9.00	8.50
30a—Vitr. drains	0.54	0.30	0.20	0.80
30b—Specials, ea	1.60	2.00	2.75	2.00
31—Sidewalks, lights, pump house	0.20	0.60	0.45	0.60
32a—Sluice gates and frames, 8 x 8 ft.	3,872.00	3,500.00	2,500.00	3,550.00
32b—Sluice gates and frames, 7 x 9 ft.	3,477.00	3,500.00	2,500.00	3,200.00
33a—Pest pipe piping	0.70	0.40	0.36	1.00
33b—Valves	14.00	7.00	10.00	8.00
33c—Fittings	0.80	0.20	0.50	0.23
34—Tile	1.27	1.00	2.75	2.00
35—For special work if any performed in accordance with term of contract but not covered by individual items listed above	...	...	...	...
36—Calendar days for completion of all work	950	1,050	880	900

Nashville, Tenn.—Following are bids opened Sept. 28, by Maj. Lytle Brown, Corps Engrs., U. S. A., Nashville, for constructing concrete locks E and F, Cumberland River: (a) Geo. C. Hodgson, 1168 Reibold Bldg., Dayton, O., Lock E, $335,581 (both locks), Lock F, $328,296 (both locks); (b) Mason & Hanger, Lexington, Ky., Lock E, $331,420; Lock F, $346,839.

Lock E	Lock F		(a) Lock E (both locks) Unit price	(a) Lock F (both locks) Unit price	(b) Lock E (one lock) Unit price	(b) Lock F (one lock) Unit price
632	664	lin. ft. cofferdam	$57.00	$57.00	$50.00	$50.00
66,390	36,650	cu. yd. earth excav.	0.50	0.40	0.90	0.80
17,150	36,020	cu. yd. rock excav.	3.25	1.25	2.50	1.60
10,650	24,000	cu. yd. backfill	1.00	0.50	0.60	0.50
17,860	18,700	cu. yd. concrete	9.00	8.50	8.00	7.60
160	240	cu. yd. puddling	2.00	2.00	2.00	2.00
600	700	lin. ft. bolt holes	3.00	3.00	0.25	0.25
2,870	5,220	sq. yd. concrete paving	5.50	4.90	2.00	2.00
9,400	15,500	sq. yd. riprap	1.40	1.40	3.50	3.00
2,200	2,600	short ton windrow derrick stone	1.00	1.00	2.00	2.00
. .	660	cu. yd. broken stone for roads	...	2.50	...	2.00
100	170	cu. yd. rubble masonry	5.00	5.00	5.00	5.00
....	200	lin. ft. relaying water main.	...	1.00	...	1.00
..	600	lin. ft. relaying sewer pipe	...	0.50	...	1.00
73	73	tons placing iron work	30.00	30.00	30.00	30.00
56	53	lin. ft. tile gages	5.00	5.00	4.00	4.00
...	40,000	ft. b. m. additional lumber for cofferdam	...	40.00	...	50.00
. .	1,200	cu. yd. additional filling for cofferdam	...	0.25	...	2.00
1	....	house, complete	3,000.00	...	1,500.00	...

PRICES AND LETTINGS.

★*Indicates award of contract.*

Wheeling, W. Va.—Following are four lowest bids opened Oct. 21 by Maj. T. H. Jackson, Corps Engrs., U. S. A., for furnishing and delivering steel lock gates for Dam No. 24, Ohio River: Penn Bridge Co., Beaver Falls, Pa., $42,440; Independent Bridge Co., Beaver Ave. and Reedsdale St., Pittsburgh, Pa., $53,940; Whitehead & Kales Iron Wks., Beecher Ave. and M. C. RR., Detroit, Mich., $55,043; J. & J. B. Millholland Co., 714 5th Ave., Pittsburgh, Pa., $53,940.

★**Norfolk, Va.**—Contract awarded by Bureau Supplies and Accounts, Navy Dept., Washington, D. C., to Geo. Leary Co., 17 State St., New York City, at $2,442594, for constructing drydock No. 4 at Norfolk. (Bids opened Oct. 21).

Wheeling, W. Va.—Following are bids opened Oct. 30 by Maj. T. H. Jackson, corps engrs. U. S. A., for (a) furnishing and erecting lock gates at Wheeling, (b) kind of steel to be used in manufacturing pintles: Whitehead & Kales Iron Wks., Beecher Ave. & M. C. RR., Detroit, Mich., (a) $45,000, (b) nickel (recommended for acceptance); Independent Bridge Co., Beaver Ave. & Reedsdale St., Pittsburgh, Pa., (a) $45,840, (b) open-hearth high carbon; Milwaukee Bridge Co., 1400 34th St., Milwaukee, (a) $49,475, (b) nickel; Penn Bridge Co., Beaver Falls, Pa., (a) $49,945, (b) nickel.

Mobile, Ala.—See "Industrial Plants and Warehouses."

★**Bristol, Tenn.** — Contract awarded Bristol Traction Co., Bristol, at $75,000, for constructing dam, installing hydro-electric plant, etc., on Holston River near here.

Indianapolis, Ind.—Following are bids opened by Bd. Pub. Wks., Oct. 23, for constructing concrete prevention wall along east bank of White River from Maryland St. to Washington Ave.: Patterson, Norton & Co., Kansas City, Mo., $95,500; American Constr. Co., 1201 Georgia St., $101,330; Kuert Contracting Co., Hume-Mansur Bldg., $114,904; Stanley M. Timberlake, 1434 Broadway, $147,925. Last three bidders of Indianapolis.

★**Orange, Tex.**—Contract awarded by City Commission Oct. 20 to Wm. Moore, Texas City, at $40,000 for first unit of municipal wharf.

Spokane, Wash.—Contract awarded by City Council to C. G. Gross, at $17,747 for repairing pier of Washington steel bridge. Morton Macartney, city engr.

Los Angeles, Cal.—See "Structural Steel Work."

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Buffalo, N. Y.—Erie & Ontario Co. of Buffalo has asked City Council to approve its application to use unappropriated waters of Niagara River for sanitation, power and navigation purposes, also to construct drainage canal to connect Lake Erie and Lake Ontario.

Alexandria, La.—Levee bonds for $250,000 will be sold Nov. 10 by Howard B. Gist, secy. bd. comrs. for Red River, Atchafalaya and Bayou Boeuf Levee Dist.

Columbus, Ohio.—According to report of J. B. Glick, pres. West Side Betterment Assoc., Jas. Ross and U. S. Brandt, of the Democratic & Republican Co. Com., has endorsed the $3,500,000 flood-protection bond issue.

Kenmore, O.—Co. Comrs., E. W. Paul, co. engr., will soon let contracts for 50,000 cu. yd. of fill at Kenmore canal bridge. Estimated cost $25,000; another fill is also contemplated on Portage road in Cuyahoga valley.

Austin, Tex.—Attorney General approved issue of $32,500 bonds for Anderson Co. Levee Dist. No. 1. Address Sec'y of District.

Liberty, Tex.—Raywood Drainage Dist. bonds for $70,000 will be sold.

El Paso, Tex.—City considering the issuing of $100,000 bonds for drainage system. Address City Clk.

Waxahachie, Tex.—Co. Comrs. have been asked to call a special election in Levee Dist. No. 2 on Trinity River, to vote on issuing $20,000 for raising levee.

Centralia, Wash.—A permanent organization has been formed with Richard Jones, pres., and W. N. Beal, secy., to engineer preliminary work relative to irrigating 5000 acres in Waunchs and Fords Prairies with a system of ditches leading from Skookunchuck River.

North Yakima, Wash.—J. O. Kingsley, Portland, representing the Horse Heaven Irrigation Dist., has filed water right on 200 cu. ft. of water per second of the Cispus Creek; the point of diversion is to be about 2000 ft. below junction of Lyman and Lava glaciers, and water is to be used for irrigation of land in Klickiat and Benton Counties.

Seattle, Wash.—C. E. Fowler, eng., Central Bldg., Seattle, has presented plan to Bd. Regents, Univ. of Washington, for reclamation of 80 acres of land near campus, by construction of bulkhead and fill. Appropriation available $10,000.

Portland, Ore.—Horse Heaven Irrigation Dist., including about 532,000 acres of land, contemplates acquiring all water rights, rights-of-way, surveys and other rights of the Klickitat Irrigation & Power Co.; also water right and properties on the Klickitat River of the Northwestern Electric Co. It is planned to utilize practically all of the water on Klickitat River by storage in reservoirs near the headwaters; main canal to be about 150 miles long, concrete lined. O. Laurgaard, engr., 316 Railway Exch. Bldg.

Artesia, Cal.—Contract soon to be let by New San Gabriel Levee Protection Dist. (Levi Carse, pres.) for excav. about 50,000 cu. yd. sand and rock from dry bed San Gabriel River and depositing same levees 4½ ft. on either side of stream.

California.—Applications have been filed with the State Water Comn., San Francisco, for permission to appropriate waters of California:

Glen County—J. Overholtzer of Glen for 60 cu. ft. per second of waters of Sacramento River, divert water by means of electrically driven pumps, discharging into a main canal 5 miles long, to water 7000 acres; cost $15,000.

San Joaquin and Sacramento Counties—Landis Bros., San Francisco, to appropriate 100,000 acre ft. per annum of waters of Dry Creek, tributary to McKelumne River, diversion proposes concrete municipal arch dam 60 ft. high, 1400 ft. on top and 1200 ft. on bottom, which shall serve as a storage and diversion dam, located on Arroyo Seco Rancho; estimated cost $1,000,000.

W. F. Fowler, Willows, for 250 cu. ft. per second of waters of Sacramento River of 14,000 acres, water to be raised by electrically driven pumps to main canal 10 miles long; estimated cost $180,000.

Contra Costa County—Peoples Water Co., Oakland, to appropriate 5500 million gal. of water of San Pablo Creek to supply Oakland, Berkeley, Alameda and other towns, constructing dam 160 ft. high, 1250 ft. on top, hydraulic earth fill with concrete core wall capable of impounding 40,000 acre ft. main ditch and pipe line 15,000 ft. long.

San Bernardino County—J. G. Van Zandt, Forest Home, to appropriate waters of north tributaries of Mill Creek, tributary to Santa Ana River, for 25 cu. ft. per second for generating power for manufacturing purposes, a line 5 miles long and a fall of 2230 ft. to be utilized for generating 6333 hp., at an estimate cost of $500,000.

Mariposa County—Frank M. Ish, Oakland, to appropriate all unappropriated water, with minimum of 100 second ft., for generating electric power, constructing flume and pipe line 8 miles long, known as Tioga Flume & Pipe Line, and states that fall to be utilized is 1600 ft., for generating 10,000 hp.; estimated cost $1,500,000.

Shasta County—E. G. Hopson, Portland, Ore., has filed with Railroad Comn. of California application for authority to construct an irrigation system in Shasta County, to water 2960 acres, construct ditch from Cow Creek, a tributary of Sacramento River, to lands in county, and divert 40 cu. ft. per second of water of Cow Creek. Cost $100,000.

Hanford, Cal.—J. H. Leverling, Thorpe Bldg., Los Angeles, has prepared plans and estimates for drainage and irrigation work for reclaiming Tulare Lake Basin lands, comprising about 200,000 acres, as follows: Constructing two levees to form canal 125 miles long, $1,408,000; a venting canal to San Joaquin River, $506,000; pumping plant, $150,000; concreting canals, $1,000,000, and $900,000 for sites, reservoirs and canals.

Modesto, Cal.—Bonds for $465,000 will be sold Nov. 10 by Bd. Directors of Waterford Irrigation dist. for improving the district. C. C. Horsley, secy.

Ontario, Cal.—Garfield Stubblefield, U. S. National Bank Bldg., 1267 Oak St., engaged to prepare preliminary engineering work for a drainage district, in which it is proposed to use tile and treated concrete pipe; estimated cost $80,000.

San Dimas, Cal.—Irrigation system involving construction of an arched concrete dam 130 ft. high to store 17,000 acre ft. in Puddingstone canyon, tunnel 6000 ft. long, pipe line or flume, and canal 4 miles long contemplated by M. V. Helwick, Wm. Gregg, Neher Bldg., and M. L. Hazzard, 217 North Bright St., Whittier, Cal.; probable cost $1,200,000.

Santa Rosa, Cal.—Citizens voted Sept. 27 in favor of issuing $20,000 bonds for improving Bellevue - Wilfred Drainage Dist. R. Press Smith, engr., Santa Rosa. J. R. Cole, secy. bd. dir. of dist.

BIDS DESIRED.

Albany, N. Y.—Until Nov. 24, by W. W. Wotherspoon, supt. pub. wks., for Contract No. 150, Erie Canal, Sect. 2, for constructing a concrete apron below the headgates of the Visher Ferry dam; cost $23,300, advertised in this issue.

Brooklyn, N. Y.—Until Nov. 28 at U. S. Engineer Office, Room 707, Army Bldg., 39 Whitehall St., New York, for dredging in Newtown Creek, advertised in this issue.

Trenton, N. J.—Until Nov. 20 by Bd. Harbors and Navigation, State House, for dredging the second section of the inland waterway connecting the head of Barnegat Bay with the Manasquan River; excavation to be from 10 to 20 ft.; cost $50,000.

Sledge, Miss.—Until Nov. 15 by the Indian Creek Drainage Dist. for constructing 1,664,500 cu. yd. of ditches and 737,500 cu. yd. levee work, is divided into 5 contracts, all of which are suitable for dipper dredges. Plans and specifications may be secured from Morgan Engineering Co., Memphis, Tenn.

Dyersburg, Tenn.—Until Nov. 28 by Bd. of Directors of Bogota Drainage Dist., for constructing ditch 8 miles long, 10 ft. deep, 25 ft. wide, requiring the removal of 405,00 cu. yd. material, and cleaning 96 acres of right-of-way. W. C. Kelly, engr., Union City, Tenn.

Des Moines, Ia.—Until Nov. 21, by Bd. Supervs. (C. W. Keller, chmn.), for constructing Drainage Ditch No. 21; ditch will be a tile drain and will consist of 6200 ft. of 18 to 28-in. tile, 2500 ft. of 30-in. vitr. clay sewer pipe, bulkheads, manholes, etc.; total cost $21,672. F. J. Alber, co. aud.

Benson, Minn.—Until Nov. 15, by D. P. Carney, co. aud., for constructing 3 ditches: Ditch No. 4; main ditch, width of bottom 40 ft., 10.99 miles long, 10 ft. average depth, 738,083 cu. yd. excav. of open ditch, cost $55,165; branch No. 1, 3853 ft. open ditch, 11,991 cu. yd. to be excav. open ditch, 3853 ft. of 14-in. tile, ¼ x 10 reinforced concrete culvert with wing walls, 1 concrete bulkhead, cost $3,289; branch No. 2, 11,492 ft. 16 and 18-in. tile, average depth 7 ft., cost $5,063. Judicial Ditch No. 7: Main ditch, 10,200 ft. of 10 to 18-in. tile, 2296 cu. yd. open work, 4-ft. bottom; branch No. 1, 8000 ft. of 10 to 20-in. tile, 185 cu. yd. open work, 4-ft. bottom; branch No. 2, 4275 ft. 8 to 14-in. tile; branch No. 3, 7137 ft. 10 to 14-in. tile; branch A of No. 3, 1137 ft. 8-in. tile; branch B of No. 3, 2709 ft. 8 and 10-in. tile; branch C of No. 3, 1552 ft. 8-in. tile; branch D of No. 1, 1500 ft. 8 and 12-in. tile; branch E of No. 1, 400 ft. 6-in. tile; branch F of No. 1, 2060 ft. 8 and 12-in. tile; branch G of No. 1, 2974 ft. 8 and 12-in. tile; branch H of Main, 5157 ft. 6 to 8-in. tile; branch 1 of branch 2, 2131 ft. of 6 and 7-in. tile; lateral X of branch H, 911 ft. of 6-in. tile; lateral Y of branch F, 1960 ft. 8 and 10-in. tile; lateral Z of lateral Y, 1400 ft. 8-in. tile; total cost $19,556. Ditch No. 15, Sec. 1, 2526 cu. yd. of excav. of open ditch; Secs. 2, 3, 4, 5, 6, 7 and 8, in all 9787 ft., 6 to 18-in. tile; total cost $5,998.

Morris, Minn.—Until Nov. 22 by C. R. Wollthan, co. aud., for constructing 2 Judicial ditches, Ditch No. 3, Big Stone and Stevens counties, cost $11,590; Ditch No. 2, Stevens and Swift counties, cost $26,570.

Kansas City, Kan. — Reported desired until Nov. 8 by Bd. Directors, Kaw Valley Drainage Dist., to 719 Osage Ave. (P. J. Broll, secy.), for constructing 6650 ft. levee, requiring 42,230 cu. yd. of embankment on the left bank of Kansas River.

Atwater, Cal.—Until Nov. 15 by Bd. Superv. (P. J. Thornton, clerk) for constructing ditches, drains and other works in Drainage Improvement Dist. No. 2. Certified check of 10 per cent to accompany bid.

Modesto, Cal.—Until Nov. 14, by Waterford Irrigation Dist., C. C. Horsley, secy., for constructing portions of main canal. Bids will be taken for all work or sections as follows: (1) 45,000 cu. yd. excavation, adopted to revolving shovel or fresno equipment; (2) 2200 ft. 8-ft tunnel, largely hand work, and 9800 ft. portal excavation, cars and tracks; (3) 45,000 cu. yd. excavation, revolving shovel or fresno equipment and elevating grader, practical: (4) 55,000 cu. yd. excavation and (5) 55,000 cu. yd. excavation, same as 3 and 4.

Richvale, Cal.—Until Nov. 10, by Bd. Directors Drainage Dist. No. 100 of Butte Co. (Clay B. Harris, secy.), for constructing Units 1, 2 and 3 of the Outlet Drain; Unit 1 requires the removal of 9510 yd. of earth, Unit 2 about 27,270 yd., Unit 3 about 72,100 yd.

Richfield, Utah.—Until Nov. 16 by Edna Kreutz, city recorder, for furnishing all material and labor for constructing the following quantities of tile drains: 1500 lin. ft. 10-in. drain, 6 ft. to 8 ft. cut; 2000 lin. ft. 8-in. drain, 8 to 12 ft. cut; 1000 lin. ft. 6-in. drain, 12 to 20 ft. cut. Brown & Kleinschmidt, engrs., 306 Dooly Block, Salt Lake City.

St. Ignatius, Mont.—Following are bids opened Oct. 10, by U. S. Reclamation Service, St. Ignatius, for constructing canals and structures at Flathead Project, Mont.: (a) Pearson Constr. Co., Seattle, Wash., $65,791; (b) Welch Bros. & Hannaman, Kalispell, $68,436; (c) Nelson Rich, Dixon, $68,869; (d) Mendenhall, Bird & Co., Springville, Utah, $71,075.

		(a)	(b)	(c)	(d)
	Sch. 1:				
79,000	cu. yd. canal excav., Class 1	$0.22	$0.22	$0.22	$0.20
900	cu. yd. canal excav., Class 2	0.40	1.00	0.22	0.45
100	cu. yd. canal excav., Class 3	0.95	2.00	1.50	0.50
10,000	cu. yd. overhaul	0.02	0.02	0.02	0.02
	Sch. 2:				
77,000	cu. yd. canal excav., Class 1	0.22	0.22	0.22	0.19
800	cu. yd. canal excav., Class 2	0.40	1.00	0.22	0.45
200	cu. yd. canal excav., Class 3	0.95	2.00	1.50	0.50
10,000	cu. yd. overhaul	0.02	0.02	0.02	0.02
	Sch. 3:				
53,000	cu. yd. canal excav., Class 1	0.215	0.22	0.24	0.23
2,000	cu. yd. canal excav., Class 2	0.40	1.00	0.24	0.23
200	cu. yd. canal excav., Class 3	0.95	2.00	1.50	0.23
5,000	cu. yd. overhaul	0.02	0.02	0.02	0.02
	Sch. 4:				
4,400	cu. yd. structure excav., Class 1	0.40	0.25	0.75	0.90
100	cu. yd. structure excav., Class 2	0.50	1.00	0.75	1.00
50	cu. yd. structure excav., Class 3	0.95	2.00	1.50	1.50
2,850	cu. yd. backfill	0.35	0.25	0.40	0.60
800	cu. yd. puddled backfill	0.50	0.60	0.75	0.75
20	cu. yd. screened gravel	2.50	1.50	2.50	4.00
100	cu. yd. gravel riprap	3.00	2.00	2.75	4.00
425	cu. yd. concrete	17.50	24.00	19.00	26.00
23,500	lb. placing reinf. steel	0.02	0.01	0.025	0.0325
12,500	lb. erecting struct. steel	0.02	0.01	0.04	0.05
650	sq. yd. 12-in. dry paving	1.00	1.00	1.25	2.25
90	sq. yd. 18-in. dry paving	1.50	1.50	2.00	2.50
340	sq. yd. grouted paving	1.50	1.50	2.00	2.25
390	lin. ft. laying 12-in. vitr. pipe	0.25	0.75	0.30	0.60
410	lin. ft. laying 15-in. vitr. pipe	0.35	0.90	0.45	0.70
310	lin. ft. laying 18-in. vitr. pipe	0.50	1.00	0.54	0.90
38	M ft. b. m. erecting lumber in flume	60.00	15.00	35.00	50.00
26	M ft. b. m. erecting lumber in bridges	25.00	12.00	20.00	30.00
1,008	lin ft. erecting steel flume, 2 ft. 6' in. diam.	0.45	0.30	0.40	0.45
1,306	lin. ft. erecting steel flume, 3 ft. 10 in. diam.	0.60	0.40	0.50	0.60

J. E. Hilton, Billings, Mont., bid on Schs. 1, 2 and 3 as follows: $14,045, $13,770 and $10,110 respectively.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Newport, R. I.—Following are four lowest bids opened at U. S. Engrs. Office, Oct. 23, for dredging in Providence harbor: (a) 1,865,000 cu. yds. excav., (b) 395,000 cu. yds. excav.: J. S. Packard Dredg. Co., Providence, (a) $205,150, (b) $80,775; Bay State Dredg. & Contr. Co., Boston, (a) $186,500, (b) 107,700; Maryland Dredg. & Contr. Co., Baltimore, Md., (a) $253,640 (b) $71,800; Bowers Southern Dredg. Co., Galveston, Tex., (a) $261,100, (b) $71,800.

★**Lancaster, O.**—Following are the four lowest bids opened Oct. 26 by County Surveyor for dredging Rushcreek, in Fairfield and Perry Counties, 19.95 miles long, involving 1,252,000 cu. yd. excav.: J. A. Roberts, Ashland, 7.5 cts. per cu. yd., total $99,790 (rejected); Gilmore Bros., Toledo, 7.93 cts., $104,750 (awarded contract); Timothy Foohey Dredging Co., Ft. Wayne, Ind., 7.95 cts., $105,008; Sternberg Bros., Chicago, Ill., 7.96 cts., $105,100.

★**Monticello, Ind.**—Contract awarded M. J. Hanawalt, Monticello, by Elk River Irrig. Co., at about $1,000,000, for 100 miles of main and lateral irrigation ditches, to reclaim land in vicinity of Elk River that will be supplied with water from headwaters of Elk River.

★**Anoka, Minn.**—Contract awarded Oct. 25 by County Auditor to W. R. Ewing, Merchants Exchange & Trust Bldg., Chicago, Ill., at $19,000, for constructing Ditch No. 57, 9 miles long, involving 218,124 cu. yd. excav., and branches 1 and 2, 1½ miles long, involving 13,946 cu. yd. excav.

★**English, Ark.**—Contract awarded by Comrs. Drainage Dist. No. 6, Pine Bluff, to Sternberg Bros., St. Louis, Mo., at $18,000 for constructing drainage ditch 5 miles long to empty into Big Bayou Meto, near English.

Seattle, Wash.—Following bids opened by Col. J. B. Cavanaugh, U. S. Engr., Burke Bldg., for dredging entrance to Lake Washington Government canal, about 575,000 cu. yd.: Erickson Constr. Co., Seattle, $109,825; Standard American Dredging Co., Seattle, $110,112.

Long Beach, Cal.—See "Waterworks and Sewerage Systems."

★**Oakdale, Cal.**—Contract awarded by Bd. Dirs. Oakdale Irrigation Dist. to Tieslau Bros., Oakland, at $50,000, for concreting main canal.

MISCELLANEOUS

PROPOSED WORK.

Transmission Line—Pittsburgh, Pa.—The Duquesne Light Co., Pittsburgh, is erecting a high-tension transmission line to New Brighton, a distance of 32 miles, to supply energy to the Beaver Valley Traction Co.

Transmission Line—Pottstown, Pa.—The Philadelphia Suburban Gas & Electric Co., Pottstown, is contemplating extending its transmission lines across the Schuylkill River to Kenilworth and Cedarville to furnish electrical service in those towns.

Transmission Line—Burlington, N. C.—The Piedmont Railway & Electric Co., Geo. W. Hatch, genl. supt., Burlington, contemplates erecting an electric transmission line to Elon College and Gibsonville, 8 miles long.

Transmission Line—Centerburg, Ohio.—Columbus Ry. & Light Co., Columbus, contemplates extending its transmission line to Centerburg to supply energy to the Centerburg Electric Co.

Transmission Line—Stevens Point, Wis.—Property of the Stevens Point Lighting Co., including electric light and gas plants, have been purchased by Wisconsin Valley Electric Co. of Wausau, and will extend its transmission line into this city.

Transmission Line—St. Cloud, Minn.—Union Power Co. (Wheelock Whitney, Treas.) contemplates constructing a 50-mile transmission line operating at 16,500 volts, substations at St. Augusta, Clear Lake, Clearwater, Big Lake, Becker and Monticello; estimated cost $10,000.

Incinerator—Ballinger, Tex.—Contract will soon be let by city for constructing a 6 or 8-ton incinerator. E. R. Walker, city health officer.

Hydroelectric Plant—San Antonio, Tex.—City Council considering proposition of C. H. Alexander of Dallas for completing dam and hydroelectric plant on the Colorado River near Marble Falls and to erect transmission line to San Antonio, a distance of about 80 miles, to Llano, Austin and a number of other towns.

Transmission Line—Davenport, Wash.—The Washington Water Power Co. of Spokane has applied to the Co. Comrs. for a 50-year franchise to erect and operate electric transmission lines along certain roads in Lincoln County.

Transmission Line—Pasco, Wash.—Pacific Power & Light Co. has applied to the County Comrs. for a franchise to erect and maintain electric transmission lines in Franklin County.

Transmission Line, etc.—Seattle, Wash.—Bill introduced in council directing Bd. Pub. Wks. to prepare plans and specifications for certain additions and betterments to existing municipal light and power plant to consist of hydro-electric power plant, including transmission line to city; cost about $3,000,000.

Transmission Line—North Bend, Ore.—Oregon Power Co. has been authorized to erect a new 11,000-volt transmission line to include 8 transformers; estimated cost $18,000.

Transmission Line, Etc.—Calabogie, Ont.—M. J. O'Brien, Renfrew, will start work at once on power development plant to include concrete dam, water wheels, generators and 60-mile transmission line; cost $150,000. Work to be done by day labor.

Power Development Plant—Wahnapitae, Ont.—Work will be started shortly on electric power development plant here to cost $1,250,000 for the British Nickel Corp., Excelsior Life Bldg., Toronto. Concrete dam will be constructed first. A. J. Felio, supt., Stinton Pit, Sudbury.

BIDS DESIRED.

Iron Fence—Newark, N. J.—Until Nov. 9 by Bd. Street and Water Comrs. (Morris R. Sherrerd, ch. engr.) for furnishing, delivering and putting into position an iron fence, including the necessary gates, mason work, etc., to be erected at the S. 8th St. pipe yard, located at the southeast corner of S. 8th St. and 14th Ave.

Needle Valves—Washington, D. C.—Until Dec. 12 at the office of U. S. Reclamation Service, Denver, Col., for furnishing needle valves for the North Tunnel of the Roosevelt Dam, Salt River Project, Ariz., advertised in this issue.

Waterproofing — Cleveland, O. — Until Nov. 18 by Bd. Co. Comrs. (E. G. Krause, clk.) for waterproofing Detroit-Superior high level bridge, per report No. 3952. W. A. Stinchcomb, co. surv.

Street Sweeper—Fresno, Cal.—Until Nov. 20 by W. H. Ryan, city clk., for furnishing motor-driven street sweeper.

Lamp Posts—South Pasadena, Cal.—Until Nov. 13 by B. V. Garwood, city clk., for erecting 38 one-lamp Marbelite posts on Mission St., between Fair Oaks and Prospect Aves. Plans and specifications are on file in the office of City Engineer.

Cement—Winnipeg, Man.—Until Nov. 27 by R. D. Waugh, chmn. of comrs., 901 Boyd Bldg., for supplying about 200,000 bbl. Portland cement to Greater Winnipeg Water Dist. during year 1917, advertised in this issue.

Crane—Pearl Harbor, T. H.—Until Nov. 27 at Bureau Yards and Docks, Navy Dept., Washington, D. C. (F. R. Harris, chmn.) for a locomotive jib crane of 50 gross tons capacity at the naval station, Pearl Harbor.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Concrete Floors—Brooklyn, N. Y.**—Contract awarded by Public Service Comn., First Dist., 120 Broadway, New York City, to Snare & Triest, 233 Broadway, for constructing concrete track floors and platforms over mezzanines of 11 stations, for Culver Rapid Transit RR.

★**Retaining Wall—Washington, D. C.**—Following bids opened Oct. 3 by Dept. Pub. Bldgs. and Grounds, for constructing entrance to Meriden Hill Park. Other bids, Boyles-Robertson Constr. Co., Evans Bldg., $46,967; and John J. Earley, 2131 G St., N. W., $45,465, awarded part of contract at $19,808.

★**Conveying Machinery—Astoria, Ore.**—Contract awarded by Port of Astoria Comrs. to Brinkley Supply Co., Seattle, Wash., for installing conveying machinery for coal bins at the municipal dock; cost $12,500.

Proposals

For Proposals Advertised See Pages 42, 43, 44 and 45.

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.		See Eng. Record.
Nov. 6.	Plymouth, Mich. Adv. Oct. 28, Nov. 4.	Oct. 28
Nov. 6.	Sherman, Tex. Adv. Nov. 4.	Nov. 4
Nov. 7.	Birmingham, Ala.	Oct. 28
Nov. 7.	Washington, D. C. Adv. Nov. 4.	Nov. 4
Nov. 7.	Sumrall, Miss.	Nov. 4
Nov. 8.	Oklahoma, Okla.	Nov. 4
Nov. 8.	Mansfield, O.	Nov. 4
Nov. 10.	East Youngstown, O.	Oct. 28
Nov. 10.	Crosby, N. D. Adv. Nov. 4.	Nov. 4
Nov. 11.	West Allis, Wis.	Nov. 4
Nov. 14.	New Orleans, La.	Nov. 4
Nov. 14.	Salt Lake City, Utah	Nov. 4
Nov. 14.	Frederick, Okla.	Nov. 4
Nov. 15.	Aurora, Ill. Adv. Oct. 28.	Oct. 28
Nov. 15.	Bellefontaine, O.	Nov. 4
Nov. 18.	Milwaukee, Wis. Adv. Nov. 4.	Nov. 4
Nov. 20.	Plainfield, N. J. Adv. Nov. 4.	Nov. 4
Nov. 20.	San Diego, Cal.	Nov. 4
Nov. 21.	Washington, D. C. Adv. Nov. 4.	Nov. 4
Nov. 21.	Shakerheights (P. O. Cleveland, O.	Nov. 4
Nov. 21.	Sonyea, N. Y. Adv. Nov. 4.	Nov. 4
Nov. 21.	Washington, D. C. Adv. Nov. 4.	Nov. 4
Nov. 28.	Michigan City, Ind. Adv. Nov. 4.	Nov. 4
Dec. 1.	St. Cloud, Fla. Adv. Oct. 21 and Nov. 4.	Oct. 21
Dec. 1.	Troy, O.	Nov. 4
Dec. 21.	New Orleans, La.	Nov. 4
———	Granite City, Ill. Adv. Sep. 30.	Sep. 30
———	Chateauguay Basin, Que. Adv. Oct. 14.	Oct. 14
———	Buitenzorg, Java, Dutch East Indies Adv. Oct. 14.	Oct. 14

STRUCTURAL STEEL WORK

Nov. 8.	Jackson, Miss.	Oct. 28
Nov. 9.	Bakersfield, Cal.	Oct. 28
Nov. 9.	Jackson, Miss.	Oct. 28
Nov. 9.	Dayton, O.	Nov. 4
Nov. 11.	Springhall, Neb.	Nov. 4
Nov. 13.	Melville, R. I.	Oct. 28
Nov. 13.	Ogilvie, Minn.	Oct. 28
Nov. 13.	Rockport, Ill.	Nov. 4
Nov. 15.	Coquille, Ore.	Nov. 4
Nov. 16.	New York, N. Y.	Nov. 4
Nov. 21.	Eatonton, Ga.	Nov. 4
Nov. 29.	Des Moines, Ia.	Oct. 28
Dec. 4.	Dothan, Ala.	Oct. 28
Jan. 1.	Mitchell, S. D.	Oct. 7

REINFORCED CONCRETE.

Nov. 9.	Tecumseh, Okla.	Oct. 21
Nov. 6.	San Jose, Cal	Oct. 28
Nov. 8.	Arvada, Wyo.	Nov. 4
Nov. 9.	San Luis Obispo, Cal.	Oct. 21
Nov. 9.	Bakersfield, Cal.	Oct. 28
Nov. 9.	Doniphan, Mo.	Oct. 28
Nov. 9.	Santa Ana, Cal.	Oct. 28
Nov. 10.	Independence, Iowa	Oct. 14
Nov. 11.	Morgantown, W. Va.	Nov. 4
Nov. 15.	Seale, Ala.	Oct. 28
Nov. 17.	New Martinsville, W. Va. Adv. Oct. 21 to Nov. 4.	Oct. 21
Nov. 22.	Kansas City, Mo. Adv. Oct. 28, Nov. 4.	Oct. 28
Dec. 1.	Knoxville, Tenn.	Oct. 28
Dec. 1.	Knoxville, Tenn. Adv. Oct. 14.	Oct. 14

ROADS AND PAVING.

Nov. 7.	Henderson, Ky.	Nov. 4
Nov. 8.	Indiana.	Oct. 21
Nov. 8.	Ventura, Cal.	Oct. 28
Nov. 8.	Youngstown, O.	Oct. 28
Nov. 8.	Youngstown, O.	Oct. 28
Nov. 8.	Youngstown, O.	Nov. 4
Nov. 8.	Brooklyn, N. Y.	Nov. 4
Nov. 8.	Armstrong Mills, O.	Nov. 4
Nov. 9.	Indiana.	Oct. 21
Nov. 9.	Lake Charles, La.	Oct. 28
Nov. 9.	Spokane, Wash.	Nov. 4
Nov. 9.	Flemington, N. J.	Nov. 4
Nov. 10.	Arcadia, Fla.	Oct. 14
Nov. 10.	Cincinnati, O.	Oct. 28
Nov. 10.	Cincinnati, O.	Oct. 28
Nov. 10.	New York, N. Y.	Nov. 4
Nov. 11.	Logan, W. Va. Adv. Oct. 21.	Oct. 14
Nov. 11.	Indiana	Oct. 28
Nov. 13.	South Amboy, N. J.	Nov. 4
Nov. 14.	Maryland Adv. Oct. 28, Nov. 4.	Oct. 28
Nov. 14.	Watts, Cal.	Nov. 4
Nov. 15.	Ormond, Fla. Adv. Nov. 4.	Nov. 4
Dec. 15.	Greenville, S. C.	Nov. 4
Nov. 17.	Santa Paula, Cal.	Oct. 28
Nov. 18.	Centerville, Ala.	Oct. 28
Nov. 21.	Albany, N. Y. Adv. Oct. 28, Nov. 4.	Oct. 28
Nov. 21.	Indiana	Oct. 28
Dec. 1.	Fillmore, Cal.	Oct. 28
Dec. 15.	Grove Hill, Ala.	Oct. 28
Jan. 1.	Sidney, O.	Nov. 4

RAILWAYS

Nov. 8.	Laurel, Mont.	Nov. 4
Dec. 6.	Portland, Ore. Adv. Sep. 30 to Oct. 14.	Sep. 23
Dec. 6.	Portland, Ore.	Oct. 28
———	Des Moines, Ia. Adv. Oct. 28.	Oct. 28

INDUSTRIAL PLANTS AND WAREHOUSES.

Nov. 15.	St. John, N. B.	Oct. 28
Nov. 15.	Paterson, N. J.	Oct. 28
Nov. 17.	Chicago, Ill.	Oct. 28

BUILDINGS.
Public and Private.

Nov. 8.	Fresno, Cal.	Oct. 28
Nov. 9.	Rolfe, Ia.	Oct. 28
Nov. 10.	Wenatchee, Wash.	Oct. 7
Nov. 10.	Kansas City, Mo.	Oct. 21
Nov. 10.	New Hampton, N. Y.	Oct. 28
Nov. 10.	Huntington, W. Va.	Nov. 4
Nov. 10.	West Roxbury, Mass.	Nov. 4
Nov. 10.	Waupun, Wis.	Nov. 4
Nov. 11.	Norfolk, Va.	Nov. 4
Nov. 12.	St. Cloud, Minn.	Sep. 30
Nov. 13.	Birmingham, Ala.	Sep. 23
Nov. 13.	Beaman, Ia.	Oct. 21
Nov. 13.	Birmingham, Ala.	Nov. 4
Nov. 13.	New York, N. Y.	Nov. 4
Nov. 13.	Marshalltown, Ia.	Nov. 4
Nov. 14.	Media, Pa.	Oct. 7
Dec. 15.	Tucson, Ariz.	Oct. 14
Nov. 15.	Velasco, Tex. Adv. Oct. 21.	Oct. 21
Nov. 15.	Washington, D. C.	Oct. 21
Nov. 15.	Brooklyn, N. Y.	Oct. 28
Nov. 16.	Dayton, O.	Oct. 28
Nov. 17.	New Orleans, La. Adv. Oct. 28, Nov. 4.	Oct. 28
Nov. 20.	Yoakum, Tex.	Oct. 21
Nov. 20.	Kingman, Ariz.	Oct. 21
Nov. 20.	Kenosha, Wis.	Nov. 4
Nov. 20.	Warrensville, O.	Nov. 4
Nov. 21.	Rockville, Conn. Adv. Oct. 7, 14.	Oct. 7
Nov. 21.	Hibbing, Minn.	Oct. 21
Nov. 21.	Hibbing, Minn.	Oct. 28
Nov. 21.	Anoka, Minn.	Oct. 28
Nov. 21.	Charleroi, Pa.	Nov. 4
Nov. 22.	Franklin, Va.	Oct. 21
Nov. 27.	East Orange, N. J.	Oct. 7
Nov. 28.	Washington, D. C. Adv. Oct. 28.	Oct. 28
Nov. 28.	Beaver Falls, Pa.	Nov. 4
Nov. 28.	Wheeling, W. Va. Adv. Nov. 4.	Nov. 4
Nov. 28.	Dumas, Ark.	Nov. 4
Dec. 1.	Pueblo, Col.	Oct. 28
Dec. 4.	Washington, D. C. Adv. Oct. 28, Nov. 4.	Oct. 28
Dec. 6.	Twin Falls, Idaho	Oct. 21
Dec. 7.	Chadron, Neb.	Oct. 28
Dec. 7.	Columbus, Miss.	Nov. 4
Dec. 11.	Eureka Springs, Ark.	Nov. 4
Dec. 21.	Bonne Terre, Mo.	Nov. 4
Dec. 22.	East St. Louis, Mo.	Oct. 28
Jan. 1.	Webster, S. D.	Sep. 16

FOUNDATIONS, PIERS AND DAMS.

Nov. 14.	Sabine, Tex. Adv. Oct. 21 to Nov. 4.	Oct. 21
Nov. 24.	El Paso, Tex.	Oct. 28
Nov. 27.	Annapolis, Md.	Oct. 28

EXCAVATION, DREDGING AND DRAINAGE.

Nov. 8.	Kansas City, Kan.	Nov. 4
Nov. 9.	Philadelphia, Pa. Adv. Oct. 7 to 28.	Oct. 7
Nov. 9.	Philadelphia, Pa. Adv. Oct. 7, 21.	Oct. 14
Nov. 9.	Gregory Landing, Mo. Adv. Oct. 28, Nov. 4.	Oct. 28
Nov. 10.	Richvale, Cal.	Nov. 4
Nov. 10.	Modesto, Cal.	Nov. 4
Nov. 11.	Quincy, Ill.	Oct. 21
Nov. 13.	Terra Bella, Cal.	Oct. 21
Nov. 13.	Tiburon, Cal.	Oct. 28
Nov. 13.	Sidney, La.	Oct. 28
Nov. 14.	Norfolk, Va. Adv. Oct. 21 and Nov. 4.	Oct. 21
Nov. 14.	Baltimore, Md. Adv. Oct. 28, Nov. 4.	Oct. 28
Nov. 15.	Jacksonville, Fla.	Oct. 21
Nov. 15.	Atwater, Cal.	Nov. 4
Nov. 15.	Sledger, Miss.	Nov. 4
Nov. 15.	Benson, Minn.	Nov. 4
Nov. 16.	Richfield, Utah	Nov. 4
Nov. 20.	Trenton, N. J.	Nov. 4
Nov. 21.	Albany, N. Y. Adv. Oct. 28, Nov. 4.	Oct. 28
Nov. 21.	Des Moines, Ia.	Nov. 4
Nov. 22.	Morris, Minn.	Nov. 4
Nov. 24.	New York, N. Y. Adv. Oct. 28, Nov. 4.	Oct. 28
Nov. 24.	Albany, N. Y. Adv. Nov. 4.	Nov. 4
Nov. 27.	Annapolis, Md.	Oct. 28
Nov. 28.	St. Ignatius, Mont.	Oct. 28
Nov. 28.	Dyersburg, Tenn.	Nov. 4
Nov. 28.	Brooklyn, N. Y. Adv. Nov. 4.	Nov. 4

TUNNELS AND SUBWAYS.

Dec. 7.	Philadelphia, Pa. Adv. Oct. 14, 21.	Oct. 14
———	Litchfield, Conn. Adv. Oct. 7.	Oct. 7

MISCELLANEOUS.

Nov. 6.	Lock gates, Louisville, Ky. Adv. Oct. 14 to Nov. 4.	Oct. 14
Nov. 9.	Signal Tower, New York, N. Y.	Oct. 28
Nov. 9.	Iron fence, Newark, N. J.	Nov. 4
Nov. 11.	Crane, Pearl Harbor, T. H.	Sep. 30
Nov. 11.	Crane, Vallejo, Cal.	Sep. 30
Nov. 13.	Lamp post, Pasadena, Cal.	Nov. 4
Nov. 18.	Waterproofing, Cleveland, O.	Nov. 4
Nov. 20.	Crane, San Diego, Cal.	Oct. 28
Nov. 20.	Street sweeper, Fresno, Cal.	Nov. 4
Nov. 27.	Crane, Pearl Harbor, T. H.	Nov. 4
Nov. 27.	Cement, Winnipeg, Man.	Nov. 4
Dec. 1.	Garbage, Wilkes-Barre, Pa. Adv. Oct. 28, Nov. 4.	Oct. 28
Dec. 6.	Grade Crossings, Portland, Ore. Adv. Sep. 30 to Oct. 28.	Sep. 30
Dec. 12.	Needle Valves, Washington, D. C. Adv. Nov. 4.	Nov. 4
Jan. 4.	Transmission line, Weeversville, Cal.	Oct. 21

SEARCHLIGHT SECTION

Official Proposal Announcements

Price, $2.40 an inch.—Copy can be received until Wednesday, 5 p. m. for issue mailed the next day

Bids open November 21, 1916.

NOTICE TO CONTRACTORS.

ADDITIONS AND ALTERATIONS TO WATER SUPPLY

SONYEA, N. Y.

Sealed proposals for additions and alterations to Water Supply, Craig Colony for Epileptics, Sonyea, N. Y., will be received by Hon. Percy L. Lang, President of the Board of Managers, Craig Colony for Epileptics, Sonyea, N. Y., until 2 o'clock p. m., on Tuesday, November 21, 1916, when they will be publicly opened and read. Proposals shall be enclosed in an envelope furnished by the State Architect, sealed and addressed and shall be accompanied by a certified check in the sum of five per cent (5 per cent) of the amount of proposal. The contractor to whom the award is made will be required to furnish surety company bond in the sum of fifty per cent (50 per cent) of the amount of contract within thirty days after official notice of award of contract and in accordance with the terms of specification No. 2495, including Addenda No. 1. The right is reserved to reject any or all bids. Drawings and specifications may be consulted at Craig Colony for Epileptics, Sonyea, N. Y.; at the New York office of the Department of Architecture, Room 1224, Woolworth Building, and at the Department of Architecture, Capitol, Albany, N. Y. Drawings and specifications and blank forms of proposal may be obtained at the Department of Architecture, Capitol, Albany, N. Y., upon reasonable notice to and in the discretion of the State Architect, Lewis F. Pilcher, Capitol, Albany, N. Y.

Dated: October 25, 1916.

Bids open November 28, 1916.

BOILERS

SEALED PROPOSALS.

MICHIGAN CITY, IND.

The Board of Public Works of the City of Michigan City, Ind., will receive sealed proposals for two water tube boilers and the installation thereof in the boiler room of the waterworks of said city, until 10 o'clock a. m., November 28, 1916.

Bidders must file plans and specifications in duplicate with bid, to become the property of said city on acceptance. The successful bidder to furnish working plans. Boilers should develop not less than 200 hp. each, and must be installed on or before May 1, 1917.

Bids must be filed with the City Clerk of said city at or before the time above mentioned, and must be accompanied by a certified check in the sum of $250, to secure performance of award.

The right to reject any or all bids is reserved.

ALEXANDER SPYCHALSKI,
City Clerk.

Bids open November 17, 1916.

CONCRETE BRIDGE

CLERK'S OFFICE, COUNTY COURT, WETZEL COUNTY, WEST VIRGINIA.

NEW MARTINSVILLE, W. VA.

Sealed proposals will be received at this office until 12 o'clock noon, Friday, November 17th, 1916, for the construction of a CONCRETE BRIDGE across Willey Fork of North Fork of Fishing Creek, about one-half mile above Kingtown, in Grant District, this county.

Plans and specifications may be had by applying to office of State Road Bureau, at Morgantown, W. Va.

Copy of blue print may be had for cost.

A certified check for 5% of the proposal, made payable to the County of Wetzel, shall be filed with each bid.

All proposals must be in form shown in specifications.

The Court reserves the right to reject any and all bids.

S. MYERS, Clerk.

October 5th, 1916.

Bids open November 16, 1916.

SEWER EXTENSIONS OFFICIAL NOTICE NO. 20

PUBLISHED BY AUTHORITY OF THE SEWERAGE COMMISSION OF THE CITY OF MILWAUKEE, WIS.

Sealed proposals for the construction of extensions to the Intercepting Sewer System for the City of Milwaukee, Wisconsin, will be received by the Sewerage Commission of said city at its offices in the City Hall until 2:00 P. M., the 16th day of November, A. D. 1916, at which time and place during the session of the said Commission, the proposals will be publicly opened and read.

The work to be done embraces the building of the following work:

One Reinforced Concrete Aqueduct 244 ft. long.

2470 lin. ft. of 60-in. Concrete Sewer.

2750 lin. ft. of 60-in. Reinforced Concrete Sewer.

100 lin. ft. of 24-in. Terra Cotta Pipe Culvert.

240 lin. ft. of 18-in. Terra Cotta Pipe Culvert.

Together with all manholes, timber and pile foundations and other appurtenances.

The time allowed for the completion of this contract shall be twelve (12) months from the date of the Engineer's notice to begin work.

The liquidated damages for not completing the work within the time above stated shall, for each day in excess thereof, be an amount equal to one-half of one per centum of the aggregate cost of the work embraced in the contract.

Each proposal submitted must be accompanied by a cash deposit of, or, in lieu thereof, by certified check drawn upon a National or State Bank or Trust Company, and to the order of the "Sewerage Commission of the City of Milwaukee" to the amount of Eighteen Thousand Dollars ($18,000.00).

All cash deposits or certified checks deposited by bidders to whom the contract is not awarded will be returned upon application to the Secretary of the Sewerage Commission after the contract has been awarded, or after the rejection of all bids. The cash deposit or certified check which has been deposited by the successful bidder will be returned to him as soon as the contract is properly executed and approved by the City Attorney and Sewerage Commission.

Specifications and blank forms of proposals can be obtained and detailed plans examined, at the office of the Sewerage Commission in the City Hall and a full set of plans will be sent to any contractor upon receipt of five dollars ($5.00). This sum to be returned upon surrender of the plans in good condition.

The Sewerage Commission of the City of Milwaukee reserves the right to reject any and all bids submitted.

JOHN H. FOWLES,
Secretary.

Countersigned:
A. P. PUELICHER,
Deputy Comptroller.

Bids open November 28, 1916.

BONDS FOR SALE

DUMAS, ARK.

Bids will be received until one o'clock P. M., Tuesday, November 28, on $15,000 in bonds for the erection of an electric light plant. Bids will be entertained at 5½ and 6 per cent interest. All bids must be accompanied by a certified check for $500.00. The Board reserves the right to reject any and all bids.

Board of Improvement Dist. No. Two of the Inc. Town of Dumas, Arkansas.

GUS WATERMAN, Chairman.
B. C. BOWLES, Secretary.

Bids open December 1, 1916. Decision rendered upon same December 11, 1916.

MUNICIPAL WATER WORKS, SEWERAGE, AND SEWAGE DISPOSAL PLANT AND STREET PAVING

ST. CLOUD, FLA.

Sealed bids will be received by the City of St. Cloud, Fla., directed to Fred B. Kenney, City Clerk, for the construction of a municipal power plant and the following equipment:

Two each, boilers, engines, generators, motors, pumps, water purifiers, feed water heaters and switchboard, transformers, meters, hydrants, valves, fuel oil plant, tower and storage tank, storage reservoir, cast-iron pipe, spiral riveted pipe, steam pipe and fittings, vitrified sewer pipe, cement, crushed stone, sand, brick, C. I. castings, asphalt reinforcing bars, crushed granite, galvanized iron, roofing, iron trusses, crane and track, steel stack, alternate brick or cement siphons, centrifugal pump, cast-iron stairways, brass railings, etc.

Sanitary sewers and sewage disposal systems.

Street paving (approximately 11,000 yds.) with Georgia granite curbing, asphalt macadam, brick, cement concrete, sand-asphalt, asphalt concrete.

Other specifications received on file for bidders before October 28, 1916.

Special information on any of the above items can be obtained by addressing Wilbur A. Ginn, Engineer in charge at St. Cloud, Fla.

Blank forms, mailed bidders for all material. Specifications mailed as follows: Water works, complete, $5; power, steam, complete with direct electrical, $3; fuel oil engines, D. C. electrical, $3; boilers, tanks and towers, $3; sewerage and disposal, $5; complete streets, $5; deposit returned upon surrender of specifications, etc.

Bids to be returned on forms prescribed in the specifications. To be placed in a container specifically marked as to work or material bid upon. A certified check for five per cent of the amount of bid to accompany each proposal. Each bid must conform to the printed instructions to bidders as contained in the specifications under form as arranged for such bid and the information of city.

The city reserves the right to reject any or all bids, or to accept any bid or combination of bids which it may deem to be to the best interest and worth to said city.

By order of the City Council.

FRED. B. KENNEY,
City Clerk.

WILBUR A. GINN,
Engineer in Charge,
St. Cloud, Fla.

Bids open November 28, 1916.

PROPOSALS WANTED

ELECTRIC PLANT

DUMAS, ARK.

Sealed proposals will be received by the Honorable Board of Commissioners of Electric Light Imp. Dist. No. 2 of Dumas, Desha County, Arkansas, until one o'clock P. M., Tuesday, November 28, 1916, for the furnishing of all material and labor for a complete electric plant in accordance with the plans and specifications on file at the office of the Secretary of said Board.

Copies of these specifications will be furnished by the engineer, provided the application is accompanied by a certified check for the sum of $2.50 to cover the cost of the same.

By Order of Board of Commissioners.

B. C. BOWLES, Secy. of Com.,
Dumas, Ark.

H. W. WRIGHT, Engineer,
McGehee, Ark.

Bids open November 10, 1916.

NOTICE TO CONTRACTORS

SANITARY SEWERS

CROSBY, N. D.

Sealed bids addressed to W. D. Donovan, City Auditor, Crosby, N. D., will be received up to 8 p. m., Nov. 10, 1916.

The approximate estimate of quantities is as follows:

3034 ft. of 18-in. sewers.
952 ft. of 15-in. sewers.
9 manholes 5 ft. diameter.
4 manholes 4 ft. diameter.
5 inlets.
5 automatic flood gates.
108 ft. of 10-in. sewer connections.

A certified check in the sum of $500 and a bidder's bond equal to the amount of the bid will be required.

Plans and specifications are on file at the office of the City Auditor, Crosby, N. D., and can be obtained from E. J. Thomas, Consulting Engineer, Minot, N. D., upon the deposit of $5, which amount will be refunded upon the return of the plans in good condition.

The City reserves the right to reject any and all bids.

W. D. DONOVAN,
City Auditor.

Oct. 19, 1916.

Bids open November 6, 1916.

NOTICE TO CONTRACTORS

PUMPING EQUIPMENT

PLYMOUTH, MICHIGAN

Sealed proposals will be received by the Clerk of the Village of Plymouth up to 8 o'clock p. m., Central Standard time, of Monday, the 6th day of November, 1916, for furnishing and installing in a building and upon foundations furnished by the village two centrifugal pumping units, with motors, starting boxes, station wiring, connecting piping and other appurtenances.

The plans and specifications under which the work is to be done may be examined at the office of the Village Clerk or of the Engineers; and copies of the same may be obtained by making a deposit of Five Dollars, which will be refunded upon their return in good condition.

A certified check for a sum not less than ten per cent of the amount of the proposal will be required with each proposal.

The right to reject any or all proposals, and the right to waive defects in proposals, are reserved by the village.

C. A. HEARN,
Village Clerk.

HOAD & DECKER, Engineers,
Ann Arbor, Michigan.

Bids open November 6, 1916.

NOTICE TO BIDDERS

WATERWORKS RESERVOIR

SHERMAN, TEX.

Sealed proposals addressed to the City Clerk will be received until 5 P. M., Monday, Nov. 6, 1916, and then publicly opened at the City Hall, Sherman, Tex., for furnishing labor and materials and constructing a reinforced concrete reservoir, 120 feet in diameter and 16 feet high at the Fairview Waterworks Station, all in accordance with plans and specifications on file at the office of O. J. S. Ellingson, City Manager, Sherman, Texas.

A $25.00 deposit for return of plans and specifications will be required.

Proposals must be upon the forms provided and must in all respects conform to the requirements of the instructions to bidders and specifications. Each proposal must be accompanied by a certified check in the sum of One Thousand ($1,000.00) Dollars as a guarantee of good faith.

The right is reserved to reject any or all bids, or to accept any bid, and to waive formalities.

O. J. S. ELLINGSON,
City Manager.

Heavy War Steel Orders for Last Half of Next Year

Record Equipment Buying in October—Food Expected to Be Scarce—Banking System Drifting Into Unfavorable Position Despite Heavy Foreign Loans

IT IS ESTIMATED that more than 700,000 tons of shell steel will be bought soon for delivery in Europe over the last half of 1917. Steel buying for 1918 on the part of railroads and ship yards continues to grow. After the heaviest railway equipment buying of the year in October, there are no signs of slackening in such orders with the present month. The increase in the price of pig iron is thought to have been halted after a number of furnaces were obliged to withdraw quotations.

The prompt advance in food prices with a very short wheat crop and only moderate yields of other farm products is the most encouraging feature of the food situation. Taking place before the crops were moved, this indicates that most of the increase will find its way to the farmer, where it will do much more good at present than in the hands of middlemen. Road improvements, one of the best investments the country can make, probably will not be seriously delayed as a result of the short crops if the farmers are largely compensated for their losses by increased prices.

The National City Bank of New York estimates the net total of our outstanding foreign loans at $1,981,000,000, most of which is owed us by nations now at war. This condition favors our foreign commerce and strengthens our position for the end of the war. It is, however, thought to be offset by the inefficient working of our own banking system. Nearly all the gold produced or imported by this country is bought by the United States Treasury, and must be held to make good the gold certificates issued against it. It thus, for all practical purposes, finds its way into general circulation through the medium of these certificates without check or hindrance. Our banking system provides no means for collecting this gold again from the public against the day when we shall have to return large sums of it to Europe. Even could this be done, a sudden collection of gold in the face of an urgent need for export would be likely to call in credits based on the gold to an extent that would produce panic. Of $400,000,000 in gold already imported this year, Federal Reserve banks hold but 30 per cent, and a still smaller part of this per cent is above the legal reserve of the system and available for export. The United States Treasury had tied up on Oct. 1 approximately $1,500,000,000 in gold against which gold certificates were issued, practically all of which were in general circulation. The National City Bank points out that this is a most wasteful use to make of our gold stock. If these gold certificates were concentrated in our reserve banks and replaced as a medium of exchange by credit and by reserve bank notes, our entire banking system would be in a far stronger position. It could probably meet any drain that might be put on it after the war. Our banking law, however, precludes such concentration by requiring gold for bank reserves. Until it is changed, the gold itself must remain scattered in national, state and private banks, and in general circulation, even at a great sacrifice of strength on the part of the Federal reserve system. Contractors and engineers should watch the results of this gold inflation with a sharp eye to their own credit and to that of their clients. At present it is believed that only the natural caution and foresight of the average American business man has prevented a serious over-extension of credit. Treasury and bank statements during the next few months will be among the most important indications as to the strength or weakness of our industrial position.

Buildings

In spite of the lateness of the season a considerable volume of building work is noted as let or in prospect this week. The larger contracts under "Buildings" and "Reinforced Concrete" are summarized in the following table:

Contracts awarded:	Kind	Cost
Philadelphia, Pa.	Factories	$400,000
Mt. Pleasant, N. Y.	Alms House	500,000
Buffalo, N. Y.	Industrial plant	250,000
Indianapolis, Ind.	Industrial building	300,000
Detroit, Mich.	Freight house	1,000,000
Proposed work:		
Stafford Springs, Conn.	Mill	200,000
Washington, D. C.	Theatre	600,000
Charleston, W. Va.	Bank	200,000
Milwaukee, Wis.	Hotel	300,000
Port Huron, Mich.	Charitable institution	350,000
Battle Creek, Mich.	Power plant	300,000
Minneapolis, Minn.	Warehouse	225,000
Dallas, Tex.	Warehouse	500,000
Denver, Col.	Office building	1,000,000
Denver, Col.	Hotel	1,000,000
Spokane, Wash.	Armory	500,000
Seattle, Wash.	School buildings	1,083,000
Hamilton, Ont.	Factory	200,000

Roads and Paving

The paving and road work noted in this issue includes the following items:

Contracts awarded:	Kind	Cost
Wheeling, W. Va.	Highways	$222,000
Dayton, Ohio	Paving	53,000
Columbus, Ind.	Concrete	93,000
Clinton, Okla.	Asphalt	68,000
Bids desired:		
Philadelphia, Pa.	Paving	460,000
Proposed work:		
Raleigh, W. Va.	Highway	835,000
Winfield, W. Va.	Highway	90,000
Perry, Fla.	Highways	600,000
Piqua, Ohio	Bonds sold	172,000
Canton, Ohio	Bonds sold	84,000
Gilmer, Tex.	Bonds approved	100,000

Waterworks and Sewers

Waterworks and sewer construction noted in this issue is summarized in the following table:

Contracts awarded:	Kind of Work	Cost
Ironton, Ohio	Waterworks improvements	$63,500
Lansing, Mich.	Reservoirs	73,000
Davenport, Iowa	Storm drain	77,000
Dawson, Minn.	Sewers	56,000
Los Angeles, Cal.	Sewers	112,000
Bids desired:		
Hagerstown, Md.	Outfall sewer	
Proposed work:		
Union, N. J.	Sewer system	200,000
Wellsburg, W. Va.	Sewers	85,000
St. Bernard, Ohio	Waterworks	90,000
Lancaster, Ky.	Waterworks	250,000
Nashville, Tenn.	Waterworks	1,750,000
Knoxville, Tenn.	Waterworks	225,000
Dearborn, Mich.	Sewers	70,000
Kenosha, Wis.	Waterworks	90,000
Highland Park, Iowa	Sewer system	70,000
Hutchinson, Kan.	Storm sewer	100,000
Portland, Ore.	Trunk sewer	822,000

Miscellaneous Headings

A contract for building a $103,000 sea wall has been awarded at Boston, Mass., and bids were opened Nov. 1 in the same city for dredging and park improvements to cost $803,000. Bids have been received at Washington, D. C., for constructing a $110,000 bridge. A low bid of $144,000 was received at Tallahassee, Fla., for 1,579,000 cu. yd. of drainage excavation. Levee work to cost in the neighborhood of $1,000,000 has been awarded at Memphis, Tenn. The construction of a drainage ditch to cost $325,000 has been contracted for at Olivia, Minn. The first contract on a floating drydock to be built at Seattle, Wash., has been awarded at $225,000.

Bids are desired by the Board of Water Supply, New York City, for constructing 18 miles of tunnel. Plans are being prepared at Rochester, N. Y., for a $140,000 retaining wall. Flood-prevention work to cost $576,000 is under consideration at Kansas City. An application has been filed for permission to construct at St. George, Utah, an irrigation district to cost $750,000. A contract for dredging work to cost $150,000 will soon be let at Oakland, Cal.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Chicopee, Mass.—Citizens voted $12,000 bonds for laying water mains. Address Jas. C. Buckley, city clk.

Providence, R. I.—Plans have been prepared by Water Supply Bd. for diverting north branch of Pawtuxet River at Kent from its present course and constructing water gate to control the flow, as a preliminary to building dam for Scituate Reservoir for city water supply. Dam to be 3400 ft. long, 200 ft. high; capacity of reservoir, 37,000,000,000 gal.

Ft. Ann, N. Y.—Reported plans being prepared by Chas. E. Perry, 36 State St., Albany, for water system for city, to include 11,400 lin. ft. 6 and 8-in. c.-i. pipe pump motors, piping and hydrants; cost about $25,000.

Kenmore, N. Y.—Citizens of city voted to issue $17,000 bonds for completing Myron Ave. sewer.

Rochester, N. Y.—Common Council voted to construct sewers in Keller, Ohio, Kansas Sts., and Blossom Rd.; cost about $32,800.

Watertown, N. Y.—Myron L. Fuller, Brockton, Mass., engaged by city to investigate and report on securing new water supply for Watertown.

Newark, N. J.—Reported Passaic Valley Trunk Sewer Comn. will need an additional sum of about $1,750,000 for completing trunk sewer.

Plainfield, N. J.—Sewer bonds for $20,000 will be sold Dec. 1 by Common Council for constructing trunk sewers.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Where name of official is not given inquiries should be addressed to City Clerk, County Clerk or corresponding official.

Trenton, N. J.—State Bd. Health approved appointment of Plan and Scope Comn. to investigate and devise plans for construction of trunk line sewer for municipalities along Rockaway River above Boonton Dam. Disposal plant will be constructed below Little Falls.

Albion, Pa.—Plans being prepared for construction of sewerage system and sewage disposal plant; cost $30,000. C. C. Hill, engr., 24 Main St., Northeast, Pa.

Youngsville, Pa.—Plans being prepared for sewage disposal plant to be reinforced concrete, Imhoff tank 200,000 gal. capacity. Clyde C. Hill, engr., Northeast, Pa.

Wellsburg, W. Va.—City engaged engineer for proposed sewer work. Citizens recently voted $85,000 bonds for improvement.

Wilmington, N. C.—Reported city plans to spend $20,000 for water mains. Address Thos. D. Meares, city clk.

Dublin, Ga.—City sold $30,000 filter plant bonds. Address City Clerk.

Lithonia, Ga.—Citizens voted $35,000 bonds for waterworks and sewerage system. Address City Clerk.

Birmingham, Ala.—City Commission voted to spend $10,680 for constructing sewers.

Crowley, La.—Contract about to be let by city for constructing well and reservoir; cost about $30,000. Address City Clerk.

Knoxville, Tenn.—Citizens voted $225,000 bonds for improvements to waterworks. Address City Clerk.

Nashville, Tenn.—Reported city plans to construct municipal water system and pumping station above Stone's River; cost about $1,750,000. Address J. W. Dashiell, city clk.

Lancaster, Ky.—Citizens voted $250,000 bonds for extending and improving water system. R. C. Anderson, engr. Address City Clerk.

Newport, Ky.—Plans being prepared for filter plant for city; cost about $40,000. Jas. Maher, supt. waterworks.

Versailles, Ky.—Citizens voted $20,000 bonds for constructing water system. Address City Clerk.

Winchester, Ky.—Plans prepared by Edgar B. Kay, 305 Colonial Bldg., for municipal waterworks system approved by city. Plans provide for a pipe line 8½ miles in length for force main, distribution system of about 12 miles, distributing reservoir and filtration system located at river for power house. Address City Clerk.

Cambridge, O.—City Council reported considering spending an additional $25,000 for completing Cambridge waterworks.

Canal Winchester, O.—Election to be held Nov. 21 to vote $18,000 bonds for improvements to waterworks. Geo. M. Herbst, city clk.

Cleveland, O.—Specifications will be completed about Nov. 10 for reinforced relining of clear water basin of filtration plant, about 10,000 yd. concrete and about 750 tons steel required; cost, about $200,000. Address Commissioner of Water.

Coshocton, Ohio.—Bd. of Control rejected all bids opened for constructing sewers on Orange St.; probable cost, $10,000. According to reports new bids will be received.

Elyria, O.—Construction of a combined sewage disposal and municipal garbage reduction plant reported being considered by City Council.

Niles, Ohio.—City Council voted to construct sewers in Federal, West, Bond and Evans Sts.

St. Bernard, Ohio.—Contract will be let about February by city for constructing waterworks system to include addition to present building, softening plant, 1,000,000-gal. capacity, one 50 x 75 x 16 ft. reservoir, two 16-in., 140-ft. wells; cost about $90,000. Address City Clerk.

Wadsworth, Ohio.—Citizens of city will vote on issue of $25,000 bonds for constructing filter plant at waterworks station.

Winchester, Ohio.—Contract about to be let by city for constructing concrete reservoir and pump house. G. M. Herbst, village clk.

Indianapolis, Ind.—No bids opened Oct. 27 by city for constructing 7325-ft. brick or segmental block sewer in E. 30th St.; cost about $67,000. B. J. F. Jeup, city clk.

Dearborn, Mich.—Plans being prepared by city for constructing sanitary sewers and disposal plant to cost about $70,000. C. W. Hubbell, engr., 2338 Penobscot Bldg., Detroit.

Quincy, Ill.—Later reports state no improvements contemplated to pumping station at Quimby Bay for waterworks. W. R. Geiston, supt.

Kenosha, Wis.—City sold $90,000 water bonds. Address Geo. W. Harrington, city clk.

Carroll, Ia.—Extension of 4 and 6-in. water mains, distance 15 blocks, and improvements to sewers contemplated by city.

Corning, Ia.—All bids opened by City Council for constructing reservoir and other materials and appurtenances for waterworks rejected, being in excess of engineer's estimate. Citizens recently voted $30,000 for the improvements to system.

Dows, Iowa.—Plans being prepared for constructing sewer system and disposal plant. About 5 miles 8 to 15-in. vitrified pipe required. M. Tschirgi & Sons, 712 American Trust Bldg., Cedar Rapids. Address City Clerk.

Forest City, Iowa.—City considering constructing reservoir and pumping station; cost $15,000. Address City Clerk.

Highland Park (P. O. Des Moines), Iowa.—Plans being prepared by city engineer for constructing sewer system, in all about 10 miles of sewers, in district bounded by Euclid Ave. between E. 14th and W. 16th St.; cost $70,000.

Lake Mills, Ia.—Reported city is considering extending water mains about 3 miles.

Maxwell, Ia.—See "Structural Steel Proposed."

Rockwell City, Ia.—Plans being prepared by J. H. Mayne, Council Bluffs, for constructing sewage disposal plant. Address City Clerk.

Stuart, Ia.—Citizens voted $25,000 bonds for improving and enlarging waterworks. G. F. Tayler, city clk.

Lake Crystal, Minn.—All bids opened Oct. 27 for extension to water system to include 2140 ft. 9-in. c.-i. pipe, 23,137 ft. 6-in. pipe rejected. W. P. Cobb, city clk.

Hutchinson, Kan.—Contract about to be let by city for constructing storm sewer; cost $100,000. Edw. Metz, city clk.

Munden, Kan.—Plans being prepared for waterworks. Election to be held Dec. 1 on improvement. W. H. Stenad, city clk.

Ottawa, Kan.—Construction of filtration plant at waterworks contemplated; cost about $25,000.

Parsons, Kan.—Plans being prepared for construction of storm sewer; cost about $30,000. F. W. Frye, city clk.

Alma, Mich.—W. J. Sherman Co., Toledo, O., engaged to prepare plans for waterworks and sewerage systems; cost about $40,000. Carl A. Gallagher, city clk.

Big Sandy, Mont.—Election to be held Jan. 8 to vote $29,300 bonds for constructing waterworks and sewer system. Address City Clerk.

Hinsdale, Mont.—Construction of sewerage system is contemplated; cost $10,000. Valley County Comrs. at Glasgow interested.

Carl Junction, Mo.—Citizens voted $20,000 bonds for constructing sewer system. A. C. Moore, engr., Frisco Bldg., Joplin.

Neosho, Mo.—Contract about to be let by Water Bd. (Wm. Oliver, chmn.) for from 4000 to 5000 ft. 4 and 6-in. c.-i. pipe.

Walnut Ridge, Ark.—Plans are to be revised for constructing sewer and water systems for Sewer and Water Dist. No. 1. Hiram Phillips, engr., International Life Bldg., St. Louis, Mo.

Higgins, Tex.—Citizens of city will vote Nov. 18 to issue $20,000 bonds for constructing waterworks.

Quanah, Tex.—Attorney General at Austin approved issue of $16,000 bonds for sewer improvements. Address City Clerk.

Beggs, Okla.—Citizens voted to issue $42,000 bonds for waterworks and $18,000 for sewers. McIntosh Walton Co., engrs. Oklahoma City. C. J. Brace, city clk.

Sand Springs, Okla.—Contract about to be let by city for constructing storm sewer system; cost, about $50,000. Benham Engineering Co., engrs., 1300 Colcord Bldg., Oklahoma City.

Seattle, Wash.—Plans and specifications for laying water mains on Shilshole Ave. approved by Bd. Pub. Wks.; cost $26,000. L. B. Young, supt. waterworks.

City voted to construct sewer outfalls on Lake Washington and construct trunk sewer from Henderson to Morgan Sts. A. H. Dimock, city engr.

City Council voted in favor of sale of $60,000 utility bonds of Water Dept. for constructing standpipe of about 1,000,000 gal capacity at Maple leaf reservoir, pumping station at Green Lake reservoir, together with pipe line connecting sandpipe and said pumping station. L. B. Youngs, supt. water.

Astoria, Ore.—Election will probably be held before Jan. 1 for completing high-service reservoir in east end of city. Olof Anderson, city auditor.

Portland, Ore.—Contract will be let about Dec. 1 for constructing Tanner Creek trunk sewer; work involves laying of 3000 ft. 8 to 24-in. pipe sewer, average cut 15 ft., cost $5,500, and 8200 ft. concrete sewer, 30-in. to 6½ x 10 ft., average cut 25 ft., cost $822,000. There will be 1700 ft. tunnel, 4 ft. x 4 ft. 8 in., and 1000 ft. reinforcing existing brick sewers with concrete lining. J. C. Sharp, engr., Portland. Philip H. Dater, city engr.

City Council voted to spend $21,000 for waterworks improvements to include replacing damaged pipe of Old Bull Run conduit repairs to Washington Park Reservoirs, furnishing meters, enlarging gate chambers and screens at Bull Run headworks; also $60,000 for purchasing site at West Side site for reservoir.

Nez Perce, Idaho.—City Council engaged Geo. L. Sawyer, Henry Bldg., Seattle, Wash., to make surveys for sewer system; cost $30,000.

Payette, Idaho.—City Council considering constructing direct pipe line to reservoir. Address City Clerk.

Hamilton, Ont.—By-law to provide $56,000 for new sewers will be voted on in January. Mayor Walters, chmn. bd. wks.

Plans being prepared by J. Milne, city engrs. office, for constructing new pumping station and for equipment; cost, $300,000.

Penticton, B. C.—Citizens will vote in January on by-law for $15,000 for constructing reservoir for local water system.

Panama.—Lowest bid opened Oct. 20 by General Purchasing Officer, Panama Canal, Washington, D. C., for furnishing 5000 ft. steel pipe submitted by Youngstown Sheet & Tube Co., Youngstown, at $6,510.

BIDS DESIRED.

Fort Standish, Mass.—Until Nov. 21, by Quartermaster, Coast Guard Defense of Boston, at Fort Warren, for furnishing all labor and materials for extension of water system, consisting of 1200 ft. 6-in. c.-i. pipe, hydrants, etc.

Leonia, N. J.—Until Nov. 13, by H. M. Thompson, boro. clk., for constructing sewers in Maple St., Grand and Oakdene Aves. Chas. H. Eckerson, boro. engr., 47 Dean St., Englewood.

Pittsburgh, Pa.—Until Nov. 14, by City Controller, for grading, paving, curbing, portions of Forrest way, and constructing sewers (9 to 18-in. pipe) in Whiteside Rd., Manetto way, Cordova Rd., etc.; also for a foot bridge on Tuxedo St.

Hagerstown, Md.—Until Nov. 20 by Sewerage Comn. (John Carmichael, chmn.), Police Headquarters Bldg., for 54-in. outfall sewer about 4600 ft. long, including 1100 ft. tunneling, together with manholes, foundations and other appurtenances.

Coffeeville, Miss.—Until Nov. 14 by W. J. Hubert, mayor, for about 135 tons c. i. pipe; 12,000 ft. pipe laying; pumping unit erected (250 G. P. M. triplex with 15 hp. kerosene engine); 50,000-gal. concrete reservoir; 50,000 stand pipe, etc. Dabney Engineering Co., Memphis, Tenn., engrs.

Cincinnati, Ohio.—Until Nov. 16, by Walter J. Friedlander, dir. pub. safety, City Hall, for high-pressure fire protection system in district bounded by Central Ave., Elm, 4th, 8th Sts., etc., to include laying of 9000 lin. ft. high-pressure pipe, 8 to 20-in.; 17,000 cu. yd. excavation; 15,000 lb. steel; valve chambers, piers and pipe protection work, etc.

Lima, Ohio.—Reported desired until Nov. 15 by Director Pub. Service for improving water system; estimated cost $500,000.

Newburg Heights (P. O. Cleveland), Ohio.—Until Nov. 15, by J. A. Fitzgerald, village, clk., for furnishing material and labor for constructing sewers and laying water mains in portions of E. 38th, E. 40th Sts., and Washington Court. Ralph Hecker, village engr., 905 Leader-News Bldg., Cleveland.

Detroit, Mich.—Until Dec. 12 by Bd. Water Comrs. (H. A. Gilmartin, secy.), 232 E. Jefferson Ave., for two 37,000,000-gal. vertical, triple expansion, crank and flywheel, pumping engines, advertised in this issue.

Otsego, Mich.—Until Nov. 20, by Wm. G. Conlan, village clk., for waterworks improvements, to consist of one well, 30-ft. diameter, resetting pumps, suction discharge and other piping for reset pumps, transmission for reset pumps, foundations for elevated tank and tower, and addition 24 x 32 ft. to present pumping station.

★**Milford, Ill.**—Contract for constructing storm and sanitary relief sewers awarded by city to Carson-Payson Co., 14½ N. Hazel St., Danville, at about $15,336.

St. Paul, Minn.—Until Nov. 27, by A. E. Austin, purchasing agent, for furnishing c.-i. pipe, specials, sluice gates, steel reinforcing, etc.; cost, $50,000, W. N. Jones, asst. city engr.

Argonia, Kan.—Until Nov. 15 by City Clerk, for furnishing all material for constructing waterworks system, including the following: 25,180 ft. of 4 and 6-in. c. i. pipe, 1400 ft. 2-in. galvanized iron pipe, 7700 lb. c. i. specials, hydrants, valves and boxes, 150,000 gal. tank on 90 ft. tower, etc. W. B. Rollins & Co., engrs., 439 Railway Exchange Bldg., Kansas City, Mo.

Red Cloud, Neb.—Until Nov. 24, by O. C. Teel, city clk., for constructing sewer system to cost $20,000. Grant & Fulton, engrs., Lincoln; bonds will be sold the same day.

Quanah, Tex.—Until Nov. 15 for furnishing material and constructing a complete sewer system and disposal plant. Plans and specifications prepared by Henry E. Elrod, engr., 505 Interurban Bldg., Dallas. H. V. Crowder, mayor.

Seymour, Tex.—Until Nov. 17 for furnishing materials and constructing a sanitary sewer system and disposal plant, plans prepared by Henry E. Elrod, Engr., Dallas.

Okmulgee, Okla.—Prices are wanted for a direct connected electrically driven centrifugal pump, 1100 gal. per min. capacity, advertised in this issue. R. H. Jenness, comr. finance.

Panama.—Until Nov. 24, by Earl I. Brown, genl. purchasing officer, Panama Canal, Washington, D. C., for the following supplies, Cir. No. 1097: c.-i. pipe, pipe fittings, valves, vitri. sewer pipe, drain tile, timbers, and creosoted piles, etc.

PRICES AND LETTINGS.

★Indicates award of contract.

★**Hartford, Conn.**—Contract for constructing sewer in Olds Pl. and South St. awarded by Bd. Contract & Supply to F. A. Barone, 16 Winchester St., at $48,715.

New York, N. Y.—Following are totals of 4 lowest bids opened Nov. 6 by Wm. Williams, comr. water supply, gas and electricity, for furnishing, delivering and laying 12-in. steel or wrought iron water main on Queensboro Bridge and laying connecting c. i. mains, etc., in Borough Manhattan and Queens: Thos. Crimmins Constr. Co., 440 E. 69th St., $33,166; Lupfer & Rennick, Buffalo, $35,068; Beaver Engineering & Constr. Co., 51 Chambers St., $35,498, and John Thatcher & Son, Brooklyn, $35,838.

★**Philadelphia, Pa.**—Contract for reconstructing sewer in Thompson St. awarded by City Transit Comn. to Keystone State Constr. Co., 704 Pennsylvania Bldg.; for detail bids see Nov. 4 issue of Engineering Record.

Jacksonville, Fla.—Following bids opened Oct. 20 by Bd. Bond Trustees (W. M. Bostwick, Jr., chmn.) for relining waterworks aerating basin: F. W. Long & Co., Jacksonville, $17140, and Southern Constr. Co., Jacksonville, $16,630.

★**Birmingham, Ala.**—Contracts for constructing sewers awarded by City Commission for constructing following sewers: 20,855 lin. ft. 8-in. T. C. pipe, 4 to 16 ft., sanitary sewers in Enon Ridge, and 4530 lin. ft. brick storm sewers to Sullivan, Long & Haggerty, Bessemer, at $12,602 and $20,120 respectively, and for sanitary sewers on south side to J. J. Goddard, Birmingham, at $15,333.

★**Ironton, Ohio.**—Contract for improving waterworks (bids opened Oct. 30) awarded to Desiderio & Sattler, Rochester, N. Y., at $63,500. Hassman & Shumway, Portsmouth, submitted 2 bids at $71,482 and $69,482. F. A. Ross, clk. sewer dept.

★**Port Clinton, Ohio.**—Contract for constructing Washington St. sewer awarded to C. Lou Wright, 105 E. Broad St., Cuyahoga Falls, at $14,038. K. E. Wedikind, city engr.

★**Lansing, Mich.**—Following are 4 lowest bids opened Nov. 1 by Guy C. Crane, mgr. water and electric light dept., for constructing two 3,500,000-gal. reservoirs; 17,000 cu. yd. earth excav., 3570 cu. yd. concrete, 645,000 lb. reinforcing steel and 17,700 lb. structural steel required: Armstrong Engineering Co., Taylorville, Ill., $73,683 (awarded contract); Larson-Danielson Constr. Co., La Porte, Ind., $75,850; L. J. Mensch, 138 N. La Salle St., Chicago, $77,350, and Leyden-Ortseifen Co., Monadnock Bldg., Chicago, $84,725. Dabney H. Maury, engr., 1137 Monadnock Bldg., Chicago.

★**Marshall, Mich.**—Contract for constructing 7200 ft. 10 to 24-in. storm-water sewers awarded by city to Reniger Constr. Co., Marshall, at $11,003.

Otsego, Mich.—See "Structural Steel Work."

★**Corning, Iowa.**—Contract for constructing dam and other appurtenances for waterworks extension awarded by City Council to Maley & Kelly Constr. Co., Leeds, Mo., at $23,456, and to W. J. Cole, Corning, for laying pipe line, at $3,189.

★**Davenport, Ia.**—Contract for constructing storm drain on High and Myrtle Sts. (bids opened Oct. 31) awarded to D. E. Keeler Co., Davenport, at $77,471; other low bidders: Independent Constr. Co., Davenport, $87,097; E. R. Harding, Racine, Wis., $79,851, and Dungan & Masters, Shenandoah, $105,092. J. W. Crowley, comr. pub. wks.

★**Dawson, Minn.**—Contract for constructing sewer system awarded by city to Thornton Bros. Co., Scandanavian American Bank Bldg., St. Paul, at about $56,000.

Lake Crystal, Minn.—See "Proposed Work."

★**Pocatello, Idaho.**—Contract for constructing flow line from Gibson Jack Creek to Middle Reservoir awarded to R. M. Bardsen & Co., Pocatello, at $26,478. Bids opened Oct. 17 by city. E. S. Anderson, engr., Pocatello.

Hartford, Conn.—Following are unit figures of 4 lowest bids opened Oct. 31 by Bd. Contract and Supply for constructing South St. relief sewer: (a) F. A. Barone, 16 Winchester St., $48,715; (b) Chas. H. Slecomb & Co., 148 Beacon St., $50,023; (c) O'Neil Bros., Hartford, $51,355; (d) Long Bros., $53,990.

	(a)	(b)	(c)	(d)
(1) 400 ft. 66 x 73½-in. sewer in open cut east of Wethersfield Ave.	$14.00	$16.00	$15.00	$20.00
(2) 495 ft. 66 x 73½-in. sewer in open cut in South St.	12.00	21.00	25.00	24.00
(3) 1100 ft. 66 x 73½-in. sewer built in tunnel	30.00	27.00	26.00	28.00
(11) 1 connection at Franklin Ave.	1,800.00	1,500.00	2,500.00	1,000.00
(12) 1 portal at east end	800.00	300.00	600.00	500.00
(13) 1500 ft. of underdrain	0.25	0.20	0.30	0.50
(14) 2 manholes at ends of tunnel section	200.00	175.00	100.00	200.00
(15) 1 shaft manhole with drop near Wethersfield Ave.	500.00	400.00	400.00	400.00
(24) 1 surface drain	30.00	25.00	25.00	30.00
(30) 80 cu. yd. excavation in ditch at east end	1.50	0.50	1.00	1.00
(31) 50 sq. yd. rubble paving	3.00	1.25	2.50	3.00

★**Los Angeles, Cal.**—Following are unit figures of 4 lowest bids opened Oct. 23 by Bd. Pub. Wks. for constructing sewers in Florence Ave. main sewer dist.: (a) John Radich, 308 Bullard Bldg., $112,307 (awarded contract); (b) T. J. Shea, 2039 Oxford Ave., $127,701; (c) John Balch, $139,743; (d) Jas. Kennedy Washington Bldg., $158,343. W. T. Knowlton, engr. sewers.

	*(a)	(b)	(c)	(d)
† 121.86 lin. ft. 42-in. concrete brick sewer	$20.00	$9.00	$3.72	$10.80
‡†4048.11 lin. ft. 39-in. concrete brick sewer	5.00	5.00	3.72	8.71
†3593.45 lin. ft. 34-in. concrete brick sewer	4.50	4.50	3.72	7.44
†5433.57 lin. ft. 30-in. concrete brick sewer	4.00	4.00	3.72	6.22
†5228.93 lin. ft. 20-in. double strength vit. pipe sewer	2.50	3.00	3.72	3.58
†2678.48 lin. ft. 18-in. double strength vit. pipe sewer	3.25	7.00	3.72	5.80
†2654.06 16-in. vitrified pipe sewer	1.50	4.00	3.72	3.17
†1165.91 lin. ft. 12-in. vitrified pipe sewer	2.00	4.00	3.72	4.00
†1216.59 lin. ft. 8-in. vitrified pipe sewer	.70	.70	3.72	1.25
†2427.57 lin. ft. 10-in. cast iron pipe sewer	2.50	2.50	3.72	2.00
5677.00 lin. ft. 6-in. vit. pipe house connection sewer	.50	.45	3.72	.30
25 standard manhole "B"	100.00	75.00	85.00	59.60
15 standard manhole "C"	100.00	70.00	85.00	68.50
5 standard junction chamber "F"	105.00	75.00	85.00	49.30
4 standard junction chamber "N"	125.00	75.00	85.00	68.50
7 standard drop manhole "S"	150.00	80.00	85.00	89.50
22 standard drop manhole "T"	110.00	80.00	85.00	81.50
1 standard flush tank (Walker)	100.00	80.00	85.00	92.45
1 standard flushing manhole "E"	100.00	80.00	85.00	60.55
205 1896.20 lin. ft. chimney pipe "B"	14.00	7.50	15.00	.58
165 1857.90 lin. ft. chimney pipe "D"	14.00	10.00	15.00	.58

†Note—The payment per lin. ft. for each size sewer specified is to include cost of Ys Ts and spur pipes required for that size. See Notice to Contractors, Plan No. 12925.

‡Note—Only frost patent radial interlocking brick to be used. See License Agreement dated June 14, 1915, and agreement for laying these brick, dated Dec. 13, 1915, both on file in the office of the City Clerk.

STRUCTURAL STEEL WORK

PROPOSED WORK.

Lancaster, Pa.—Co. Comrs. intend constructing bridge over Beaver Dam in Beaver Ave., New Philadelphia; steel one over Sugarcreek in Wooster road, mile south of Strasburg; concrete over Little Stillkater in East Center St., Dennison. Address Co. Engr.

Pennsylvania — State Water Supply Comn., Harrisburg, has approved following application of Pittsburgh, Bessemer & Lake Erie RR. (J. A. Atwood, ch. engr., Pittsburgh), for permission to construct temporary trestle and later deck plate girder bridge, on concrete abutments, over and to make change in channel of Little Deer creek 2/5 of mile south of boundary line between West Deer and Indiana townships, Allegheny Co.

Pub. Grounds and Bldgs. Bd., Harrisburg, has appointed G. A. Flink, Commonwealth Trust Bldg., Harrisburg, to prepare plans for $21,000 bridge at Nelson and $14,000 bridge at Knoxville; both in Tioga Co. (Wellsboro, co. seat).

Pub. Serv. Comn., Harrisburg, considering application of Philadelphia & Reading Ry. (S. T. Wagner, ch. engr., Philadelphia), to construct new wings and parapet wall at bridge over tracks at Swatara station; and to replace bridge over tracks at Palmyra station and at Herskey.

Windber, Pa.—Boro. Council will soon let contract for bridge over Seese Run on Center St. J. H. Burtt, secy.

Petersburg, Va.—City Council appropriated $50,000 additional, making total of $102,000, as its share for the construction of proposed $190,000 bridge or viaduct to replace Bishop's Bridge, connecting Petersburg with Chesterfield Co. and Richmond Turnpike.

Atlanta, Ga.—Cost for contemplated repairs to Edgewood Ave. bridge divided as follows: Southern Ry., $7,057; Georgia Ry. & Power Co., $4,221, and City of Atlanta, $10,000. Address City Clerk.

Savannah, Ga.—Central of Georgia Ry. (C. K. Lawrence, ch. engr.) intends constructing steel bridge over Oconee River, 146 miles from Savannah, and using materials in present bridge at this place to construct another bridge over St. Augustine Creek on Tybee division.

Merritt, Fla.—Co. Comrs., Titusville, sold $40,000 Cocoa-Merritt bridge bonds issued by Island Dist.; estimated cost of bridge $61,000.

Marion, O.—Bridge improvement bonds for $36,000 will be sold Nov. 23 by Bd. Co. Comrs.

Elgin, Ill.—Morgan Brightman, city engr., preparing plans for new bridge at Kimball St.

Avon, Ia.—Bd. Supervs., State Highway Comrs., and officials of Chicago, Rock Island & Pacific RR. (C. A. Morse, ch. engr., Chicago, Ill.) contemplate constructing viaduct over RR. tracks on Des Moines-Carlisle Road. Address County Clerk, Des Moines.

Fairfield, Ia.—Co. Comrs. will let contracts for new steel truss bridge with three 125-ft. spans, 16 ft. wide and 90 lb. per sq. ft. capacity, over Skunk River, on old Merrimac bridge piers and abutments. Don. L. Teal, co. engr.

Maxwell, Ia.—Construction of water tower and extension to water mains contemplated; cost, about $15,000. Address City Clerk.

Leavenworth, Kan.—R. L. McAlpine, co. engr., Wyandotte Co. (Kansas city, co. seat), selected to prepare plans for Eudora bridge over Kaw River, connecting Leavenworth and Douglas counties.

Scottsbluff, Neb.—Citizens approved $65,000 bond issue for bridge construction. J. H. Ferguson, co. clk.

Rison, Ark.—Co. Levy Court, W. E. Galloway, judge, intends constructing steel bridge over Saline River near here with $2,500 raised by private subscription and one-half general tax was voted.

Texarkana, Ark.—Miller Co. Highway and Bridge Dist. will soon sell $250,000 bonds to pay for constructing proposed steel bridge over Red River and other improvements. Louis Josephs, secy., Texarkana.

Idabel, Okla.—State Highway Dept., Oklahoma City, approved plans for three bridges to be constructed by Co. Comrs.

Pawhuska, Okla.—State Highway Dept., Oklahoma City, approved plans for proposed bridge to be constructed by city.

Ridgefield, Wash.—Co. Comrs. considering reconstructing bridge over east fork of Lewis River on Pacific highway. Address County Clerk, Vancouver.

Salem, Ore.—Reported Marion-Polk Co. bridge over Willamette River will be reconstructed either of steel or concrete. Max Gehlhar, co. clk., Marion Co.

San Bernardino, Cal.—Bd. Supervs. intend constructing highway, including 2 bridges in Lytle Creek Canyon; estimated cost $56,000. James Sourwine, Co. Engr.

San Diego, Cal.—Appropriation of funds contemplated for constructing steel bridge with four 100-ft. spans, 20 ft. wide, concrete foundations on piles, over San Diego River, North San Diego; estimated cost $44,000; also steel bridge over 60-ft. span on concrete foundations over Rose Creek on Grand Ave.; estimated cost $6,000. Geo. Cromwell, city engr.

Victoria, B. C.—City Council intend asking electors in January to increase appropriation of $9,800 to $18,000 for steel-span bridge at Rock Bay.

BIDS DESIRED.

Albany, N. Y.—Reported desired until Nov. 21 by W. W. Wotherspoon, supt. pub. wks., for furnishing and installing steel stiff-leg derricks on terminal sites at Albany, Whitehall, Little Falls, Rome, Lockport and Tonawanda.

Cape May, N. J.—Until Dec. 5, by F. W. Fowkes, clk., Sea Isle City, for constructing 3 bridges, 24 ft. wide, on Corsons Inlet, Ocean City Road, total length, 2900 ft., creosote wood trestle with 1 Strauss bascule lift draw, 50 ft. clearance; total cost $100,000. L. M. Rice, co. engr., Wildwood.

Highbridge, N. J.—See "Industrial Plants and Warehouses."

Philadelphia, Pa.—See "Roads and Paving."

Americus, Ga.—Until Dec. 11, at Murray's Ferry, by Comrs. of Sumter and Dooly Counties, for constructing 210-ft. steel span with reinforced concrete piers and abutments across Flint River.

Vienna, Ga.—See "Americus, Ga."

Des Allemands, La.—Until Dec. 4, at the office of Highway Department, Bd. State Engrs., New Orleans Court Bldg., New Orleans (W. E. Atkinson, state highway engr.), for constructing a steel swing bridge across Bayou Des Allemands. Advertised in this issue.

Steubenville, Ohio.—Until Nov. 14, by Co. Comrs., for constructing a steel superstructure for Adena bridge. John L. Means, co. aud.

Des Moines, Ia.—Until Nov. 19 plans will be accepted for constructing Grand Ave. bridge and letting will be Nov. 29. J. W. Budd, supt. streets and pub. improv.

Breckenridge, Minn.—Reported desired until Nov. 17, by P. E. Truax, co. aud., for erecting 4 steel and concrete bridges, 7 corrugated iron culverts and ditch No. 26.

Stroud, Okla.—Until Nov. 27 by the city for 75,000 gal. elevated tank 125 ft. high. Separate bids for a power house and reconstruction of distribution system will be received later. Benham Engineering Co., engrs., Oklahoma City.

Weir, Que.—Until Dec. 2, by Pierre Costin, secy.-treas., for furnishing labor and materials and constructing a steel bridge and appurtenances across Rouge River.

PRICES AND LETTINGS.

★Indicates award of contract.

★South Ringtown, Pa.—Contract awarded by Philadelphia & Reading Co., S. T. Wagner, ch. engr., Philadelphia, for steel and concrete bridge, 185 ft. long, to P. J. Campion, Mahanoy City, Pa.

★Punta Gorda, Fla.—Contract awarded to Frank J. Stamm & Son Co., St. Petersburg, Fla., at $100,000 for steel and concrete bridge; materials required are: 7500 barrels cement, 5000 cu. yd. rock, 4000 tons steel, 2000 cu. yd. sand and 7500 lin. ft. lumber.

★Otsego, Mich.—Contract for constructing one 150,000-gal. water tank on 125-ft. tower awarded to Chicago Bridge & Iron Wks., Chicago, at $9,550. A. H. Smith, co. engr., Toledo.

★Ft. Worth, Tex.—Contract awarded to B. F. & C. M. Davis Co., Ft. Worth, at $40,143, for viaduct, by City Comrs. and officials of Santa Fé and Houston & Texas Central RRs.

REINFORCED CONCRETE

PROPOSED WORK.

Brooklyn, N. Y.—Crow, Lewis & Wickenhoefer, 200 5th Ave., New York, are architects for brick and reinforced concrete Bay Ridge Hospital, to be erected on 92nd St., 7th Ave. and Barrett Pl.; cost, about $100,000.

New York, N. Y.—Plans being prepared by Ballinger & Perrot, 1328 Bway, for 50 x 175-ft. brick and concrete office and kiln building, to be erected on 64th St. and 2nd Ave. for Kalt Lumber Co.; cost about $75,000.

Trenton, N. J.—Pennsylvania RR. (G. B. Harley, Pub. Agt.), Broad St. Sta., Philadelphia, contemplates spending $200,000 for improvements in Trenton, as follows: new concrete bridge over canal at Willow and Broad Sts., new bridge and tunnel at Sullivan Way and straightening of Assanpink Creek.

Pennsylvania — State Water Comn., Harrisburg, approved plans for following proposed concrete bridges:

Dauphin Co. (Harrisburg, co. seat), over Paxton creek, about 1½ miles north of Progress, and over Boyd Run, 1 mile east of Penbrook, on Union Deposit road, Susquehanna Township.

Clearfield Co. (Clearfield, co. seat), over Sandy creek, ½ mile west of Frenchville P. O., Covington Township.

Erie Co. (Erie, co. seat), over Pine Run, 3 miles east of Union City on Elgin road, Union Township.

Potter Co. (Coudersport, co. seat), over Whites Corner Branch at Harrison Valley; over branch of North Fork, 1 mile north of North Fork, and over Cowenesta creek to construct one new abutment and face another with concrete, 2¾ miles southeast of Harrison Valley on Westfield road, Harrison Township.

Williamsport, Pa.—John B. Otto, city engr., is preparing plans for reinforced concrete bridge 105 ft. long over McClure's Run at Washington St.

Youngsville, Pa.—See "Waterworks and Sewerage Systems."

Charleston, W. Va.—Plans being prepared by Chas. Houchin Higgins, 30 Church St., New York, for 4-story, 58 x 120 ft. reinforced concrete and brick building for E. C. Klipstein & Son, Chemical Wks.

Charleston, S. C.—Sanitary and Drainage Comn. will soon let contracts for 130-ft. reinforced concrete bridge with six spans of equal size over Goose Creek on Charleston-Summerville highway, 20-ton capacity. Comn. is also preparing plans for two drawbridges, one over Church Creek, and other over Bohicket Creek, between John's Island and Wadmalaw Townships.

Columbia, Tenn.—Co. Comrs. intend constructing concrete bridges and culverts throughout county; estimated cost $10,818.

Cleveland, O.—Reported Schneider-Becker Dairy Co., 7100 Clark Ave., intends erecting new group of dairy buildings at Train and Junction Aves., ranging from 2 to 6 stories, brick and concrete; estimated cost about $200,000.

Reported Landesmann - Hirschheimer Co., 1323 W. 9th St., will soon select architect for proposed $300,000 brick and concrete factory to be erected on Superior Ave.; cost about $250,000.

Fort Atkinson, Wis.—New concrete bridge over Rock River to replace present steel one, under consideration; estimated cost, $40,000. Address City Clerk.

Waterloo, Ia.—Contract soon to be let by Rath Packing Co., Sycamore and Elm Sts., for erecting 5-story, brick and reinforced concrete combined warehouse and hog cooler and three icehouses, to cost about $125,000.

Lansing, Minn.—Co. Comrs. intend constructing 2 concrete bridges over Cedar River, in place of present ones. O. J. Simmons, co. aud., Austin.

San Francisco, Cal.—Plans being prepared by C. A. Meussdorffer, Humboldt Bank Bldg., for 8-story, reinforced concrete, fireproof apartment building, to be erected at Jackson and Franklin Sts. for A. W. Wilson; cost, about $105,000.

Farrans Point, Ont.—Osnabruck Township, H. E. Hodgins, clk., and Ontario Drainage Comn. intend constructing concrete bridge 35 ft. long; estimated cost, $150,000.

London, Ont.—Reported contract will soon be let for erecting reinforced concrete and brick addition to Sanatorium of London Health Assoc.; cost, $75,000.

BIDS DESIRED.

Waynesburg, Pa.—Until Nov. 18 by Supervs. Franklin Township (J. L. Varner, secy.) for constructing 50-ft. bridge, 16-ft. roadway, consisting of a concrete and steel floor on concrete foundation on Sugar Run Road, and same date separate bids for 14-ft. span, 16-ft. roadway, to consist of a concrete and steel floor on concrete foundation on a road from Oak Forest to Waynesburg.

Warm Springs, Va.—See "Roads and Paving."

Gadsden, Ala.—Reported desired until Nov. 15 by Co. Comrs. for constructing concrete arch bridge, 60-ft. span, across Black Creek; cost about $28,000. S. J. Cumming, co. engr.

Dayton, Ohio.—Until Nov. 21, by Co. Comrs. (Walter H. Azling, clk.), for constructing the remainder of the substructure of bridge No. 174 across the Great Miami River, consisting of Nos. 1, 2, 3 and 4 and east abutment; in all about 2383 cu. yd. of concrete, 5340 lin. ft. of piling, 1847 lb. of steel.

Zanesville, Ohio. — See "Excavating, Drainage and Dredging."

PRICES AND LETTINGS.

★Indicates award of contract.

★Philadelphia, Pa.—Contract awarded Cramp & Co., Denckla Bldg., for erecting 10-story, brick and reinforced concrete factory at Broad and Cherry Sts. for Gomery & Schwartz; cost, $400,000.

★Cleveland, O.—A. F. Wasickewski, 3259 E. 55th St., secured contract for erecting 2-story, 81 x 125-ft. brick and concrete school at 4300 E. 71st St., for Catholic Diocese; cost, $55,000. E. S. Krigawski, archt., 2289 Professor Ave.

★Contract awarded by National Artificial Silk Co., 735 Central Ave., to Jas. L. Stuart, 917 Illuminating Bldg., for erecting 1-story, 57 x 84-ft. concrete power-house at 9801 Walford Rd.; cost, $55,000. Forest City Eng. Co., archts., 512 Hippodrome Bldg.

★Contract awarded by Cadillac Investment Co., E. 20th St. and Euclid Ave., to Crowell-Lundoff-Little Co., 1951 E. 57th St., for 2-story, 122 x 254-ft. brick and concrete garage at 1865 E. 30th St.; cost $100,000. W. S. Lougee, Archt., 500 Marshall Bldg.

★Modesto, Cal.—Contract awarded Ernest Green, Modesto, for erecting 2-story, 60 x 226-ft., brick and steel factory and 60 x 90-ft. power house for Borden Condensed Milk Co.; cost about $100,000.

Washington, D. C.—Following are bids received Nov. 2 by Comrs. Dist. Columbia for 7-span steel plate girder highway bridge, abutments, piers and approaches on Benning Rd. over Philadelphia, Baltimore & Ohio RR.: (a) Snare & Triest Co., 233 Bdwy.; (b) A. L. Guidon & Son, Inc., 52 Vanderbilt Ave.; (c) Robert Smith Corp., 30 Church St. All of New York City.

	(a)	(b)	(c)
Approaches, abutments and piers, complete	$59,000.00	$63,500.00	$84,537.00
Bridges, complete, Design "A"	64,600.00	59,900.00	96,905.00
Bridges, complete, Design "B"	59,300.00	56,500.00	87,545.00
Unit prices to be used in connection with price bid, if necessary to get within appropriation of $110,000.			
2,600 cu. yd. excav. (cu. yd.)	0.55	1.00	1.00
9,200 cu. yd. filling in approach walls (cu. yd.)	0.80	1.10	1.25
2,500 cu. yd. filling low level roadways (cu. yd.)	0.80	1.50	0.50
4,600 sq. yd. paving low level roadways (sq. yd.)	1.10	2.00	1.00
2,313 cu. yd. concrete in walls, beams, etc. (cu. yd.)	8.70	10.00	25.00
Concrete in bridge floor (cu. yd.)	12.00	11.00	20.00
Concrete jacketing on bridge and piers (cu. yd.)	18.00	12.00	20.00
1,424 cu. yd. concrete in abutments and piers (cu. yd.)	6.80	8.00	15.00
188,300 lb. reinforcing steel in bridge, piers and approaches (lb.)	0.04	0.03	0.045
Structural steel in bridges and piers	0.05	0.04	0.04
2,371 sq. yd. concrete base 6 in. thick for paving on approaches (sq. yd.)	0.75	1.00	1.00
3,656 sq. yd. asphalt paving on bridge and approaches (sq. yd.)	1.25	0.60	1.50

ROADS AND PAVING

PROPOSED WORK.

Hartford, Conn.—Bd. Street Comrs., Jos. Buths, pres., intend paving in 1917 portions of Albany, Capitol, Windsor and other avenues, with sheet asphalt or other pavement except macadam.

Canandaigua, N. Y.—Bd. Supervs. (J. Parmenter, chmn.) have under consideration improvement of road from Reed's Corners to Baldwin's Corners in town of Gorham, and State road from Town Hall in West Bloomfield to McCaffrey's Corners, thence to Cornish's Corners and boundary line between West Bloomfield and Richmond.

Copenhagen, N. Y. — State Highway Dept., Albany, intend constructing 2 Lewis Co. highways as follows: One from Harrisburg line to Barnes Corners, 5 miles; other from Barnes Corners to Copenhagen.

Bound Brook, N. J.—Boro. Council sold $29,000 bonds for paving of Shunpike and Talmage Ave. with vitrified brick.

Flemington, N. J.—Bd. Freeholders intend improving Stockton-Frenchtown road. Paving material undecided. Address County Clerk.

Hawthorne, N. J.—Bd. Comrs. intend issuing $20,000 bonds for repairing, grading and macadamizing 17 streets. John A. Shea, boro. clk.

Lyndhurst, N. J.—State Highway Dept. appropriated $5,000 and town officials appropriated $7,500 to repair section of Park Ave. Address Clerk Board of Comrs.

Newton, N. J.—Road improvement bonds for $25,000 will be sold Nov. 13 by Bd. Freeholders (Wm. Iliff, director).

Passaic, N. J.—City Comrs. intend paving with macadam and grading, laying curbs and flags and constructing catchbasins in Paulson Ave., from Montgomery to Oak Sts.; also resetting curbs, making sewer connections at several points and laying asphalt macadam on Grove St. Z. A. Van Houten, city clk.

Trenton, N. J.—State Road Dept. will soon ask for bids for all new road work; $225,000 appropriated for road improvements in various counties.

Woodbury, N. J.—Bd. Freeholders contemplate constructing road from Knights Run to Glassboro and other improvement work. N. Catell, engr., Wenonah, N. J.

Erie, Pa.—City Council has under advisement paving Liberty St. from 26th to 32d Sts., Reed St. from 6th to 8th Sts., 25th St. from Parade to Ash Sts., 6 miles in 5th Ward and in West 26th St., where Buffalo & Lake Erie Traction Co. will pay cost; also extending and grading of State St. from south line of 26th St. to southern boundary of city; estimated cost of latter, $20,000. M. J. Henry, city clk.

Scranton, Pa.—City Council contemplates grading and paving with sheet asphalt and stone block on concrete base and laying curbs on Penn Ave. from Larch to Dunset St.; estimated cost, $33,922.

Baltimore, Md.—Bd. of Estimate considering issuing $1,000,000 street improvement bonds. James H. Preston, mayor.

Landisburg, W. Va.—Preliminary surveys being made for 34 miles of road improvements. T. G. Moley, engr.

Raleigh, W. Va.—Co. Comrs. contemplate road improvements on Shady Springs road, to include concrete bridges, drains, etc.; estimated cost, $835,000. A. E. Griffith, co. clk.

Winfield, W. Va.—Co. Comrs. intend improving road in Poco Dist. along Kanawha River. Estimated cost $90,000. J. M. Henson, clk.

Atlanta, Ga.—Co. Comrs. intend widening 20 ft., regrading and paving with concrete for 2 miles, South Pryor St., from underpass (now being constructed), to Southeastern fair grounds at Lakewood.

Perry, Fla.—Co. Comrs. will shortly let contracts for $600,000 road improvements recently voted.

Birmingham, Ala.—Geo. H. Clark, co. highway engr., submitted estimate of $18,815 for improving 5100 ft. of Oxmoor Shannon mines road and eliminating grade crossings near Oxmoor furnace of Tennessee Co. and at Oxmoor depot of Louisville & Nashville.

Huntingdon, Tenn.—Election Dec. 12 for $200,000 good road bonds in Carroll County.

Harrodsburg, Ky.—City Council, Spencer Smith, clk., considering constructing 4 miles of road in spring.

Stanton, Ky.—Road improvement bonds for $40,000 will be sold Nov. 22 by the Fiscal Court of Powell Co. I. S. Boone, co. clk.

Attica, O.—Road bonds for $15,000 will be sold Nov. 27 by F. R. Stutzman, village clk., for improving portions of Columbus-Sandusky road.

Akron, Ohio.—Co. Comrs. sold $13,283 Stow Tallmadge road bonds.

Cambridge, Ohio.—City Council considering paving with brick on concrete base. Estimated cost between $75,000 and $100,000. Contracts will be let in March, 1917. J. Max Dilley, city engr.

Canton, Ohio.—Co. Comrs. sold $84,000 road improvement bonds to be used as follows: $29,000 for Osnaburg-Mapleton road; $24,000 on Wilmot-North Lawrence road in Tuscarawas Township, and $35,000 on same road in Lawrence Township.

Forest, Ohio.—City Council sold $14,550 street bonds.

Piqua, Ohio.—Geo. F. Cron, city aud., sold $172,166 street paving bonds.

Springfield, O.—City Comrs. considering using brick to pave Lagonda hill between Buck creek and Merritt St. Estimated cost, $31,000.

Tiffin, Ohio.—City Council intends issuing street improvement bonds as follows: $11,500 for Apple St., $15,000 for East Perry St. and $6,500 for Douglas St.; small amount of drainage and sewer work contemplated. Geo. W. Hoffman, city clk.

Clinton, Ind.—All bids rejected for 6851 sq. yd. of brick paving on concrete base and 4761 lin. ft. of concrete curb and gutters; estimated cost, $18,000. New bids will be asked in December; work to be started in Spring. T. L. McDonald, city clk.

Spencer, Ind.—Road bonds for $11,079 will be sold Nov. 16 by Sam M. Royer, treas., Owen Co.

Marquette, Mich.—Bd. Supervs. have under consideration $94,000 for road work in 1917, of which $9,000 is for bridges.

Petoskey, Mich.—Co. Roads Com. of Bd. Supervs. distributed road funds as follows: $10,462 for road leading south from Petoskey, $3,500 for one through Alanson, $14,962 for Petoskey Dist., $12,962 for Cross Village pike, $2,000 for Mackinaw pike No. 6, $4,500 for Mackinaw pike No. 7, $8,462 for Mackinaw pike Nos. 2 and 5.

Traverse City, Mich.—Bd. Supervs. appropriated $38,157 for good road work in 1917.

Bloomington, Ill.—City Council intends paving following streets in 1917: Grove, from Main to Illinois Central right-of-way; Front, Center to Prairie; South Main, Big Four right-of-way to city limits; East Jefferson, Main to city limits; West Locust, Main to C. & A. right-of-way; Madison, Grove to Washington; Monroe, Madison to Main; Walnut, Main to Allin. E. E. Jones, mayor.

Moline, Ill.—Bd. Local Improvs. considering laying 15 miles of concrete walks in residential dist.

Carroll, Ia.—City Council, G. C. Beiter, city engr., contemplates paving 15 blocks.

Center City, Minn.—Co. Comrs. will have $105,750 available for improvement and construction of 31¼ miles of Twin Cities-Duluth highway next summer by means of state, federal and private aid.

Hutchinson, Kan.—G. L. Lane, city engr., preparing plans for 9000 sq. yd. brick paving and 6500 sq. yd. curb and gutter work in portions of 14th, 15th and 16th Sts.

Kearney, Neb.—City Council considering paving in 13th and 17th Dists. and the issuing of bonds for work. T. N. Hartzell, city clk.

Norfolk, Neb.—Property owners have petitioned City Council to improve 8 miles of streets by paving. H. H. Tracy, city engr.

Anaconda, Mont.—City Council intends paving about 35,000 sq. yd. of streets in 1917. W. B. Vestal, Jr., city engr.

St. Joseph, Mo.—Bd. Pub. Wks. contemplates grading 4th, 5th, 6th and 7th Sts. north of Hyde Park, and Milton Tootle, Jr., park comr., has tentative plans for extension of chain of driveways from Bartlett Park on south to Osage St. and Ashland Ave. on north, and also to Krug Park from waterworks and back to heart of city.

Kansas City, Mo.—Park Comrs. considering new boulevard from Ward Park to 74th St., then crosstown to Paseo. A tunnel will be built by Kansas City Terminal Co. at Lister Ave.

Eureka Springs, Ark.—Road Dist. No. 1 will shortly receive bids on $70,000 road. W. C. Ross, engr.; E. M. Bare, secy. dist., Eureka Springs.

Fort Smith, Ark.—Paving Dist. No. 5 contemplates issuing about $100,000 road bonds in spring.

Cameron, Tex.—Citizens Dist. No. 8 will vote Nov. 16 on $150,000 road bonds.

Center, Tex.—Co. Comrs. urging $120,000 time warrants for road improvements. Address T. H. Postell, co. judge.

Georgetown, Tex.—City Council has under consideration paving public square and several business streets; estimated cost $25,000.

Gilmer, Tex.—Attorney General's Dept. Austin, approved $100,000 Upshur Co. road improvement dist. bonds. Address County Clerk.

Lefors, Tex.—Citizens Dist. No. 1 will vote Nov. 18 on $40,000 road bonds.

Malakoff, Tex.—Malakoff Precinct voted $60,000 for road work. Address Precinct Clerk.

Miami, Okla.—Peoria Township voted to issue $19,000 bonds for extending Commerce-Lincolnville road to state line. Quapaw Township, also, voted to issue road bonds. Address County Clerk.

Davenport, Wash.—Co. Comrs. intend spending in 1917, $39,000 on permanent highways, $50,000 on road and bridge work and $72,000 on road dist. work. Guy G. Harvey, co. engr.

Mt. Vernon, Wash.—Reported City Council intends paving Cleveland Ave. to city limits; laying concrete walks in Gates St. from Great Northern depot to "The Hill"; curbs and walks in 3rd St.; grading and walks in Highland Ave. from 4th St. to cemetery, and has ordered improvement of 4th St. by paving with 6-in. one-course concrete 24 ft. wide and laying curbs. Lee Caufield, city engr.

Olympia, Wash.—State Highway Comn., James Allen, engr., has asked Forestry Dept. for $350,000 appropriation to complete 55 miles connecting link between Lake Quinalt and The Forks in Clallam Co. on Olympia highway. Additional $15,000 is asked from federal funds available for same highway.

Prosser, Wash.—Co. Comrs. intend spending in 1917, $18,715 on permanent highways, $40,084 on road and bridge work and $50,845 on road dist. work. T. J. Wright, co. engr.

Ritzville, Wash.—Co. Comrs., O. J. DeSpain, co., engr., have appropriated $115,875 for highway and bridge work during 1917.

Seattle, Wash.—In report to Bd. Pub. Wks., A. H. Dimock, city engr., estimates cost of grading, curbing and laying concrete walks on 31st Ave. Northeast, at $29,816.

Spokane, Wash.—Reported Co. Comrs. have under consideration paving highway from Dishmon to Freeman, 10½ miles, with macadam; estimated cost, $50,000. J. W. Strack, co. engr.

Comrs., Spokane Co., Wash., State officials of Idaho and officials of Township of Blanchard intend constructing scenic highway between Spokane and peak of Mt. Spokane, thence to Blanchard and Spirit Lake, Idaho.

Spokane, Wash.—Co. Comrs. considering constructing permanent highway between Cheney and Spangle. J. W. Strack, co. engr.

Vancouver, Wash.—Co. Comrs. intend spending in 1917 $26,909 for permanent highways, $60,400 on bridge and road work, $23,300 in road dist. No. 1, $37,900 in dist. No. 2 and $27,500 in dist. No. 3. W. A. Schwartz, co. engr.

Astoria, Ore.—City Council will shortly let contracts for macadamizing and cement walks on Duane St.; also for paving Franklin Ave. from 26th to 31st Sts., and other streets. Olof Anderson, city aud.

Grants Pass, Ore.—Reported Co. Comrs. intend constructing highway between Grants Pass and Crescent City, Cal., this winter. Address County Clerk, Grants Pass.

Medford, Ore.—City Council engaged Howard A. Hansen to investigate proposed paving problem of city; unofficial estimate, $300,000.

Portland, Ore.—Reported Co. Comrs. considering hard-surfacing 10 miles of St. Helens Road. John B. Yeon, co. roadmaster.

Los Angeles, Cal.—Bd. Pub. Wks., H. G. Ferris, Clk., will soon let contracts for paving with warrenite on concrete base, laying cement curbs and walks on Hillhurst Ave. from Rodney Drive to Dracena Drive; bitulithic on concrete base, concrete retaining wall, cement curbs and walks on 7th St., from Boyle Ave. to Utah St.; asphalt on concrete base and cement curbs on Agatha St., from Gladys to Stanford Aves.

San Bernardino, Cal.—See "Structural Steel."

BIDS DESIRED.

Long Island City, N. Y.—Until Nov. 14 by Maurice E. Connolly, pres. Boro. Queens, for repaving portions of Jackson Ave. with granite block, with bituminous grouted joints on 6-in. concrete foundation, about 6800 sq. yd.; for laying 6750 sq. ft. sidewalks on portions of Bergen Ave.; 15,020 sq. yd. sheet asphalt pavement, including binder course on portions of Hancock St., Buchanan and Hoyt Aves., together with curbing, etc. Total security, $35,600.

Paterson, N. J.—Until Nov. 14 by Wayne Township Com., I. A. Hopper, clk., R. F. D. No. 1, Paterson, for grading and macadamizing on portions of Borden Ave. and Garside Lane in Wayne Twp.

Philadelphia, Pa.—Until Nov. 14 by Dept. Pub. Wks., Bureau Highways and Street Cleaning (W. H. Connell, chief), for paving and bridge work as follows: Sched. A, grading Abbottsford, Albanus, Beechwood, Broad and many other streets; Sched. B, paving with asphalt on Chelton, Courtland, Edgewood, Pike and other streets; Sched. C, paving with vitrified block pavement on 10th, 11th and Somerville Sts.; Sched. D, granite block pavement on Pechin St.; Sched. E, bituminous macadam on Lincoln Drive; Sched. F, surfacing with waterbound macadam Hedley, Independence, Osborn, Minerva and other streets; Sched. G, resurfacing with bituminous pavement on Lincoln Drive; Sched. H, repairing and painting bridges on Rhawn St. across Pennypack Creek, and Wayne Ave. across Chestnut Hill Branch, Pennsylvania RR.; Sched. I, improvement of Passyunk Ave., 23d to 28th Sts. Total cost $459,810.

Pittsburgh, Pa.—See "Waterworks and Sewerage Systems."

Baltimore, Md.—Until Nov. 21, by the State Roads Comm., 601 Garrett Bldg. (Clyde H. Wilson, secy.), for constructing 2 sections of State Highway, as follows: Cont. No. Wi-10. Wicomico Co.; Wo-15. Wooster Co., advertised in this issue.

Warm Springs, Va.—Until Nov. 14 by Bd. Co. Supervs. (F. L. La Rue, clk.) for constructing 3 miles of road near Mountain Grove, including several concrete culverts and bridges.

Milton, Fla.—Reported desired until Nov. 14 by H. W. Thompson, co. clk., for constructing a road from the east bank of Marquis Bayou to Okoloosa County line.

Eutaw, Ala.—Until Dec. 4, by Bd. Revenue, for constructing Green Co.'s portion of State Trunk Rd. No. 7. W. S. Keller state highway engr., Montgomery.

Dekalb, Miss.—Reported desired until Nov. 22 for grading, draining and sandclaying 20 miles of road. Snowden & Hausen, engrs., Columbus.

Akron, O.—Until Nov. 15 by Bd. Co. Comrs. (U. G. High, clk.) for grading, draining and paving with brick 2½ miles of Stow-Tallmadge Road in Tallmadge Township.

Euclid, Ohio.—Reported desired until Nov. 27 by H. S. Dunlop, village clk., for improvement of North St., including grading, draining, curbing, paving with brick asphalt or asphaltic concrete.

Corsicana, Tex.—Until Nov. 14 for constructing a system of roads in Road Dist. No. 5. $100,000 bonds have been sold for this purpose. J. B. Crockett, engr., Dawson. Address R. R. Owen, co. judge, Corsicana.

Colfax, Wash.—Until Nov. 20, by A. R. Metz, co. aud., for graveling 3¼ miles of Permanent Highway No. 13. John M. McCaw, co. engr.

Walla Walla, Wash.—Until Nov. 17, by Co. Comrs. (C. F. Dement, clk.) for constructing Permanent Highway No. 13. Grove Cookerly, co. engr.

PRICES AND LETTINGS.

★Indicates award of contract.

★Revere, Mass.—Contract awarded by State Highway Comn., Boston, to A. G. Tomaselli, 69 Gibson St., Dorchester, at $55,848 for section of state highway in Revere. Bids opened Nov. 7. Other bidders, Rowe Contr. Co., Boston, $56,499, and Coleman Bros., Chelsea, $60,277.

★Bayonne, N. J.—Contract awarded by City Council to W. T. S. Crichfield, 54 5th St., Hoboken, at $17,634, for paving Evergreen St. with bituminous pavement.

Newark, N. J.—Following lowest bids opened by Bd. Street and Water Comrs. Nov. 2 for paving: High St. from Market St. to Warren St. and from Boyden Pl. to Orange St. with oblong granite block pavement on 6-in. concrete. Alex J. Milmoe, 85 Littleton Ave., $19,065; High St. from Warren St. to Boyden Pl. with wood block on 6-in. concrete, Newark Paving Co., 133 First St., $40,252.; Alex J. Milmoe, 85 Littleton Ave., $42,174; Ralph Sangiovanni, 80 Hoyt St., $42,900; John S. Geiger's Sons, 83 Hartford St., $43,718. Shepard Ave. from Gergen St. westerly with bitulithic on 6-in. concrete, Standard Bitulithic Co., Essex Bldg., $9,328, and Mapes Ave., from Bergen St. westerly, with asphalt on 6-in. concrete, same firm, $9,316.

★Clinton, Okla.—Following are unit figures of 4 lowest bids received Oct. 31 by City Council for paving with sheet asphalt in improvement dist. No. 1 (engr's. estimate $69,634). Benham Engr. Co., engrs., Colcord Bldg., Oklahoma City: (a) Western Paving Co., Oklahoma City, $68,269 (awarded contract); (b) F. P. McCormick, St. Louis, Mo., $68,669; (c) M. A. Swatek & Co., Oklahoma City, $69,147; (d) Cleveland-Trinidad Paving Co., Dallas, Tex., $69,328.

	*(a)	(b)	(c)	(d)
27,445 sq. yd. sheet asphalt	$1.96	$2.00	$1.99	$1.98
10,500 cu. yd. earth excav.	0.35	0.35	0.35	0.35
250 cu. yd. rock excav.	1.50	1.40	1.25	1.40
2,900 lin. ft. street concrete curbs	0.58	0.60	0.59	0.60
310 lin. ft. road concrete curb	0.64	0.65	0.65	0.65
200 lin. ft. curb resetting	0.25	0.15	0.25	0.27
1,920 lin. ft. monolithic curb and header	0.25	0.23	0.28	0.27
19 curb inlet basins	20.00	17.00	19.00	19.00
7 manholes	39.00	37.00	40.00	39.80
740 lin. ft. 10-in. drain pipe	0.55	0.55	0.54	0.54
720 lin. ft. 12-in. drain pipe	0.67	0.77	0.70	0.70
720 lin. ft. 15-in. drain pipe	0.85	0.85	0.84	0.85
610 lin. ft. 18-in. drain pipe	1.10	1.06	1.08	1.09
80 water taps	6.00	5.75	5.85	6.00
7,680 lin. ft. ⅝-in. lead pipe	0.15	0.14	0.15	0.20

★**Glen Ridge, N. J.**—Contract awarded by Town Council to Osborne & Marcellis, Montclair, at $54,890, for paving with macadam on sides and concrete in center on Ridgewood Ave., from East Orange line to Bay Ave.

★**Pittsburgh, Pa.**—Contract awarded by City Council to McCrady Bros. Co., Pitt and Wallace Sts., at $77,800 for grading and paving roadway approach to Brown's bridge; roadway will be 24 ft. wide of macadam base construction, brick surface.

★**Wheeling, W. Va.**—Contracts awarded Oct. 24 by Co. Comrs. to Hamilton Constr. Co., Franklin, Pa., for constructing Bethany Pike from Wellsburg through Bethany to Ohio Co. line and West Liberty, at $162,000, and for Holliday's Cove Rd. from Steubenville bridge along river to Holliday's Cove, at $60,000.

★**Florence, S. C.**—Contract awarded by U. S. War Dept. to L. Morgan Johnston, Arlington, Va., for paving with macadam, 21,000 sq. yd. on Church St., from Jacobs Hotel in Front St. to National Cemetery.

★**Dayton, Ohio.**—Contract awarded by Pub. Service Bd. for paving, etc., on Neal, Florence, Old Orchard and Arbor Aves., to Clifton Hoolihan, Bldrs. Exchange, at $42,398; for Bowen St. and Alley north of Oxford St., to Geiger & Finke, Germantown St., at $11,278.

Ohio.—Following bids were received Nov. 2 by State Highway Dept. (Clinton Cowen, comr.), Columbus: Sec. A, Wilmington-Hillsboro Rd., Bean & Co., Highland, $20,949. Sec. F, Columbus-Lancaster (bituminous macadam), Theo. Vogelsburg, London, $13,668; (solid natural lake asphalt), J. A. Jones, Columbus and J. C. Gannon, Ironton, $14,195; Sec. F, Ottawa-Findlay, J. W. McDowell, Ottawa, $10,002. Sec. M, Findlay-Tiffin, Natl Lime & Stone Co., Carey, $14,100.

★**Columbus, Ind.**—Co. Comrs. awarded contract, Oct. 28, to F. H. Kent Constr. Co., Shelbyville, Ind., for following concrete roads: Lowe, at $25,494; Schulz, at $42,194; Zurbrugg, at $25,494.

★**Sterling, Ill.**—Contract awarded by City Council to Hess and Wilson, Sterling, for road construction in Genessee vicinity at $25,000.

★**Lincoln, Neb.**—Contract awarded by City Council to Burke Cochrane Constr. Co., First National Bank Bldg., at $47,824, for paving in Dists. 368 and 369. Theo. H. Berg, city clk.

★**Edinburg, Tex.**—Contract awarded by Co. Comrs. to Thomas F. Lovett, San Juan at about $148,000 for constructing Hidalgo county's part of "Diamond Loop."

★**Vernon, Tex.**—Contract awarded by City Council to General Constr. Co., Fort Worth, for paving 25,000 sq. yd. of certain streets with asphalt concrete on 4-in. concrete base at $1.55 per sq. yd.; curb, 38 cts. lin. ft.; gutters, 38 cts.; combined curb and gutter, 60 cts.; headers, 10 cts.

★**Los Angeles, Cal.**—Contract awarded by Bd. Pub. Wks. to California-Arizona Constr. Co., 1700 East Washington St., at $19,813 for constructing 97,550 sq. ft. warrenite pavement, concrete and granite block gutters, etc., on Normandie Ave., between Santa Barbara and Vernon Aves.

★**Pocatello, Ida.**—Contract awarded to Francis McNally, Pocatello, at $34,931 for 20,570 sq. yd. of paving in Dist. 141. Bids opened Oct. 26. J. H. Giles, city engr.

★**Toronto, Ont.**—Contract awarded by City Council to Warren Bituminous Paving Co., McKinnon Bldg., at $12,000, for paving Osler Ave.

RAILWAYS
Steam and Electric

PROPOSED WORK.

Morristown, N. J.—Morristown & Erie RR. (R. W. McEwan, ch. engr., Whippany) will electrify line extending from Morristown to Essex Falls, distance 11 miles.

Reading, Pa.—Reported Pennsylvania RR. (Alex C. Shand, ch. engr., Broad St. Station, Philadelphia), plans double tracking line from Reading to Pottsville, about 35 miles. Work will probably begin next spring.

Savannah, Ga.—Atlantic Coast Line RR. (J. E. Willoughby, ch. engr., Wilmington, N. C.) and city considering eliminating grade crossings in Savannah.

Birmingham, Ala.—See "Paving and Roads."

Vicksburg, Miss.—Vicksburg Light & Traction Co. (C. L. Sheffield, ch. engr., Vicksburg) plans to install 15,000-kw. turbo generator and auxiliary equipment.

Nashville, Tenn.—Nashville Ry. & Light Co. (F. W. Hoover, genl. mgr., Nashville) considering making extensive improvements.

Columbiana, Ohio.—Plans being made by Youngstown & Southern Ry. (Geo. Tod, Jr., ch. engr., Youngstown) to construct a line from Columbiana to East Palestine.

Fort Loramie, Ohio.—Minster & Loramie Ry. (F. D. Carpenter, genl. mgr., Lima) considering construction of extension to Covington or Piqua.

Chicago, Ill.—Chicago Surface Lines (H. B. Fleming, ch. engr., Chicago), received permit from Supt. Streets to construct extensions on Ewing and Brandon Aves. and 118th St.

Fort Madison, Iowa.—Plans being considered for constructing an electric railway from Fort Madison to Keokuk. J. M. Fisher of Nauvo said to be interested.

Los Angeles, Cal.—The Montecito RR. (W. D. Larrabee, pres., 204 Higgins Bldg.) will construct 1-mile extension during 1917.

Orofino, Idaho.—Reported the Chicago, Milwaukee & St. Paul Ry. Co. (C. F. Loweth, ch. engr., Railway Exchange Bldg.) is having surveys made for constructing railroad into great white belt north of Orofino.

BIDS DESIRED.

Atlanta, Ga.—Reported desired until Dec. 5 by C. M. Candler, chmn. Comm., for constructing extension line from Atlanta to seawall, about 250 miles, for the Western & Atlantic R.R. (J. A. Baldwin, supt.)

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Stafford Springs, Conn.—C. A. Tinker, 465 Summer Ave., Springfield, Mass., reported architect for 1-story, 200 x 300 ft. and 1-story, 50 x 200-ft. mill to be erected here for Rhode Island Worsted Co.; cost, about $200,000.

New York, N. Y.—Plans filed for 6-story fireproof, office, storage and factory building to be erected at 16 Beekman St. for Kenneth M. Eyland; cost, $65,000. Taylor & Mosley, archts., 40 Wall St.

New Orleans, La.—Stern Foundry & Machinery Co., 1630 Annunciation St., is having plans prepared for additions to plant, costing about $100,000.

Battle Creek, Mich.—Consumers Power Co. (B. S. Eppes, supt.), Battle Creek, reported contemplating enlarging plant, to cost about $300,000.

Grand Rapids, Man.—Reported Manitoba Pulp & Paper Co. (D. B. McDonald, mgr., 530 Greenwood Pl., Winnipeg), plans erecting plant here to cost $2,000,000.

Pontiac, Mich.—Oakland Motor Car Co., Pontiac, intends enlarging factory; estimated cost, $50,000.

Park Falls, Wis.—Reported plans complete for paper mill to be erected at Pixley Rapids for Flambeau Paper Co. (Guy Waldo, secy, and mgr.), Park Falls; cost, $125,000. T. W. Orbison, engr., Appleton.

Waterloo, Ia.—See "Reinforced Concrete."

Minneapolis, Minn.—Northrup, King & Co., 26 Hennipen Ave., will erect 6-story brick seed-cleaning house and 4-story brick warehouse at 1500 Jackson St.; cost about $225,000.

Minneapolis, Minn.—Reported Mueller Furnace Co., 631 3rd Ave. S., contemplates erecting new factory on University Ave. and 27th St., S. E.; cost, about $70,000.

St. Paul, Minn.—Capital City Milling & Grain Co., 241 S. Robert St., intends enlarging plant, to cost about $50,000.

Omaha, Neb.—Reported A. P. Johnson, Omaha, engaged by Crown Tire & Rubber Co., recently organized, to prepare plans for rubber plant to consist of six buildings; first unit of main plant to be 4 stories, 80 x 150 ft.

Dallas, Tex.—Plans being prepared by Lang & Witchell, Dallas, for 12-story warehouse to be erected for Sanger Bros.; cost, $500,000.

North Yakima, Wash.—Reported $100,000 pulp dryer will be added to proposed sugar factory to be erected here for Utah-Idaho Sugar Co.

Ventura, Cal.—Reported S. B. McCloskey and John Tweedale of Wilmington, Cal., contemplate erecting fish cannery here; probable cost, $60,000.

Ft. William, Ont.—Contract soon to be let for erecting grain elevator to cost $130,000. M. Sellers & Son, archts., 408 Grain Exchange.

Galt, Ont.—Plans being prepared by John Evans, Galt, for two 50 x 80-ft. brick, reinforced concrete and steel factory buildings to be erected for Galt Brass Co.; cost, $60,000.

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Hamilton, Ont. — Prack & Perrine, Dumsden Bldg., Toronto, reported architects for factory to be erected for Hamilton Steel Wheel Co.; cost about $200,000

Sarnia, Ont.—Imperial Oil Co., Sarnia, contemplates spending $300,000 for new buildings and improvements.

BIDS DESIRED.

Highbridge, N. J.—Bids will be received by Taylor-Wharton Iron & Steel Co. on concrete foundations and steel superstructure for large machine shop extensions.

PRICES AND LETTINGS.
★Indicates award of contract.

★Buffalo, N. Y.—Contract awarded Forest City Steel & Iron Co., Cleveland, O., for erecting limestone crushing and storage building on the Buffalo River and Buffalo Creek Terminal RR., for Kelly Island Lime & Transport Co., Cleveland, O.; cost with equipment, $250,000.
Contract awarded Durolithic Co., Ellicott Sq., for erecting 3-story factory for Rice & Adams; cost, about $75,000.

★Fairport, N. Y.—Contract awarded Turner Constr. Co., Prudential Bldg., Buffalo, for erecting 3-story, 75 x 180-ft. factory and warehouse for American Can Co., 120 Bway., New York; cost, $75,000.

★Niagara Falls, N. Y.—Peckham Constr. Co., Mutual Life Bldg., Buffalo, secured contract for erecting five 2-story factory buildings at Sugar St. and New York Central RR. for Titanium Alloy Mfg. Co.; cost, $75,000.
★Contract awarded Snyder-Gillett Constr. Co., Niagara Falls, for erecting 1-story, 135 x 300 ft. factory at Whirlpool Ave., 15th St. and New York Central RR. for National Carbon Co.; cost, $50,000.

★Garfield, N. J.—Contract awarded by by L. Buonocore & Son, 169 Harrison Ave., to T. Bruno & Gallante, Garfield, for erecting 3-story factory; cost, about $81,000.

Philadelphia, Pa.—See "Reinforced Concrete."

★Sparrows Point (P. O. Baltimore), Md.—Contract reported awarded Dravo Contr. Co., Diamond Bank Bldg., Pittsburgh, Pa., for extension and improvements to plant of Maryland Steel Co., recently acquired by Bethlehem Steel Co.; cost, $2,000,000.

★Warren, O.—Contract awarded Heller Bros., Youngstown, for erecting addition to plant of Warren Mazda Lamp Co.; cost, about $75,000.

★Detroit, Mich. — Contract reported awarded by Detroit United Ry. Co. to W. E. Wood, 1805 Ford Bldg., for erecting freight house on Monroe Ave., Chene, Dequindre and Macomb Sts.; cost, about $1,000,000.

★Flint, Mich.—Reported W. E. Woods Constr. Co., Paterson Blk., has contract for erecting 2-story laundry for Trojan Laundry Co.; cost, about $75,000.

★Fort Madison, Iowa.—Contract for erecting plant for American Fork & Hoe Co. awarded C. M. Hohlen, Burlington; cost, about $100,000.

Modesto, Cal.—See "Structural Steel Work."

★Vancouver, B. C.—Contract for erecting brick freight sheds awarded by Dept. of Pub. Wks. to Snider Bros. & Brethour, C. P. R. Wharf, Vancouver.

BUILDINGS
Public and Private

PROPOSED WORK.

Boston, Mass.—Plans being prepared by Edw. F. Tirrell, 44 Bloomfield St., for lodge, theater and store building to be erected for Orient Heights Amusement Co.; cost, $100,000.

Auburn, N. Y.—Reported New York Telephone Co., 9 South St., intends erecting new building to cost with equipment about $150,000.

Brooklyn, N. Y.—See "Reinforced Concrete."

Elmira, N. Y.—Tentative plans reported prepared for proposed $70,000 Carnegie Library to be erected at Lake and Church Sts. Address Secy. Library Assoc.

Ft. Edward, N. Y.—Plans being prepared by M. L. & H. G. Emery, Bible House, New York City, for 2½-story church edifice to be erected for St. Joseph's Roman Catholic Church; cost, $60,000. Rev. Father Morrissey, pastor, 164 Bway.

New York, N. Y.—See "Reinforced Concrete."

New York, N. Y.—Plans filed for erecting following buildings: 5-story fireproof garage at 32 W. 66th St., for W. 66th St. Garage, Inc.; cost $100,000, Shape & Bready, Inc., archts., 220 W. 42nd St.; two 5-story brick tenement houses on Grand Concourse and 197th St. for Lemarac Realty Corp.; total cost $100,000, Lucian Pisciotti, Archt., 391 E. 149th St.; 5-story brick tenement house on West Farms Rd. and Vyse Ave. for Wm. Sinnott; cost $65,000, Kreymborg Architectural Co., archts., 1029 E. 163rd St.; two 5-story brick tenements on 181st St. and Daly Ave. for Simona Realty Co.; total cost $160,000, Kreymborg Architectural Co., archts., 1029 E. 163rd St.
Reported revised plans being prepared by Henry Ives Cobb, 527 5th Ave., for 23 additional stories to be erected to 7-story Heidelberg Building at Bway, 42nd St. and 7tn Ave.; cost about $1,000,000.

Bayonne, N. J.—All bids recently opened by Supervising Architect, Washington, D. C., for erecting U. S. postoffice rejected as being too high. Revised plans to be prepared and new bids asked.

Ashley, Pa.—Erection of 13-room high school contemplated; cost, about $135,000. Thos. Cole,, secy. school bd.

Aspinwall, Pa.—Press Dowler, Arrott Bldg., Pittsburgh, engaged to prepare plans for 2-story and basement high school to be erected on 4th St.; cost, $75,000. E. J. R. Brantlinger, secy. Bd. Educ.

Dubois, Pa.—All bids recently opened by Supervising Architect, Washington, D. C., for erecting U. S. postoffice, rejected. New bids to be asked on revised plans.

Dunmore, Pa.—Harvey J. Blackwood, 445 Quincy Ave., Scranton, reported engaged to prepare plans for brick and stone high school; probable cost, $100,000.

New Castle, Pa.—Erection of $250,000 Masonic Temple reported contemplated at Highland and Laurel Aves.; cost about $250,000.

Rochester, Pa.—Plans being prepared by F. I. Merrick, Empire Bldg., Pittsburgh, for 3-story addition to be erected to Rochester General Hospital; cost, about $50,000.

Washington, D. C.—Plans being prepared by A. P. Clark, Jr., 816 14th St., N. W., for theater to be erected for Garden Moving Picture Theater; cost, about $500,000.

Charleston, W. Va.—Reported contract will be let about Dec. 1 for erecting 9-story and basement bank and office building for Kanawha County Banking & Trust Co.; cost, $200,000. Dennison & Hirons, archts., 475 5th Ave., New York City.

Charleston, W. Va.—See "Reinforced Concrete."

Rockingham, N. C.—Erection of $75,000 courthouse contemplated. Address Co. Clk.

Bowling Green, Ky. — Reported city considering plans for city and county hospital, to cost about $50,000.

Cincinnati, O.—Cincinnati & Suburban Bell Telephone Co., Telephone Bldg., plans erecting branch exchange building for Woodburn Exchange to cost about $150,000.

Cleveland, O.—Reported Community Home Bldg. Co., care J. B. Dworken, 182 Engineers Bldg., will erect a $50,000 apartment building on Overlook and Cedar Rds.
Plans completed by Hubbell & Benes, 4500 Euclid Ave., for a residence to be erected at 1723 E. Boule. for Carl W. Blossom, 1883 E. 84th St.; estimated cost, $55,000.
Plans being prepared by H. T. Jeffry, 408 Union Bldg., for two additional stories to be erected to 6-story Union Bldg., at 1836 Euclid Ave., for Tenbusch Realty Co.; estimated cost, $150,000.
Plans completed by Walker & Weeks, 1900 Euclid Bldg., for $60,000 residence to be erected on Magnolia Drive for Frank Billings, pres. Billings-Chapin Co., 1163 E. 40th St.
Reported Estates & Investment Co., Union Bldg., intends erecting 4-story brick apartment building on E. 105th St. and Euclid Ave.; cost, about $150,000.
Reported Firestone Tire & Rubber Co., Akron, contemplates erecting $100,000 branch sales and service station at Prospect Ave. and E. 30th St.

Cleveland Heights (P. O. Warrensville), O.—Plans being prepared by R. A. Van Renssalaer, 10623 Everton Ave., Cleveland, for 3-story, 32 x 110-ft. apartment house to be erected at Glenmott and Mayfield Roads for Wm. Van Bergen, 10308 Yale Ave.; estimated cost about $50,000.

Defiance, Ohio.—School bonds for $200,000 will be sold Nov. 29 by W. A. Snider, clk. bd. educ.

East Cleveland, O.—Reported F. M. Margolin, care Saml. A. Adams, 530 Williamson Bldg., Cleveland, will erect an apartment house on Van Buren Rd. and Euclid Ave., costing about $60,000.
Reported Walker-Mau-Lovering Co. intends erecting apartment buildings on Lakeview Road and Marabelle Ave., to cost $140,000. Fowler-Worman-Kelley Co., 810 Hippodrome Bldg., may be able to give information.

Old Fort, Ohio.—Erection of $50,000 school contemplated here.

Port Huron, Mich.—Women's Benefit Assoc. reported having plans prepared for new building, to cost $350,000.

Peoria, Ill.—Site selected by Sanitarium Comn. (E. S. Woolner, chmn.), for proposed tuberculosis hospital; probable cost, $55,000.

Ladysmith, Wis.—H. T. Liebert, Wausau, reported architect for 3-story and basement, 38 x 142 ft. hospital to be erected for Mantellate Sisters; cost, $75,000.

Milwaukee, Wis.—Richard E. Schmidt, Garden & Martin, 104 S. Michigan Ave., Chicago, Ill., are architects for new Columbia Hospital; first unit to cost $100,000.
Leiser & Holtz, Germania Bldg., are architects for 6-story and basement, fireproof Hotel Washington, to be erected at 4th and Sycamore Sts. for I. Miller, Herman Pereles and Walter W. Kauwertz; cost, $300,000.

Centerville, Ia.—Issue of $150,000 bonds for erecting new high school under consideration.

Sergeant Bluff, Ia.—Plans being prepared by L. G. Steele, Sioux City, for consolidated school to cost $75,000.

Sioux City, Ia.—Erection of a 4-story fireproof brick and terra cotta nurses' home for St. Joseph's Hospital contemplated.

Cloquet, Minn.—Citizens voted $70,000 bonds for erecting addition to Lincoln High School.

Owatonna, Minn.—Plans prepared for $56,000 high school. C. G. Schulz, State Supt. of Educ.

Ellsworth, Kan.—Plans completed by H. B. Winters, Union National Bank Bldg., Manhattan, Kan., for 2-story and basement high school; cost, $50,000. E. N. Fowler, secy. Bd. Educ.

Neodesha, Kan.—High school, costing about $100,000, reported contemplated.

Newton, Kan.—Reported contract will be let about Dec. 1 for erecting 2-story and basement, 90 x 130-ft. school; cost, $60,000. Greenbaum & Hardy, archts., 216 Scarritt Bldg., Kansas City, Mo. B. O. Hagen, secy. Bd. Educ.

Omaha, Neb.—Plans being prepared by H. A. Raapke, 1228 City National Bank Bldg., for 2-story and basement, 140 x 222 ft. brick and terra cotta business building and garage to be erected for Chas. R. Sherman; cost, $100,000.

Mandan, N. D.—Reported L. B. Hanna, Mandan, contemplates erecting $100,000 brick hotel.

Amarillo, Tex.—Bd. Educ. contemplates erecting school, to cost about $50,000.

Tyler, Tex.—Election soon to be held to vote $85,000 school improvement bonds.

Ardmore, Okla.—Plans being prepared by Wright & Wright, Kansas City, Mo., for proposed $200,000 hotel.

Clovis, N. M.—Erection of high school, costing about $75,000, under consideration.

Denver, Col.—Plans being prepared for 12 or 14-story, marble and granite building to be erected for Capitol Life Insurance Co. of Colorado, 212 Opera House Bldg.; cost, about $1,000,000.
Plans being prepared by Fisher & Fisher, Railway Exchange Bldg., for 16-story, fireproof hotel contemplated at 16th and Arapahoe Sts. by Bishop-Cass Investment Co.; probable cost, $1,000,000.

Mt. Vernon, Wash.—Reported contract will soon be let for erecting 2-story, 76 x 132-ft. school with a 60-ft. wing; cost, $60,000. Stephen & Stephen, archts., New York Blk., Seattle.

Spokane, Wash.—Committee appointed by Chamber of Commerce to secure site for proposed National Guard Armory, to cost about $500,000. Maurice Thompson, adj. genl., Haight Bldg., Seattle, may be able to give information.

Seattle, Wash.—Election Dec. 2 to vote $1,083,000 bonds for erecting new high school in University Dist., seven grade schools, purchase of site for high school to relieve Broadway and Franklin High Schools; also for purchase of about 10 additional sites in various parts of city. Nathan Eckstein, pres. school bd.

Corvallis, Ore.—Election soon to be held to vote $75,000 bonds to erect high school.

Portland, Ore.—Sum of $75,000 reported available for erecting first unit of proposed medical school for University of Oregon. Whitehouse & Fouilhoux, archts, Railway Exchange Bldg.

Fresno, Cal.—Bd. Educ. approved plans for proposed 3-story annex to High School; cost about $60,000.

Palo Alta, Cal.—Allison & Allison, Hibernian Bldg., Los Angeles, engaged to prepare plans for proposed $150,000 high school. Address Bd. Educ.

San Francisco, Cal.—See "Reinforced Concrete."

Hamilton, Ont.—Plans being prepared by Prack & Perrine, Lumsden Bldg., Toronto, for terra cotta office building to be erected for Canadian Westinghouse Co.; cost, $150,000.

London, Ont.—See "Reinforced Concrete."

BIDS DESIRED.

Farmingdale, N. Y.—Until Nov. 14, by W. Wirt Mills, secy. bd. trustees, Woolworth Bldg., New York, for constructing horse barn, heating and plumbing work for greenhouse for New York State School of Agriculture on Long Island. Advertised in this issue. Lewis F. Pilcher, state arch., Albany.

New York, N. Y.—Until Nov. 20, by C. B. J. Snyder, supt. of school buildings, New York City, for completing and finishing the Evander Childs high school, E. 184th St. and Field Pl., Bronx Boro. Security, $50,000. Separate bids until Nov. 13, same place as above, for alterations and additions to Public School No. 4, Fulton Ave. and E. 183rd St., Bronx Boro. Security, $60,000.

Potsdam, N. Y.—Until Nov. 14, by Dr. Thomas E. Finegan, deputy comr. educ., Educ. Bldg., Albany, for constructing heating work for the reconstruction of the State Normal and Training school. Advertised in this issue. Lewis F. Pilcher, archt., Albany.

Newark, N. J.—Until Nov. 27 by Bd. Educ. (R. D. Argue, secy.) for erecting a school building on Speedway Ave., to comprise masonry, steel and iron, metal carpentry, heating, ventilating, etc.

Coudersport, Pa.—Until Nov. 21 by E. M. Elliott, secy. school dist., for erecting a high school building on the corner of Main and Water Sts. Hersh & Hersh, archts., Central Trust Bldg., Altoona.

Clearwater, Fla.—Reported desired until Nov. 21 by Co. Clk. for erecting courthouse and jail. F. J. Kennard, archt., American National Bank Bldg., Tampa, Fla.

Chillicothe, O.—Reported desired until Dec. 1 by Ohio National Guard for erecting Memorial Hall and Armory, 2-story, 70 x 200 ft.; cost about $65,000. Fred Elliott, archt., Chamber Commerce Bldg., Columbus.

Warrensville, Ohio.—Reported desired until Nov. 15 by Bd. Educ., Dr. C. L. McCoy, pres., for erecting 2-story and basement 70 x 101 school building. Cost, $50,000. A. W. Rust Co., archts., 8451 Broadway, Cleveland.

Danville, Ill.—Reported desired until Dec. 15 by First National Bank for erecting 10 and 12-story bank and office building; cost about $150,000.

Turtle Lake, Wis.—Until Nov. 17 by A. H. Nuesse, clk. school bd. of Joint Dist. No. 3, for erecting a school building. Separate bids for heating, plumbing, ventilating and electric work, etc. G. L. Lockhart, arch., 285-288 Endicott Bldg., St. Paul.

Alburnett, Iowa.—Until Nov. 30, A. B. Olson, secy., Consolidated School Dist., for erecting school building. Separate bids for heating, plumbing and ventilating, etc. Bidders may secure plans and specifications from the Ingold Unit System Co., 600 South First St., west, Cedar Rapids.

Havelock, Ia.—Reported desired until Nov. 25 by Consolidated School Dist. for erecting 2-story, 62 x 152-ft. school building; cost about $55,000. Martin & Hoskins, archts., Storm Lake.

Newton, Kan.—Reported desired until Dec. 1 by Bd. Educ. for erecting 2-story, 90 x 130-ft. school; cost about $60,000. Greenbaum & Hardy, archts., 216 Scarritt Bldg., Kansas City, Mo.

PRICES AND LETTINGS.
★Indicates award of contract.

★Haverhill, Mass.—Contract for erecting school awarded John M. Roche, 467 Primrose St.; cost, about $100,000.

Springfield, Mass.—Following are four lowest bids opened Oct. 23 by City Property Com. (Giles Blague, Chmn.) for erecting Hooker School on Franklin St.: A. W. Falvey, Springfield, $150,000; J. F. Growe Constr. Co., 118 Hudson St., Albany, N. Y., $155,700; A. E. Stephens Co., Springfield, $156,818; Casper Ranger Constr. Co., Holyoke, $162,158.

★Mt. Pleasant, N. Y.—Contract for erecting 2-story and basement, 100 x 400 ft. county almshouse reported awarded P. J. Brennan, 624 Madison Ave., New York City; cost, $500,000. Walker & Gillette, archts., 128 E. 37th St., New York City.

★New York, N. Y.—Contract reported awarded Industrial Eng. Co., 30 Church St., for erecting 5-story garage for Wellesley Realty Co.; cost, about $60,000.

West Haverstraw, N. Y.—Following are bids opened Oct. 27 by Geo. Blagden, pres. bd. mgrs., New York State Hospital for Crippled and Deformed Children, West Haverstraw, for constructing main building at Hospital: general construction, W. H. Egan, 147 E. 125th St., $41,923; plumbing and drainage, J. R. Egan, 32 Old Bway., New York City, $5,465; heating, Conkling, Kerber & Hanlon, 423 Court St., Rochester, $4,625.

★**Oyster Bay, L. I., N. Y.**—Contract awarded Stevenson & Cameron, 37 W. 25th St., New York City, for erecting residence here for Nelson Doubleday; cost, about $50,000. H. T. Lindberg, archt., 2 W. 47th St., New York City.

★**Jersey City, N. J.**—Contract reported awarded Wm. Robertson & Son, 15 Exchange Pl., Jersey City, for erecting 50 x 100-ft. clubhouse for Cartaret Social Club; cost, $125,000. Clinton & Russell, archts., 32 Nassau St., New York City.

Woodbury, N. J.—Following are bids opened Oct. 31 by Supervising Architect, Washington, D. C., for constructing complete of U. S. postoffice: Chas. McCaul Co., Philadelphia, Pa., $57,670; Edw. F. Fonder, Philadelphia, Pa., $58,700; Westchester Eng. Co., White Plains, N. Y., $59,900; E. T. Abbott Constr. Co., New York City, $61,790.

★**Chester, Pa.**—Contract awarded Chester Constr. & Contr. Co., Heed Bldg., Philadelphia, for erecting 6-story, 300 x 420 ft., brick, reinforced concrete, steel and terra cotta power house for Beacon Light Co.; cost, $2,500,000. John T. Windrim, archt., Commonwealth Bldg., Philadelphia.

★**Philadelphia, Pa.**—Contract awarded P. H. Kelly, Lippincott Bldg., for erecting 15-story, 55 x 96-ft. steel, stone and brick office building at 1429 Walnut St., for Saml. Brumbaugh; cost $600,000.

Burlington, N. C.—Following are four lowest bids opened Oct. 30 by Supervising Architect, Washington, D. C., for erecting U. S. postoffice, (a) limestone, (b) sandstone: McAdams & Mitchell, Burlington, (a) $58,800; Richardson Eng. & Constr. Co., Bainbridge, Ga., (a) $61,700, (b) $62,500; Olin Gerlach, Frostburg, Md., (a) $65,449, (b) $67,000; Thos. W. Cissell, Wooster, Ohio, (a) $71,700, (b) $74,000; W. F. Fissell & Co., Marbridge Bldg., New York City, (b) $77,600.

★**Macon, Ga.**—Contract awarled S. F. Fulgum, Pensacola, Fla. for erecting 5-story store building at 3rd St. and Bway, for Union Dry Goods Co.; cost about $85,000.

★**Mobile, Ala.**—Contract awarded Jett-Muths Constr. Co., Mobile, for erecting clubhouse at Government and Wilkinson Sts. for Fidelia Club; cost $50,000.

Cleveland, O.—See "Reinforced Concrete."

★**Elyria, O.**—Contract reported awarded Geo. B. Wills Co., 101 Park Ave., New York City, for erecting bank building for Savings Deposit Bank & Trust Co.; cost, about $72,000. Alfred Hopkins and Chas. S. Keefe, assoc. archts., 101 Park Ave., New York City.

★**Kenmore, Ohio.**—Contract for erecting 2-story high school reported awarded by Bd. Educ. (bids opened Oct. 23) to Drummond-Miller Co., Cleveland, at about $78,960.

★**Indianapolis, Ind.**—Bedford Stone & Constr. Co., 810 Fletcher Trust Bldg., secured contract to erect 5-story service station and sales building for Gibson Co.; cost, about $300,000.

★**Oconomowoc, Wis.**—Contract reported awarded Nelson-Weber Co., Oconomowoc, for erecting residence on Oconomowoc Lake for F. W. Mathiessen, Jr., of La Salle, Ill.; cost about $100,000.

Anoka, Minn.—Lowest bids opened Oct. 31 by State Bd. Control, State Capitol Bldg., St. Paul, for erecting proposed infirmary at Anoka Insane Asylum, include following general construction: Cameron & Co., Ryan Annex, St. Paul, $48,966; heating and plumbing P. J. Gallagher, Faribault, $10,700.

★**Dickinson, N. D.**—Contract awarded Chas. Weitz Sons, Des Moines, Iowa, for erecting U. S. postoffice, at $71,287.

★**Montreal, Que.**—Contract awarded Durocher & Archambault, 706 St. Catherine St. E., for erecting brick and stone addition to Catholic School; cost, $155,000.

★**Ottawa, Ont.**—Contract awarded by Norlite Realty Co. to Doran & Devlin, Ottawa, for erecting brick and stone office building; cost, $130,000.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Providence, R. I.—See "Waterworks and Sewerage Systems."

Rochester, N. Y.—City is preparing preliminary plans for constructing a concrete retaining wall for Johnson & Seymour Dam; cost, $140,000. E. T. Elwood, city engr.

Bayonne, N. J.—B. F. Cresson, Jr., ch. engr. bd. com. & navig., 75 Montgomery St., Jersey City, has prepared plans for proposed bay front development, consisting of railroad terminals, docking facilities and ferry slips and an amount of land for factory sites.

Pennsylvania.—Applications for permission for constructing following work approved by the State Water Supply Comn., Harrisburg:

Blair Co.—Penn. RR. Co. (G. B. Harley, pub. agt., Broad St. sta., Philadelphia), two abutments and pier at bridge No. 0.05, 12 miles from mouth of stream in Tyron Boro.

Clinton Co.—Penn. RR. Co. (G. B. Harley, pub. agt., Broad St. sta., Philadelphia), repair dam on Bald Eagle Creek in Bald Eagle Township.

Elk Co.—Antonia Battaglia, Pittsburgh, for retaining wall along Elk Creek, 120 ft. long, to a point about 670 ft. from mouth Elk Creek.

Indiana Co.—Buffalo, Rochester & Pittsburgh Ry. Co. (E. F. Robinson, ch. engr., Rochester, N. Y.), for making change in channel of Straight Branch Run with Canoe Creek in Canoe Township near village of Rossiter.

Lawrence Co.—American Sheet & Tin Plate Co., Frick Bldg., Pittsburgh, to construct intake along east bank of Shenango River below Franklin bridge at New Castle.

Lycoming Co.—Kimball S. Miller, Williamsport, for flashboard in spillway on dam on Hagerman Run, South Williamsport.

Mercer Co.—First Natl. Bank, Sharon, for retaining wall along west bank of Shenango River in Sharon.

Monroe Co.—Wesley J. Price & Milton D. Price, Philadelphia, for a concrete dam in East branch of Brodheads Creek, about 4 miles from village of Cresco.

Sullivan Co.—Hoagland Branch Creamery, for dam across Hoagland Branch Creek, in Fox Township.

Lancaster Co.—Pennsylvania Water & Power Co., Pittsburgh, repair and improve flashboard on its dam across Susquehanna River at Holtwood, Mystic Township.

Davenport, Ia.—Three railroad companies have submitted to the Davenport Levee Comn. plans for making improvements to river front at cost of $500,000.

Kansas City, Mo.—City contemplates constructing flood prevention dike along south bank of river from Grand Ave. to Blue River Bluff. Probable cost, $576,024.

Santa Fe, N. M.—Contract soon to be let by Rio Grande Light, Heat & Power Co. (Chas. G. Wilfong, pres., Philadelphia, Pa.), for hydroelectric development of Write River Canon of Rio Grande River, to consist of cut-off wall, consisting of sheet piling and solid concrete wall 15 ft. thick from a seal between the toe of dam and clay strata located about 50 ft. below the river level. Total height of dam, 155 ft.; width, 200 ft., and distance between canon walls, 400 ft. Dam stands on girder 400 ft. long, 200 ft. deep, which has been designed to carry horizontal pressure due to the water and cutoff over on the canon walls. Estimated cost, $2,200,000. A. G. Hillberg, engr., 13 Park Row, New York, N. Y.

Seattle, Wash.—Contract will be let early in November for constructing dock 165 x 525 ft. for Galbraith, Bacon & Co., Inc., foot of Wall St., at a cost of $50,000. Blackwell & Baker, engrs., Seattle.

Barstow, Cal.—All bids opened Oct. 30 by Bd. Co. Supervs. (L. R. Patty, clk., San Bernardino) for constructing protection work along Mojave River, and for repair and addition to Barstow Bridge, rejected. County will construct on force account.

Colton, Cal.—No bids opened Oct. 9 by R. P. Patty, clk. bd. co. supervs., San Bernardino, for constructing protection work for Santa Ana River. Matter postponed until spring.

Newport Beach, Cal.—Harbor improvement bonds for $125,000 have been voted.

Port Dover, Ont.—Engineer Lamp of Dept. Pub. Wks., Windsor, will prepare plans for dock improvements, concrete and stone construction; cost, $75,000.

BIDS DESIRED.

New York, N. Y.—Until Nov. 20, by R. A. C. Smith, comr. of docks, Battery Pl., for Contract No. 1549 furnishing material and extending Pier No. 21, foot of Duane St., North River, and depositing riprap thereat. Separate bids, same time and place, for Contract No. 1420 furnishing material and extending Pier No. 20, foot of Chambers St., North River, and disposing riprap thereat. Total security, $24,000.

Highbridge, N. J.—See "Foundations, Piers and Dams."

Cincinnati, Ohio.—Until Dec. 11, at U. S. Engineers Office, Custom House, for extension below abutment at Dam No. 4, part of the guard wall at Beverly and Waterford, and guard wall at Lock No. 8, at Eagleport; and an extension of a revetment in the canal at Lock No. 10, Muskingum River, at Zanesville. W. P. Stokey maj. corps. of engr., U. S. Army.

Cincinnati, Ohio.—Until Dec. 8, at U. S. Engineers Office, for furnishing and delivering wicket irons, horses, props and Poiree trestles for Ohio River Dams, Nos. 31, 33, 35 and 39. Advertised in this issue.

Zanesville, Ohio.—Until Dec. 11, at U. S. Engrs., Zanesville, for constructing extension below abutment at Dam No. 4 (Beverly and Waterford), part of guide wall at Lock No. 8, and extending revetment in canal at Lock No. 10, Muskingum River.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Boston, Mass.**—Contract awarded by Park & Recreation Dept. (John H. Dillon, chmn.) to Hugh Nawn Contr. Co., Roxbury, at $102,890, for constructing a sea wall at Savin Hill Beach. (Bids opened Oct. 13.)

★**Seattle, Wash.**—Contract awarded by Seattle Constr. & Dry Dock Co. (C. W. Wiley, pres. and genl. mgr.) to John McAteer, of McAteer Shipbuilding Co., Seattle, at $225,000, for constructing first four sections of floating drydock for said company.

★**Montreal, Que.**—Contract awarded T. O. Sullivan, 47 St. Louis Sq., at $20,900, for furnishing material and constructing La Salle bridgehead gate. Paul E. Mercier, city engr.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

New London, Conn.—All bids opened Oct. 26, at U. S. Engrs. Office, New London, for dredging in Pawtucket River, R. I., and Conn., have been rejected as excessive.

Griffin, Ga.—Bonds voted for $65,000 in favor of constructing a garbage disposal plant. E. D. Bridges, clk. and treas.

West Palm Beach, Fla.—Contract soon to be let by Jules M. Bruguieres, res. dir. Southern States Land & Timber Co., for constructing lateral canals through their property north of West Palm Beach, canal to drain about 10,000 acres.

Columbus, Ohio.—City Federation of Labor voted in favor of issuing $3,500,000 bonds for channel improvement.

Lima, Ohio.—Ottawa River improvement bonds for $100,000 will be sold Nov. 20 by David L. Rupert, city aud.

David City, Neb.—Towl Eng. Co., Omaha, preparing plans for Butler Co. Drainage Dist. No. 2. Bids will be received in the spring.

Marshall, Mo.—Fish Creek Drainage Dist. (V. V. Huff, atty.), incorporated for reclamation of about 2700 acres of land lying south of Chicago & Alton RR., known as Glasgow bottom.

Corpus Christi, Tex.—Surveys have been made and contract will soon be let for dredging Turtle Cove channel between Aransas Pass channel and Corpus Christi to its former depth of 12 feet; estimated cost $40,000. Major Johnston, engr., Galveston.

Liberty, Tex.—County Drainage Dist. No. 2 has sold $70,000 bonds. C. N. Smith, county judge.

Palestine, Tex.—Levee Dist. No. 1, Anderson Co., voted $32,500 bonds for levee work. Address Clk. of Dist.

Texas.—Plans have been approved by Arthur A. Stiles, state reclamation engr., Austin, for constructing following levees:

Ellis Co.—No. 4 levee, 5½ miles long, 9 ft. high, to reclaim about 600 acres.

Henderson Co.—No. 1, 7.2 miles long, 15 ft. high, to reclaim 5306 acres.

Collin Co.—No. 1, 9½ miles long, 10 ft. high, to reclaim 3500 acres.

Dallas Co.—No. 1, 9.3 miles long, 10 ft. high, to reclaim 2300 acres.

Red River Co.—No. 1, 6 miles long, 9 ft. high, to reclaim 3500 acres.

Falls Co.—Several private levee projects along Brazos River contemplated.

Sequim, Wash.—At recent election in Happy Valley Dist. directors were authorized to issue $80,000 bonds and to proceed with construction of irrigation canal from Dungeness River, to cover 6000 acres south of Sequim. Address secy. of said dist.

Prineville, Ore.—An election will be held Nov. 11 in Crook Co. for $1,100,000 bonds for irrigation of about 23,000 acres. R. W. Rea, project engr., Prineville.

Oakland, Cal.—Contract soon to be let by Col. T. H. Rees, U. S. Engr., San Francisco, for dredging; estimated cost $150,000.

San Francisco, Cal.—Maj. L. H. Hand, corps engrs. U. S. A. states construction of wing dams and dredging contemplated on Feather River at a cost of about $20,000, to be done by government agencies, partially by force account and partially by contract. Dredging and removal of obstructions on San Joaquin and Sacramento Rivers also contemplated.

St. George, Utah.—The Dixie Irrigation Co. (C. B. Stewart, atty., Salt Lake City) has filed application with W. D. Beers, state engr., for 300 second ft. of water to be diverted from Rio Virgin River, constructing concrete dam and concrete channel 26 miles long, and reclaiming about 40,000 acres of land lying west of Hurricane in Washington County; estimated cost $750,000.

Daysland, Alta.—Plans being prepared by Dept. Pub. Wks., Edmonton, for reclaiming a tract of land near Daysland; estimated cost, $60,000.

BIDS DESIRED.

New York, N. Y.—Until Dec. 8, at U. S. Engineer Office, 710 Army Bldg., 38 Whitehall St., for dredging and rock removal in Port Chester Harbor. Advertised in this issue.

Zanesville, Ohio.—Reported desired until Nov. 15, by W. W. Roach, dir. pub. service, for concrete apron for revetment along Licking River. Carl Spencer, city engr., Masonic Bldg.

Garner, Iowa.—Until Nov. 15 by E. P. Hanson, co. aud., for 61,800 cu. yd. open work, 5478 ft. tile drain, from 12 to 18 in.

Breckenridge, Minn.—See "Structural Steel Work."

Duluth, Minn.—Reported desired until Nov. 20 by O. Halden, co. aud., for constructing Co. Ditch No. 7 in St. Louis Co., involving 124,504 cu. yd. of excav., rock excavation and installing metal culverts: cost $22,723.

Gaylord, Minn.—Ditch bonds for $15,000 will be sold Nov. 27 by Fred Hoppenstedt, co. aud. for Judicial Ditch No. 5 and Co. Ditch No. 31.

St. Paul, Minn.—Until Nov. 24 by Geo. J. Reis, co. aud., Ramsey Co., for digging and constructing Co. Ditch No. 14. Cost, $13,988.

Eagle Lake, Tex.—Reported desired until Nov. 22 by E. A. Frazee, secy. drainage dist., for 75,000 cu. yd. ditch excavation.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Providence, R. I.**—Contract awarded by U. S. Engr., Newport, to J. S. Packard Dredging Co., Providence, at $285,925, for dredging in Providence Harbor.

Philadelphia, Pa.—Following are bids opened Nov. 2 by Maj. J. C. Oakes, corps. engrs., U. S. Engrs. Office, Philadelphia, for dredging in Delaware River above Philadelphia: (a)) 25,500 cu. yd., (b) 30,500 cu. yd., (c) a and b combined: River & Harbor Improv. Co., Philadelphia, (a) 49 cts., (b) 46 cts., (c) 45cts.; Rickards Dredg. Co., Philadelphia, (a) 32 cts., (b) 28.5 cts., (c) 32 cts. and 28.5 cts.; Canal Constr. Co., 150 Nassau St., New York City, (a) 47 cts.

★**Charleston, S. C.**—Contract awarded by Bureau Yards & Docks, Navy Dept., Washington, D. C., Oct. 7, to L. T. Gaylord, 13 Park Row, New York City, at 12.97 cts. for dredging in Cooper River, from Charleston Harbor to the Navy Yard.

Tallahassee, Fla.—Following are bids opened Oct. 31, by Bd. Comrs. Drainage Dist. (F. C. Elliott, ch. drainage engr.) for constructing canal 19 miles long, requiring removal of about 1,600,000 cu. yd. material; (a) 1,534,700 cu. yd. earth excav., (b) 45,200 cu. yd. rock excav., (c) 1,579,900 cu. yd. excav. without classification: Johnson & Co., West Palm Beach, Fla. (recommended for acceptance; total cost of excavation at contract price of lowest bid, $144,023), (a) 8½ cts., (b) 30 cts., (c) no bid; Bowers Southern Dredg. Co., Galveston, Tex., (a) 9½ cts., (b) 25 cts., (c) 10 cts.; J. P. Middlemas, Tampa, (a) and (b) no bid, (c) 10 cts.; J. B. McCrary, Atlanta, Ga., (a) 9½ cts., (b) 35 cts., (c) no bid.

★**Memphis, Tenn.**—Contract awarded R. C. Cheshire and associates, Clarksdale, Miss., at about $1,000,000 for 3,000,000 cu yd. of enlargement and new work covering practically the entire Yazoo and Mississippi Delta Levee Dist.

Cleveland, O.—Walsh Constr. Co., 1312 Citizens Bldg., bid 26 cts. per cu. yd. by drag line method for excav. for elmination of 25 Nickel Plate RR. grade crossings between Detroit Ave. and Fulton Rd., about 750,000 cu. yd. to be removed, about 250,000 yd. to be carried to Walworth Run, less than half a mile, and remainder to railroads right-of-way east of Cuyahoga River, a distance of 3 miles. Using hydraulic and sluicing the 750,000 cu. yd.; estimated cost was 35 cts. per. cu. yd. Total cost of work estimated at $2,150,000 to the Nickel Plate and $765,000 to the city. Work to begin at once.

★**Harlan, Iowa.**—Contract awarded by E. A. Schell, co. aud, to Land Constr. Co., Council Bluffs, at 7.2 cts. per cu. yd. for straightening 6 miles of Nishnabotna River, consisting of 500,000 cu. yd. excav.

★**Olivia, Minn.**—Following are four lowest bids opened Oct. 16 by J. L. Johnson, co. aud., for constructing Judicial Ditch No. 14, consisting of 49,215 ft. 5 to 24-in. tile, necessary bulkhead, etc.: Hawkeye Cement Tile Co., Mason City, Iowa, $10,569; C. Sorenson, Slayton, cement tile, $18,250 (awarded contract); Niels L. Nielson, Fulda, cement tile, $19,000; Welps Cement Product Co., Bancroft, Iowa, clay tile, $21,000. County Ditch No. 70; 51,495 ft. 5 to 28-in. tile with bulkhead: Wm. B. Bosworth, Ada, clay tile, $27,000 (awarded contract); Niels Nielson, Fulda, cement tile, $27,500; C. Sorenson, Slayton, cement tile, $29,000; Welps Cement Product Co., Bancroft, Iowa, clay tile. $33,000.

★Following are bids opened Oct. 17,

same place as above, for constructing Ditch No. 63, tile portion, consisting of 125,000 cu. yd. excav., laying 440,229 lin. ft. tile, bulkheads, etc.: Kircher Bros., Hudson, Wis., salt glazed vitr. tile, $325,-000 (awarded contract); Hawkeye Cement Tile Co., Mason City, Iowa, cement tile, $164,483; McHose Sand & Tile Co., Boone, Iowa, cement tile, $180,513; Northwestern Drainage Co., Thier River Falls, material not stated, $328,295. Open work Div. No. 1, north of RR. tracks: Clyde A. Walb, La Grange, Ind., 6.4 to 8 cts. (awarded contract); E. D. Barr, Herman, Neb., 7 cts.; A. V. Wells & Sons, St. Louis, Mo., 7.9 cts.; Northern Dredge & Dock Co., Duluth, 9.18 cts. Div. No. 2, south of RR. tracks: Lawrence Constr. Co., Grand Rapids, Minn., 7.58 cts. (awarded contract); Indiana Dredg. Co., Royal Center, Ind., 8.94 cts.; Northern Dredg. & Dock Co., Duluth, 9 cts.; A. V. Wells & Sons, St. Louis, Mo., 10.03 cts. Open work, complete: Northwestern Drainage Co., Thief River Falls, Minn., 7.49 cts.; Thos. & Sweet, Bancroft, Iowa, 7.60 cts.; Clyde A. Walb, La Grange, Ind., 7.65 cts.; Horton & Moseley, Chicago, Ill., 7.98 cts.

★**Redwood Falls, Minn.** — Contract awarded by L. P. Larson, co. aud., for constructing Judicial Ditches Nos. 17 and 18, open, 242, 725 cu. yd. to Natl. Constr. Co., Minneapolis, at 13.5 cts. per cu. yd.; Judicial Ditch No. 39, 23,100 ft. clay tile, to Coolsaet Bros. & P. Drees, Clements, Minn., at $13,775; Ditch No. 17, 107,086 ft. 6 to 32-in. cement tile, G. E. Gilbertson & Co., St. James, $61,900, and Ditch No. 18, 712,050 ft. 6 to 30-in., W. C. Markland, Fairmont cement tile, $48,344. Bids for Ditch No. 9, withdrawn on account of legal process until later date.

★**Los Angeles, Cal.**—Contract awarded Jas. Kennedy Constr. Co., Washington Bldg., at $84,936 for constructing Signal Hill Drainage Dist. No. 1, involving about 11,266 ft. 48-in. reinforced concrete pipe, 31,000 cu. yd. excav., outfall and other concrete structures.

TUNNELS AND SUBWAYS

PROPOSED WORK.

Hillsboro, Ill.—Bd. Pub. Wks. have been petitioned to construct a subway on School St. over tracks of Cleveland, Cincinnati, Chicago & St. Louis Ry. (C. A. Paquette, ch. engr., Cincinnati.)

Council Bluffs, Ia.—City contemplates constructing a reinforced concrete diversion tunnel, two compartments, 11 x 188 ft., for 7000-ft. creek running through city. Probable cost, $500,000.

Fort William, Ont.—City has decided to prepare plans for constructing subway on Yonge St.; estimated cost, $250,000.

BIDS DESIRED.

New York, N. Y.—By Geo. Featherstone, secy., Bd. Water Supply, Municipal Bldg., for constructing tunnel about 18 miles long, from a point near Prattsville, on Schoharie Creek, Green Co., to a point on Esopus Creek, in the town of Shandaken, Ulster Co., advertised in this issue.

Shandaken, N. Y.—See "New York, N. Y."

PRICES AND LETTINGS.

★*Indicates award of contract.*

Erie, Pa.—Following bid opened by F. Hanlon, city clk., for constructing Parade St. subway: L. V. Metz, Glenwood Park, Erie, at $13,239.

MISCELLANEOUS

PROPOSED WORK.

Park Improvements—Syracuse, N. Y.—Recreation and park improvement bonds for $19,000 have been sold. H. A. Allen, city engr.

Transmission Line — Albion, Pa.—The Northwestern Electric Service Co. has been granted a franchise to erect electric transmission lines on certain streets of the borough and town of Albion.

Hydro-electric Development—Santa Fe, N. M.—See "Foundations, Piers and Dams."

Transmission Line—Uniontown, Ky.—The local electric light plant has been purchased by the Kentucky Utilities Co. of Lexington. A transmission line will be erected from Morgantown to Uniontown.

Park Improvements—Madison, Wis.—Madison Park and Pleasure Drive Assoc. contemplates improving Henry Vilas Park at a cost of about $84,842.

Transmission Line—Bondurant, Ia.—The Bd. of State RR. Comrs. has granted the town of Bondurant a 25-year franchise to erect an electric transmission line on the highways and road of Polk Co.

Transmission Line — Carroll, Ia.—The Carroll Light & Heat Co. is planning erecting a electric transmission line from Manning to Templeton, a distance of 22 miles.

Transmission Line—Ceda Rapids, Ia.—The Iowa Railway & Light Company contemplates erecting 75 miles of 33,000-volt three-phase, 60-cycle transmission line from Coon Rapids to Herndon, Panora, Guthrie Centre, Manlo and Adair.

Transmission Line—Davton, Ia.—The Bd. of State RR. Comrs. has granted the town of Dayton a 25-year franchise to erect and operate an electric transmission line between Harcourt and Dayton in Webster County.

Transmission Line—Elma, Ia.—The Consumers Electric Co. (A. L. Dodd, pres.) has been granted a franchise to erect and operate an electric transmission line between Elma and Riceville for a period of 25 years.

Transmission Line—Sioux City, Ia.—The Sioux City Gas & Electric Co. is planning to extend its transmission lines to Jackson, Neb., and to Whiting, Ia.

Transmission Line—Independence, Cal.—Application has been filed by the Southern Sierras Power Co., Denver, Col., for a franchise to erect transmission lines along roads and highways of Inyo County.

BIDS DESIRED.

Garbage—Reading, Pa.—Until Nov. 22, By Charles Marks, city clk., for disposal of all garbage and offal. Advertised in this issue.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Strandway Improvements—Boston, Mass.—Following are totals of four lowest bids opened by Edw. Murphy, comr. pub. wks., Nov. 1, for dredging, filling, sewerage work, grading, etc., for strandway and old harbor improvement, South Boston: N. Y. State Dredg. Corp., 17 Battery Pl., New York City, $803,180; Coleman Bros., Chelsea, $835,465; West Roxbury Trap Rock Co., West Roxbury, $858,429; H. Nawn Constr. Co., 82 Savin St., Roxbury, $914,432.

★**Park Improvements—Trenton, N. J.**—Contract awarded House Comr. John W. Thompson, Trenton, for 12,000 cu. yd. fill at $6,000; R. W. Smith Corp., 30 Church St., New York City, at $8,000, for placing top dressing and laying out walks in Stacy Park.

★**Castings — Louisville, Ky.** — Contract awarded by U. S. Engineers, Louisville, to J. B. Millholland. Pittsburgh, Pa., at $12,384 for gray iron castings for Lock No. 41, Ohio River.

★**Gate Operating Machinery—Louisville, Ky.**—Contract awarded by U. S. Engineers, Louisville, to Chas. Hegewald Co., New Albany, Ind., at $10 321, for furnishing gate-operating machinery for Lock No. 41, Ohio River.

Cranes and Switch Points—Seattle, Wash.—Following are bids opened Oct. 25 by Geo. E. Moore, act. purch. agt., Alaskan Eng Comn., Seattle, for (a) electric traveling shop crane, (b) switch points: Bidders on (a), S. B. Harding, 175 W. Jackson Boule., Chicago, Ill., $7,970; Cyclops Iron Wks., San Francisco, $10,200; Whiting Fdry. & Equip. Co., Harvey, Ill., $10,855. Bidders on (b), Elliot Frog & Switch Co., Pueblo, $1,045; Hofius Steel & Equip. Co., Seattle, $1,950; Gaerber Eng. Co., Bethlehem, Pa., $2,680; Seattle Frog & Switch Co., Seattle, $2,850.

Cement—Los Angeles, Cal.—Following are bids opened by Dept. Pub. Service for 6000 bbl. Portland cement: Riverside Portland Cement Co., Title Insurance Bldg., $1.33 per bbl., f.o.b. Riverside; Spreckles Bros. Commercial Co., 214 Wilcox Bldg., $1.33 per bbl., f.o.b. Riverside.

Following bids opened by City Purchasing Agent for furnishing 5000 bbl. Portland cement: Southwestern Portland Cement Co., 607 H. W. Hellman Bldg., $1.5275 per bbl.; Riverside Portland Cement Co., Title Insurance Bldg., $1.67; California Portland Cement Co., 525 Douglas Bldg., $1.71.

Hydroelectric Equipment—Yosemite, Cal.—Contracts awarded by Dept. Interior, Yosemite National Park (M. B. Lewis, superv.), for hydroelectric equipment for new power plant under construction, are as follows: Water wheels, Pelton Water Wheel Co., 19th and Harrison Sts., San Francisco, $15,130; generators, General Electric Co., Schenectady, N. Y., $11,182; transformers, General Electric Co., $3,669; switchboard, including installation, Butte Eng. & Electric Co., 683 Howard St., San Francisco, $3,400. (Bids opened Oct. 12.)

★**Piling—Hawkesbury, Ont.** — Contract awarded Raymond Concrete Pile Co., Ltd., New Birks Bldg., Montreal, for piling for a stack, boiler house and pumping station for the Riordon Pulp & Paper Co., Hawkesbury.

Proposals

For Proposals Advertised See Pages 41, 42 and 43.

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.		See Eng. Record.
Nov. 14.	New Orleans, La.	Nov. 4
Nov. 14.	Salt Lake City, Utah	Nov. 4
Nov. 14.	Frederick, Okla.	Nov. 4
Nov. 14.	Coffeeville, Miss.	Nov. 11
Nov 14.	Pittsburgh, Pa.	Nov. 11
Nov. 15.	Aurora, Ill. Adv. Oct. 28.	Oct. 28
Nov. 15.	Bellefontaine, O.	Nov. 4
Nov. 15.	Lima, O.	Nov. 11
Nov. 15.	Quanah, Tex.	Nov. 11
Nov. 15.	Argonia, Kan.	Nov. 11
Nov. 15.	Newburg Heights (P. O. Cleveland), O.	Nov. 11
Nov. 16.	Cincinnati, O.	Nov. 11
Nov. 16.	Milwaukee, Wis. Adv. Nov. 4, 11.	Nov. 4
Nov. 17.	Seymour, Tex.	Nov. 11
Nov. 20.	Plainfield, N. J. Adv. Nov. 4.	Nov. 4
Nov. 20.	San Diego, Cal.	Nov. 4
Nov. 20.	Hagerstown, Md.	Nov. 11
Nov. 20.	Otsego, Mich.	Nov. 11
Nov. 21.	Washington, D. C. Adv. Nov. 4.	Nov. 4
Nov. 21.	Shakerheights (P. O.) Cleveland, O.	Nov. 4
Nov. 21.	Sonyea, N. Y. Adv. Nov. 4, 11.	Nov. 4
Nov. 21.	Washington, D. C. Adv. Nov. 4, 11.	Nov. 4
Nov. 21.	Ft. Standish, Mass.	Nov. 11
Nov. 24.	Panama	Nov. 11
Nov. 24.	Red Cloud, Neb.	Nov. 11
Nov. 27.	St. Paul, Minn.	Nov. 11
Nov. 28.	Michigan City, Ind. Adv. Nov. 4, 11.	Nov. 4
Nov. 28.	Washington, D. C. Adv. Nov. 4, 11.	Nov. 4
Dec. 1.	St. Cloud, Fla. Adv. Oct. 21 and Nov. 4.	Oct. 21
Dec. 1.	Troy, O.	Nov. 4
Dec. 12.	Detroit, Mich. Adv. Nov. 11.	Nov. 11
Dec. 21.	New Orleans, La.	Nov. 4
———	Granite City, Ill. Adv. Sep. 30.	Sep. 30

STRUCTURAL STEEL WORK

Nov. 14.	Steubenville, O.	Nov. 11
Nov. 15.	Coquille, Ore.	Nov. 4
Nov. 16.	New York, N. Y.	Nov. 4
Nov. 17.	Breckenridge, Minn.	Nov. 11
Nov. 21.	Eatonton, Ga.	Nov. 4
Nov. 21.	Albany, N. Y.	Nov. 11
Nov. 27.	Stroud, Okla.	Nov. 11
Nov. 29.	Des Moines, Ia.	Oct. 28
Nov. 29.	Des Moines, Ia.	Nov. 11
Dec. 2.	Weir, Que.	Nov. 11
Dec. 4.	Dothan, Ala.	Oct. 28
Dec. 4.	Des Allemanda, La. Adv. Nov. 11.	Nov. 11
Dec. 5.	Cape May, N. J.	Nov. 11
Dec. 11.	Americus, Ga.	Nov. 11
Jan. 1.	Mitchell, S. D.	Oct. 7

REINFORCED CONCRETE.

Nov. 15.	Seale, Ala.	Oct. 28
Nov. 15.	Gadsden, Ala.	Nov. 11
Nov. 17.	New Martinsville, W. Va. Adv. Oct. 21 to Nov. 11.	Oct. 21
Nov. 18.	Waynesburg, Pa.	Nov. 11
Nov. 21.	Dayton, O.	Nov. 11
Nov. 22.	Kansas City, Mo. Adv. Oct. 28, Nov. 4.	Oct. 28
Dec. 1.	Knoxville, Tenn.	Oct. 28
Dec. 1.	Knoxville, Tenn. Adv. Oct. 14.	Oct. 14

ROADS AND PAVING.

Nov. 14.	Maryland Adv. Oct. 28, Nov. 4.	Oct. 28
Nov. 14.	Watts, Cal.	Nov. 4
Nov. 14.	Warm Springs, Va.	Nov. 11
Nov. 14.	Philadelphia, Pa.	Nov. 11
Nov. 14.	Long Island City, N. Y.	Nov. 11
Nov. 14.	Corsicana, Tex.	Nov. 11
Nov. 14.	Paterson, N. J.	Nov. 11
Nov. 15.	Ormond, Fla. Adv. Nov. 4.	Nov. 4
Nov. 15.	Akron, O.	Nov. 11
Nov. 17.	Santa Paula, Cal.	Oct. 28
Nov. 17.	Walla Walla, Wash.	Nov. 11
Nov. 18.	Centerville, Ala.	Oct. 28
Nov. 20.	Colfax, Wash.	Nov. 11
Nov. 21.	Albany, N. Y. Adv. Oct. 28 to Nov. 11.	Oct. 28
Nov. 21.	Indiana	Oct. 28
Nov. 21.	Baltimore, Md.	Nov. 11
Nov. 22.	De Kalb, Ill.	Nov. 11
Nov. 27.	Euclid, O.	Nov. 11
Nov. 27.	Euclid, O.	Nov. 11
Dec. 1.	Fillmore, Cal.	Oct. 28
Dec. 4.	Eutaw, Ala.	Nov. 11
Dec. 15.	Greenville, S. C.	Nov. 4
Dec. 15.	Grove Hill, Ala.	Oct. 28
Jan. 1.	Sidney, O.	Nov. 4

RAILWAYS

Dec. 5.	Atlanta, Ga.	Nov. 11
Dec. 6.	Portland, Ore. Adv. Sep. 30 to Oct. 14.	Sep. 28
Dec. 6.	Portland, Ore.	Oct. 28

INDUSTRIAL PLANTS AND WAREHOUSES.

Nov. 15.	St. John, N. B.	Oct. 28
Nov. 15.	Paterson, N. J.	Oct. 28
Nov. 17.	Chicago, Ill.	Oct. 28

BUILDINGS. Public and Private.

Bids Close.		See Eng. Record.
Nov 13.	Alburnett, Ia.	Nov. 11
Nov. 13.	New York, N. Y.	Nov. 11
Nov. 14.	Media, Pa.	Oct. 7
Nov. 14.	Farmingdale, N. Y. Adv. Nov. 11.	Nov. 11
Nov. 14.	Potsdam, N. Y. Adv. Nov. 11.	Nov. 11
Nov. 15.	Velasco, Tex. Adv. Oct. 21.	Oct. 21
Nov. 15.	Washington, D. C.	Oct. 21
Nov. 15.	Brooklyn, N. Y.	Oct. 28
Nov. 15.	Warrensville, O.	Nov. 11
Nov. 16.	Dayton, O.	Oct. 28
Nov. 17.	New Orleans, La. Adv. Oct. 28, Nov. 4.	Oct. 28
Nov. 17.	Turtle Lake, Wis.	Nov. 11
Nov. 20.	Yoakum, Tex.	Oct. 21
Nov. 20.	Kingman, Ariz.	Oct. 21
Nov. 20.	Kenosha, Wis.	Nov. 4
Nov. 20.	Warrensville, O.	Nov. 4
Nov. 21.	Rockville, Conn. Adv. Oct. 7, 14.	Oct. 7
Nov. 21.	Hibbing, Minn.	Oct. 21
Nov. 21.	Hibbing, Minn.	Oct. 28
Nov. 21.	Anoka, Minn.	Oct. 28
Nov. 21.	Charlerol, Pa.	Nov. 4
Nov. 21.	Clearwater, Fla.	Nov. 11
Nov. 21.	Coudersport, Pa.	Nov. 11
Nov. 22.	Franklin, Va.	Oct. 21
Nov. 25.	Haverlock, Ia.	Nov. 11
Nov. 27.	East Orange, N. J.	Oct. 7
Nov. 27.	Newark, N. J.	Nov. 11
Nov. 28.	Washington, D. C. Adv. Oct. 28.	Oct. 28
Nov. 28.	Beaver Falls, Pa.	Nov. 4
Nov. 28.	Wheeling, W. Va. Adv. Nov. 4, 11.	Nov. 4
Nov. 28.	Dumas, Ark. Adv. Nov. 4, 11.	Nov. 4
Dec. 1.	Pueblo, Col.	Oct. 28
Dec. 1.	Chillicothe, O.	Nov. 11
Dec. 1.	Newton, Kan.	Nov. 11
Dec. 4.	Washington, D. C. Adv. Oct. 28, Nov. 4.	Oct. 28
Dec. 6.	Twin Falls, Idaho	Oct. 21
Dec. 7.	Chadron, Neb.	Oct. 28
Dec. 7.	Columbus, Miss.	Nov. 4
Dec. 11.	Eureka Springs, Ark.	Nov. 4
Dec. 15.	Tucson, Ariz.	Oct. 14
Dec. 15.	Danville, Ill.	Nov. 11
Dec. 21.	Bonne Terre, Mo.	Nov. 4
Dec. 22.	East St. Louis, Mo.	Oct. 28
Jan. 1.	Webster, S. D.	Sep. 16

FOUNDATIONS, PIERS AND DAMS.

Nov. 14.	Sabine, Tex. Adv. Oct. 21 to Nov. 4.	Oct. 21
Nov. 24.	El Paso, Tex.	Oct. 28
Nov. 27.	Annapolis, Md.	Oct. 28
Dec. 8.	Cincinnati, O.	Nov. 11
Dec. 11.	Cincinnati, O.	Nov. 11

EXCAVATION, DREDGING AND DRAINAGE.

Nov. 14.	Norfolk, Va. Adv. Oct. 21 and Nov. 4.	Oct. 21
Nov. 14.	Baltimore, Md. Adv. Oct. 28, Nov. 4.	Oct. 28
Nov. 15.	Jacksonville, Fla.	Oct. 21
Nov. 15.	Atwater, Cal.	Nov. 4
Nov. 15.	Sledger, Miss.	Nov. 4
Nov. 15.	Benson, Minn.	Nov. 4
Nov. 15.	Garner, Ia.	Nov. 11
Nov. 15.	Zanesville, O.	Nov. 11
Nov. 16.	Richfield, Utah	Nov. 4
Nov. 20.	Trenton, N. J. Adv. Nov. 4, 11.	Nov. 4
Nov. 20.	Duluth, Minn.	Nov. 11
Nov. 21.	Albany, N. Y. Adv. Oct. 28 to Nov. 11.	Oct. 28
Nov. 21.	Des Moines, Ia.	Nov. 4
Nov. 22.	Morris, Minn.	Nov. 4
Nov. 22.	Eagle Lake, Tex.	Nov. 11
Nov. 24.	New York, N. Y. Adv. Oct. 28 to Nov. 11.	Oct. 28
Nov. 24.	Albany, N. Y. Adv. Nov. 4.	Nov. 4
Nov. 24.	St. Paul, Minn.	Nov. 11
Nov. 27.	Annapolis, Md.	Oct. 28
Nov. 27.	Gaylord, Minn.	Nov. 11
Nov. 28.	St. Ignatius, Mont.	Oct. 28
Nov. 28.	Dyersburg, Tenn.	Nov. 4
Nov. 28.	Brooklyn, N. Y. Adv. Nov. 4, 11.	Nov. 4
Dec. 4.	St. Louis, Mo. Adv. Nov. 4, 11.	Nov. 4
Dec. 8.	New York, N. Y.	Nov. 11

TUNNELS AND SUBWAYS.

Dec. 7.	Philadelphia, Pa. Adv. Oct. 14, 21.	Oct. 14
	New York, N. Y. Adv. Nov. 11.	Nov. 11

MISCELLANEOUS.

Nov. 18.	Waterproofing, Cleveland, O.	Nov. 4
Nov. 20.	Crane, San Diego, Cal.	Oct. 28
Nov. 20.	Street sweeper, Fresno, Cal.	Nov. 4
Nov. 22.	Garbage, Reading, Pa.	Nov. 11
Nov. 27.	Crane, Pearl Harbor, T. H.	Nov. 4
Nov. 27.	Cement, Winnipeg, Man. Adv. Nov. 4, 11.	Nov. 4
Dec. 1.	Garbage, Wilkes-Barre, Pa. Adv. Oct. 28 to Nov. 11.	Oct. 28
Dec. 6.	Grade Crossings, Portland, Ore. Adv. Sep. 30 to Oct. 28.	Sep. 30
Dec. 12.	Needle Valves, Washington, D. C. Adv. Nov. 4.	Nov. 4
Jan. 4.	Transmission line, Weeversville, Cal.	Oct. 21

Industrial Employment in New York 17 Per Cent Above 1914

Wages Increased 37 Per Cent in Same Time—Unfilled Steel Orders Pass Ten Million Ton Mark—Indicated Farm Value of Crops Largest on Record

INDUSTRIES of New York State in September employed 17 per cent more labor and paid it 37 per cent more wages than in June, 1914. The statistics of the New York State Department of Labor, among the few actual figures published on the labor situation, show a still more interesting side of the labor market. Industries, such as public utilities and those classed under "food, liquor and tobacco," which have been unable to advance the price of their products, or only to advance them moderately, have had to do without adequate labor while yet compelled to pay in many cases increased totals and in all cases increased rates for such labor as they had. Industries where large profits are being made, such as those in the "fire-arms, tools and cutlery" subdivision, which is paying 235 per cent greater wages to 150 per cent more employees, have been able, on the other hand, to draw workers from other lines in great numbers. It is significant that many makers of building products belong in the first class. This bears out, as far as New York State is concerned, the prediction made last spring by this journal that shortage of labor and not generally high material prices would limit the volume of construction. While contractors have been able to charge more for their product because of increased labor costs, the demand for ordinary building construction at the increased price has not been sufficient to enable the makers of building material in this state to raise their prices to a point where they could afford to hold their workers. Supplying an unusual demand only for industrial building, and a decreased demand for other building, the "cement, lime and plaster" group has been able to get prices for its products which allow it to pay only a 3-per cent increase in total wages. With this increased payroll it was able to hire but 83 per cent of the number of workers employed before the war. The "brick and tile" group finds itself in much the same situation. The demand for construction, however, has kept the contractors so busy as to bring out a serious shortage of labor in the construction field. It is evident, then, if sufficient demand for new building to develop a labor shortage has not created sufficient demand for building materials to enable manufacturers of these materials to hold more than 85 per cent of their former working force, that scarcity of labor and not high material prices has limited the volume of construction work.

Such a situation could never have arisen had not the labor supply of the country been overdrawn by the demands of the steel business, and of other manufacturing industries that are in a condition of unprecedented prosperity. The construction work undertaken this year would probably not have developed a labor shortage had the normal supply of contract labor been available. The extent to which industries making steel products have drawn on the labor market is indicated by the enormous demand for steel. So far from declining, as many had expected it to do, this demand keeps growing. For the first time in its history the U. S. Steel Corporation has unfilled orders on its books exceeding 10,000,000 tons, a gain of nearly 500,000 tons during October.

Regarding the reference in these columns last week to the strong foundation being laid for next year's road work in the high farm prices prevailing for this year's crops, a partial estimate indicates that the total return to farmers will set a new high record in spite of the short crop year. Estimates for the important states of Iowa, Illinois, Nebraska, Kansas, Minnesota, the Dakotas, Texas, Georgia and South Carolina indicate that $2,696,000,000 will go to the farmers of these states for this year's crops, as compared with $2,331,000,000 for those of 1915. And the gain is not confined to the cotton states. Even among the wheat states, North Dakota shows the only considerable loss from last year, and the states where corn as well as wheat is a substantial crop show large gains. The next road-construction season in these states and in the South should be a good one.

Buildings

Included in the following table are the larger building contracts noted in this issue:

Contracts awarded:	Kind	Cost
Bridgeport, Conn.	Factory	$150,000
Cleveland, Ohio	Concrete buildings	175,000
Proposed work:		
Philadelphia, Pa.	Building	400,000
Allentown, Pa.	Hospital	183,000
Marcus Hook, Pa.	Steel plant	15,000,000
Chicago, Ill.	Packing plant	250,000
Chicago, Ill.	Telephone building	700,000
St. Louis, Mo.	Y. M. C. A. building	200,000
McMinnville, Ore.	College buildings	350,000
South Vancouver, B. C.	Rolling mill	150,000
Los Angeles, Cal.	Automobile plant	1,000,000

Roads and Paving

Highway contractors looking forward to next season's work will find plenty of leads to follow up during the winter, judging from the volume of proposed road and paving construction already under consideration. Work noted in this issue is summarized below:

Contracts awarded:	Kind	Cost
Birmingham, Ala.	Asphalt	$136,000
Jennings, La.	Gravel roads	500,000
Bids desired:		
Keyport, N. J.	Asphalt	65,000
Cedar Rapids, Iowa	Paving	90,000
Independence, Iowa	Paving	100,000
Proposed work:		
New Jersey	Bonds voted	7,000,000
Kingwood, W. Va.	Concrete roads	280,000
Lisbon, Ohio	Bonds sold	155,000
Jackson, Miss.	Bonds sold	100,000
New Roads, La.	Bonds for sale	123,000
Marksville, La.	Bonds voted	300,000
Lawton, Okla.	Bonds approved	250,000
Omaha, Neb.	Street widening	988,000
Columbus, Neb.	Paving	100,000
Dallas, Tex.	Bonds voted	500,000
Shelton, Wash.	Funds appropriated	93,000
Seattle, Wash.	Brick	108,000
Ellenburg, Wash.	Funds appropriated	102,000
Portland, Ore.	Highway budget	693,000
Sacramento, Cal.	Bonds voted	1,750,000

Waterworks and Sewers

Waterworks and sewer construction noted in this issue includes the following work:

Contracts awarded:	Kind	Cost
Newark, N. J.	Water pipe	$73,000
Lyndhurst, N. J.	Disposal plant	277,000
Niles Center, Ill.	Sewers	55,000
Sedalia, Mo.	Disposal plant	58,000
*Vancouver, B. C.	Intercepting sewer	155,000
Proposed work:		
Worcester, Mass.	Filter plant	750,000
Reading, Mass.	Sewers	100,000
Stratford, Conn.	Disposal plant	450,000
Williamsport, Pa.	Disposal plant	304,000
Lebanon, Pa.	Sewer system	230,000
Charleston, W. Va.	Waterworks	2,288,000
Dayton, Ohio	Waterworks	70,000
Fargo, N. D.	Sewers	283,000
McMinnville, Ore.	Waterworks	90,000

*Bids opened.

Miscellaneous Headings

A low bid of $803,000 was received Nov. 1 for the harbor improvements at Boston. A $200,000 railroad contract has been awarded at Murphysboro, Ill. Irrigation work to cost $1,400,000 has been contracted for at Lindsay, Cal. A 30-mile transmission line to cost $500,000 has been contracted for at Sherbrook, Que.

The project for bridging San Francisco Bay has gone so far that the U. S. District Engineer Officer has submitted plans for bridge and tunnel schemes ranging in cost from $14,500,000 to $100,000,000 to the Chief of Engineers at Washington. Plans have been completed at New Castle, Pa., for a $250,000 viaduct. A reinforced-concrete bridge to cost $180,000 is planned at Richmond, Ind. A new bridge across the Chicago River at Twelfth Street, Chicago, is estimated to cost $600,000. The work of depressing the Milwaukee Railroad tracks in Milwaukee is estimated to cost from $1,700,000 to $3,000,000. A proposed bridge over the Ouachita River at Monroe, La., will cost $300,000. A $200,000 viaduct is being planned in Kansas City. A railroad bridge proposed at Pond Creek, Okla., will cost $150,000. A steel and concrete bridge to cost $300,000 is under consideration at Dallas, Tex. Plans have been completed for a $200,000 bridge over the Missouri River at Great Falls, Mont.

Plans for channel improvements in the Delaware River at Philadelphia involving an expenditure of $1,650,000 have been approved. Contracts for dam construction on the Ohio River amounting to $1,800,000 are to be let by the U. S. engineer office at Wheeling, W. Va. A $500,000 canal system is planned at Quincy, Ill. Permission to construct irrigation works to cost $200,000 has been applied for at Salem, Ore. The construction of the $5,000,000 canal project is being arranged for at Ellensburg, Wash. Permission has been applied for to construct a storage dam to cost $350,000 at Paradise, Cal. Permission has been granted at San Francisco, Cal., to a power company for the issue of $1,000,000 bonds for constructing hydroelectric developments on the Stanislaus River. Plans are to be prepared at El Centro, Cal., for irrigation improvements estimated to cost $750,000.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Reading, Mass.—Town appropriated $100,000 for installation of sewerage system.

Worcester, Mass.—City considering constructing filter plant on Wiser Ave.; cost about $750,000. Geo. M. Batchelder, supt. waterworks.

Stratford, Conn.—Clyde Potts, 30 Church St., engaged to prepare plans for 60 miles of sewers and sewage disposal works; cost $450,000.

Waterbury, Conn.—Bd. Pub. Wks. reported considering constructing water main on Huntingdon Ave., to cost $48,000.

Bayonne, N. J.—Bd. Comrs. contemplate constructing sewer under Hudson Boule. to W. 19th St. Wm. P. Lee, city clk.

Hammonton, N. J.—Plans being prepared for sewers to be constructed for Town; cost $25,000. Remington & Vosburg, engrs., Camden.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Where name of official is not given inquiries should be addressed to City Clerk, County Clerk or corresponding official.

Jersey City, N. J.—State Bd. of Health (W. H. Chew, Pres.) will appoint committee to secure plans for a trunk line sewer to be constructed through Passaic Valley.

Newark, N. J.—M. R. Sherred, ch. engr., bd. street & water comrs., has recommended to Bd. Wks. installation of water meters for all city service connections not so provided; estimated cost $320,000.

Paterson, N. J.—Reported North Jersey District Water Supply Comn. of which Geo. F. Wright, Paterson, is a member, has applied to New Jersey State Water Supply Conservation Comn. for permission to take over and develop Wanaque watershed for an additional water supply for Paterson, Passaic, Newark, Montclair, Harrison and a number of other municipalities.

Stone Harbor, N. J.—Boro. Council considering issuing $57,000 bonds to purchase plant of Stone Harbor Water Co., including 60,000 ft. of pipe.

Clifton Heights, Pa.—Borough voted $70,000 bonds for constructing sewage disposal system and street improvements.

Lebanon, Pa.—Citizens voted $230,000 bonds for improving sewer system. Contract for construction will be let about June, 1917. P. A. Volcker, city engr.

Pennsylvania.—Plans approved by State Bd. of Health, Harrisburg, for water and sewer improvements as follows:

Bridgeville, plans for proposed sewer extensions.

Lower Allen Township, Cumberland Co. (Elwood Sewerage Co.), plans for sewer extensions.

Pittsburgh, plans for sewers in Nine Mile Run Drainage Dist.

East Whiteland Township, Chester Co. (Villa Maria Academy), sewage treatment.

Philadelphia, plans for lateral sewer extensions.

Philadelphia, Pa.—Bureau of Water has arranged budget for improvements and extensions as follows: Replacing Fairmount Dam, $450,000; street flushing connection, $125,000; extensions and improvements in Delaware River works, including new pumping station and filters at Torresdale, and new mains, $5,100,000; extension of water system in northeast section of city, $1,250,000; new pipe line extensions, $100,000.

Seward, Pa.—Plans being prepared for 50,000-gal. reservoir and about 2 miles of pipe line. O. P. Thomas, engr., Leader Bldg., Johnstown.

Westfield, Pa.—Plans being prepared for a $58,000 sewer system. Wm. C. Emigh, engr., Purling, N. Y.

Topton, Pa.—Citizens Nov. 7 defeated bond issue of $23,000 for waterworks improvements and electric light plant. Chas. H. Schlinker, boro. clk.

Williamsport, Pa.—Farley Gannett, Harrisburg, in a report to City Council estimates cost of constructing sewage disposal plant, necessary sewers, filtration beds, pumping stations, etc., at $304,-000.

Charleston, W. Va.—City contemplates installing water system; cost about $2,-288,975.

Conway, S. C.—Waterworks and sewerage bonds for $30,000 will be sold Nov. 25 by L. D. Magrath, mayor.

Lithonia, Ga.—Waterworks bonds for $20,000 and sewerage bonds for $15,000 will be sold Dec. 1 by J. M. Tribble, mayor.

Kenner, La.—City Council considering installation of a municipal waterworks system and electric light plant. Xavier A. Kramer, engr., Magnolia, Miss.

Vinton, La.—Installation of waterworks system, to include rotary pump, tank on tower and 3 miles of mains, under consideration; cost about $20,000. T. H. Mandell, town engr., Lake Charles, La.

Benton, Tenn.—City voted $10,000 bonds for waterworks and sewers.

Barberton, Ohio.—R. Winthrop Pratt, engr., 2048 E. 82d St., Cleveland, prepared two sets of plans for sewage disposal system. One provides for constructing one main plant south of city, cost $150,-000; the other provides for constructing three small plants in different parts of city, cost $166,000.

Bellefontaine, O.—Later reports state previous item stating bids to be opened Nov. 15 for constructing sewers was an error. C. A. Inskeep, city engr.

Covington, O.—See "Roads and Paving."

Dayton, O. — Waterworks extension bonds for $70,000 sold by city.

Defiance, O.—City sold $125,000 bonds for purchase of plant of Defiance Water Co. C. E. Ensign, city aud.

Lowellville, O.—Waterworks bonds for $25,000 will be sold Dec. 11 by J. F. Lash, village clk.

Newark, Ohio.—Contract will be let in February, 1917, for constructing sewer in W. Main St. C. H. Wells, city engr.

Ravenna, Ohio.—Contract will be let in about sixty days for constructing filtration plant for City.

Piqua, O.—Citizens defeated bond issue Nov. 7 for constructing standpipe, installation of meters, etc. J. M. Lloyd, city clk.

Westerville, Ohio.—Contract soon to be let by City for constructing 600,000-gal. tank; cost about $30,000. F. F. Kidwell, supt. waterworks.

Hammond, Ind.—Bd. Pub. Wks. voted to construct sewer system; cost about $40,000. Peter J. Lyons, city engr.

Mendon, Mich.—Election Dec. 4 to vote bonds for constructing waterworks. Address Mcleoy, Mendon.

Wilmette, Ill.—Later reports state city will not construct waterworks at this time.

Charitan, Iowa.—City Council plans to issue $42,000 sewer bonds.

Baxter Springs, Kan.—City contemplates constructing sewer system; cost about $35,000.

Sylvan Grove, Kan.—City plans constructing water system to cost about $20,000.

Beatrice, Neb.—Latest reports state $25,000 bond issue for installing water system carried. H. M. Garrison, city clk.

Fargo, N. D.—Plans and specifications submitted to City Comrs. for constructing six sewers; estimated cost $283,200.

Milbank, S. D.—Contracts will soon be let for work in connection with construction of filtration plant. Louis P. Wolff, engr., St. Paul, Minn.; F. Thompson, mayor.

Joliet, Mont.—City sold $22,000 waterworks bonds.

Worland, Wyo.—Waterworks bonds for $25,000 sold by City. Denton Eng. Co., engr., Worland.

Eldorado Springs, Mo.—Water improvement bonds for $20,000 will be sold Dec. 5 by C. R. Ryan, city clk.

Frost, Tex.—Attorney General at Austin approved issue of $10,500 sewer bonds; address City Clerk.

Marlow, Okla.—City will install a complete unit engine and generator of about 250 hp. capacity; one 100-gal. per min. deep well pump, lifting about 300 ft.; one centrifugal pump and about 5 miles of 4-in. mains, valves and hydrants; cost about $25,000. L. A. Princhutt, supt. waterworks.

Morrison, Okla.—City considering constructing waterworks to cost $18,000.

Yale, Okla.—City voted $15,000 bonds for waterworks.

Seattle, Wash.—Plans and specifications for water mains and sewers in 40th Ave. N. submitted to Bd. Pub. Wks. by A. H. Dimock, city engr.; cost $18,500.

McMinnville, Ore.—Citizens voted $90,-000 bonds to improve and extend waterworks. A. C. Chandler, recorder.

Berkeley, Cal.—City Council reported taking steps to purchase water plant of People's Water Co.

Los Angeles, Cal.—See "Roads and Paving."

Wickenburg, Ariz.—Town sold $17,000 waterworks and electric light bonds. H. P. Ward, town clk.

Ogden, Utah.—In a report submitted to City Comn., Jos. E. Tracy, city engr., recommends reconstructing sewerage system.

Lewiston, Idaho.—City Council appointed committee to investigate and report on securing new gravity water system for Lewiston.

Levis, Que.—Plans being prepared by City Engr. for filtration plant and reservoir, to cost $35,000.

Geneva, Ont.—City is considering constructing an additional unit to slow sand filtration plant.

Sault Ste. Marie, Ont.—City Council considering installation of two motor-driven pumps of 5,000,000-gal. capacity each.

Salmon Arm, B. C.—City sold $42,500 water improvement bonds. Frank Wilcox, city clk.

BIDS DESIRED.

New York, N. Y.—Until Nov. 24 by Marcus M. Marks, pres. boro Manhattan, for the reconstruction of sewers and appurtenances in portions of Transverse Rd. in Central Park, E. 76th St.; also alterations and improvements in Spruce St.; for test pits and exploration pits in connection with contract for constructing sewers in portions of Thompson St.; receiving basin adjacent to N. E. corner of 48th, S. E. corner of 55th St. and 5th Ave.; receiving basin altered and improved at the N. E. corner of 40th St., 5th Ave. and five other points; receiving basin and inlets at intersection of Park Row and Center St.; total security, $13,300.

Camden, N. J.—Until Nov. 20 by Common Council for constructing sewers in Magnolia, Pennsylvania, Harrison Aves. and other streets. A. B. Sparks, chmn. com. streets and highways.

Erie, Pa.—Until Dec. 6 by Bd. Water Comrs. for one 1,000,000 gal. low service pumping unit. Chester & Fleming, engrs., Pittsburgh.

Winton, Pa.—Until Nov. 28, by Mark E. Judge, secy. of council, Church St., Jessup, Pa., for constructing a sanitary sewerage system. W. A. Taylor, boro. engr., Boro. Bldg., Olyphant, Pa.

New Orleans, La.—Reported desired until Nov. 29 by G. G. Earl, gen. supt. water and sewerage bd. for water and sewer construction.

Cleveland, O.—Until Dec. 6, at the office of Comr. Purchases & Supplies, Room 219, City Hall, for repairing the Filtered Water Reservoir at Division Pumping Station; advertised in this issue.

Wilmington, Ill.—Reported desired until Nov. 27 by J. H. Thompson, mayor, for 750 ft well and waterworks system; cost $34,000.

Madison, Wis.—Reported desired until Nov. 21 by City for enlarging pumping station including 8,000,000-gal. pumping engine, horizontal cross compound, 3 air compressors and necessary air tubing and foot pieces for equipping 6 deep wells with air equipment, new stack and furnaces to be installed in two 200-hp. Sterling boilers. Meade & Seastone, engrs., Madison.

Fayette, Iowa.—Until Nov. 21, 8 p. m., for constructing a sewer and sewage disposal plant consisting of 16,190 ft. 6, 8, 12 and 15-in. pipe, with cameron tank 22 x 73 ft., to cost $14,000 and $3,000 respectively. G. H. Bishop, engr., Oelwein.

St. Paul, Minn.—Until Nov. 27 by H. W. Austin, purchasing agt., City Hall, separate bids for constructing a sanitary sewer on portions of Hythe and George Sts.

St. Paul, Minn.—Until Nov. 27 by H. W. Austin, purch. agt., City Hall, for furnishing material and delivering at the Railroad Siding nearest the site of the High Service Reservoir as follows: 1220 tons c. i. pipe, 70 tons c. i. specials, sluice gates, gate valves, 550 tons reinforcing bars.

Pittsburg, Kan.—Reported desired until Nov. 25 by L. E. Kaufman, city engr., for constructing storm sewers; estimated cost $10,000.

Winnipeg, Man.—Until Dec. 18 by R. D. Waugh, chmn. Comrs., Greater Winnipeg Water Dist., 901 Boyd Bldg., for constructing 9.5 miles of 5-ft. 6-in. reinforced concrete pipe; advertised in this issue.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Boston, Mass.—See "Miscellaneous."

★**Rochester, N. Y.**—City let contract for constructing outlet sewer in Randolph St. to J. Petrossi Co., Livingston Bldg., at $29,995.

★**Lyndhurst, N. J.**—Contract for constructing sewage system and disposal plant awarded by Bd. Comrs. Township of Union (John F. Woods, clk.) to Jannarone Contr. Co., Belleville, at $277,478.

★**Newark, N. J.**—Contract for furnishing water pipes awarded by Bd. Wks. to Warren Foundry & Machine Co., 11 Bway., New York, at $73,867.

★**Philadelphia, Pa.**—Contracts reported awarded Nov. 13 by Dept. Pub. Wks. for constructing sewers in following streets: Mt. Airy Ave., to Donato Delise, 4842 N. Leighgow St., $20,000; 16th St., C. D. Land, 28th and Cambria Sts., $16,500; Grange and 18th Sts., Antonio Rosato, Philadelphia, $17,600; 8th, Berkeley and Apsley Sts. and Highland Ave., to M. & J. B. McHugh, Arcade Bldg., at $46,900.

★**Washington, D. C.**—Contract for constructing sewers (bids opened Nov. 7) awarded to Warren F. Brenizer Co., 141 O St., N. W., at $19,035. A. E. Phillips, supt. sewer dept.

★**Alliance, O.**—Contract for furnishing 1,000 water meters awarded by City to Gamon Meter Co., 282 South St., Newark, N. J., as follows: ⅝ x ½-in. connections, $7.10; ⅝ x ¾-in., $7.20; ¾ x ¾-in., $10.30; 1 x 1-in., $15.60. Chester & Fleming, engrs., Pittsburgh.

★**Toledo, O.**—Contract reported awarded by city to G. A. Gessner Co., Toledo, for constructing sewer in Homeville, at about $40,831.

★**Zanesville, O.**—Contract for constructing brick pump station, pump well, suction well, intake and force main awarded by W. W. Roach, dir. pub. serv. (bids opened Oct. 30), to Dunzweiler Bros., Zanesville. J. R. Kommer, engr., 1116 House Bldg., Pittsburgh.

Youngstown, Ohio.—See "Roads and Paving."

★**Niles Center, Ill.**—Contract for constructing storm and sanitary sewers awarded by City to Brennan Constr. Co., 11 N. La Salle St., Chicago, at about $55,000.

Rock Island, Ill.—Lowest bid opened by Municipal Comn. for installing 3,000,000-gal. pump at filter plant at 22nd St. and 18th Ave. submitted by Electric Machinery & Constr. Co., 1828 3rd Ave., for American Well Works Co. pump and motor at $3,850.

★**Panora, Iowa.**—Contract for constructing sewerage system awarded by City to P. E. Wyle, Guthrie Center, at $24,000.

★**Brainerd, Minn.**—Contract for constructing lateral sewers in Dists. 1, 3, 4 and 6 awarded Illstrup & Olsen, Minneapolis. Louis Knudsen, city engr.

★**Rochester, Minn.**—Contract for constructing reservoir awarded by City to Williams & Feller, Rochester, at $12,436.

★**Garden City, Kan.**—Contract awarded by city (bids opened Oct. 13) for constructing 52,400 ft. 8 to 18-in. pipe sewer, to Inter-Mountain Bridge & Constr. Co., Tecumseh, Neb., at $47,049.

★**Sedalia, Mo.**—Contract for constructing sewage disposal plant and sewer improvements awarded by city to J. W. Menefee, Sedalia, at $58,824.

★**Cooledge, Tex.**—Contract for constructing waterworks reported awarded Dalton & Campbell, Dallas, at $19,500. Henry E. Elrod, engr., Dallas.

★**Dallas, Tex.**—Contract for constructing extension to sewerage system awarded by city to J. H. Meyer, Dallas, at about $40,000.

★**Houston, Tex.**—Contract for constructing storm sewers on W. Main St. awarded by city to F. C. Youman Constr. Co., Houston, at about $11,500.

★**Puyallup, Wash.**—Contract for furnishing 96 tons c. i. pipe and fittings and lead awarded by City Council to Hammond-Byrd-Iron Co., Birmingham, Ala., at $35.95 per ton; total about $5,000.

Seattle, Wash.—Following are four lowest bids opened by Bd. Pub. Wks. for constructing concrete walks, grading, sewers, etc., on W. 65th St.: J. L. Smith, 1475 20th Ave., $31,535; Superior Constr. Co., $32,579; Peterson & Rightmire, $32,734; D. H. Traphagen, $33,567. (Bidders all of Seattle.)

★**Gilroy, Cal.**—Contract for constructing sewer system awarded by City to Contra Costa Constr. Co., Berkeley, at about $40,000.

★**Toronto, Ont.**—Contract for constructing sewers awarded by city to Fussel McReynold Co., 2014 St. Clair Ave., W., at $37,350.

Vancouver, B. C. — Following bids opened by Vancouver & Districts Joint Sewerage & Drainage Bd. for constructing Stanley Park Interceptor (Class "b" if for construction from English Bay to Causeway and Georgia St., Class "c" is from Causeway to outfall at Brockton Point): Dominion Constr. Co., (b) $61,-412; (c) $128,812; Hodgson, King & McPhalen, (b) $80,624, (c) $110,304; Ledingham & Copper, (a) $70,11; H. P. Peterson, (b) $58,107; (c) $97,430; Cotton Co., Ltd., (b) $67,530; Northern Constr. Co., (b) $64,058, (c) $101,188 (bidders all of Vancouver).

STRUCTURAL STEEL WORK

PROPOSED WORK.

Tonawanda, N. Y.—New York Central RR., G. W. Kittredge, ch. engr., Grand Central Terminal, New York, will construct bascule bridge over Tonawanda creek at Webster Ave. and State Highway Dept., Albany, N. Y., will construct same type of bridge over canal.

Elizabeth, N. J.—Bd. Freeholders intend constructing Strauss bascule lift bridge, 135-ft. span, with 40-ft. roadway, wood block pavement, at South Front St. Jacob L. Bauer, co. engr., 120 Broad St.

Highlands, N. J.—Bd. Freeholders, Freehold, will soon let contract for construction of new steel and concrete bridge over Shrewsbury River from present draw on west to shore of Highland Beach; estimated cost $80,000.

McKeesport, Pa.—City, County and representatives of Pittsburgh Ry. and Pittsburgh & Lake Erie RR. considering apportionment of costs to improve West Fifth Ave., involving elimination of 2 grade crossings, enlarge viaduct, etc.

New Castle, Pa.—T. A. Gilkey, co. engr., has completed plans and estimates cost of construction at $250,000 for new Gardner Ave. viaduct. Cost will be apportioned between city and county.

Bradentown, Fla.—Co. Comrs. have plans for construction of Bradentown-Palmetto bridge over Manatee River to enter Bradentown on Broad St. Election for bond issue will shortly be held.

Jacksonville, Fla. — Ellis, Curtis & Kooker, engrs., Jacksonville, selected to prepare plans for proposed bridge over McGirts creek at Ortege and one over Trout creek at Panama, and to supervise construction of 14 miles of road.

Tampa, Fla.—Bay Shore Dist. voted $30,000 for 2 steel bridges with wooden pile approaches incased in terra cotta and with not less than 2 in. of concrete above highwater mark; one will be over Little Manatee River; other over Alafia River. Address County Clerk.

Plans for 3½ mile bridge over Tampa Bay for Tampa & St. Petersburg Ry. (Alfred Gandy, secy., St. Petersburg), have been approved by Major W. B. Ladue of War Dept., Jacksonville.

Monroe, La.—Estimated cost of bridge over Ouachita River about $300,000. L. N. Larche, chmn. bridge comn.

Richmond, Ky.—Election Dec. 7 to appropriate $35,000 for constructing bridge over Kentuce River.

Cincinnati, O.—Plans for bridge over Mill Creek on North Bend road completed by Wm. Boeh, co. surv.; estimated cost $46,000.

Covington, O.—See "Roads and Paving."

Dayton, O.—Co. Comrs. sold $15,000 bonds for repairing bridges and culverts.

Elyria, O.—New York Central RR. (G. W. Kittredge, ch. engr., Grand Central Terminal, New York City) intends constructing two island passenger platforms, and bridges at Cedar St. and at East Ave., and rearrangement of tracks to eliminate grade crossings at Washington, East and West Aves., Cedar, Mill, Tremont, North and Chestnut Sts.

Springfield, Ohio.—Harry E. Rock, pub. service Dir., has received plans for repairing steel bridge with 2 spans of 78 ft. each and 2 driveways 14 ft. wide, and 2 walks 5 ft. wide; estimated cost $10,-000.

Bloomington, Ind.—See "Reinforced Concrete."

Chicago, Ill.—Dept. Pub. Wks. and Sanitary Dist. of Chicago, Thos. G. Pihlfeldt, city bridge engr., intend constructing lift bridge over Chicago River at 12th St., requiring 2500 tons steel and 2100 sq. yd. creosote blocks; estimated cost $600,-000. Strauss Bascule Bridge Co., engrs., 104 S. Michigan Ave.

Ottawa, Ill—Estimated cost of proposed bridge over Fox River near Glen Park about $15,000; address City Clerk.

Avon, Ia.—Bd. Supervs., Des Moines, received plans from Chicago, Rock Island & Pacific RR., C. A. Morse, ch. engr., Chicago, Ill., for proposed viaduct to eliminate grade crossing on Des Moines-Carlisle road.

Kansas City, Kan.—Preliminary plans being made by City Comrs. for new $200,000 viaduct over RR. tracks of Missouri Pacific and Union Pacific, east of Kaw River at James St.

Great Falls, Mont.—Plans for steel and concrete bridge over Missouri River completed by R. C. Schupper, city engr.; estimated cost $200,000.

Arkadelphia, Ark.—County plans six new steel bridges as follows: over Little Missouri River near Wheelen Springs; over Bear Creek near Okolona; over South Fork Creek near Gurdon; over Terre Noir Creek, at Cypress Ford, and two across Neely Creek in Vierne Township

Dallas, Tex.—Mark Lowd, ch. engr. for Northern Texas Traction Co., estimates completion of double-deck steel and concrete bridge over Trinity River bottoms from Union Station, Dallas, to First St., Oak Cliff, at $300,000.

See "Roads and Paving."

Waco, Tex.—Citizens approved $25,000 bond issue for construction of bridges and culverts. Address City Clerk.

Pond Creek, Okla.—Estimated cost of proposed bridge for Chicago, Rock Island and Pacific Ry. (C. A. Morse, ch. engr., Chicago, Ill.), over Salt creek, about $150,000.

Tacoma, Wash.—Co. Comrs. considering constructing Scherzer rolling lift bridge across Hylebos Creek on Lincoln Ave. road; $18,000 appropriated for work.

California.—State Reclamation Bd. approved plans of Sutter Co. Bd. Supervs. for construction of draw span bridge over Butte Slough at Mawson, near north end of Dist. 70, providing piers are constructed parallel to river.

San Francisco, Cal.—Plans for bridge connecting Oakland and San Francisco, estimated cost $26,900,000 to $75,000,000, and tunnel, estimated cost $14,500,000 to $100,000,000, have been submitted by Lt. Col. T. H. Rees, engr. Rivers and Harbors for San Francisco Dist., to Gen. Wm. M. Black, ch. of army engrs., Washington, D. C.

Yuba City, Cal.—Bd. Supervs. have under consideration $320,000 bond issue for constructing 4 new bridges.

BIDS DESIRED.

Ft. Hancock, N. J.—Until Dec. 5 by Quartermaster, for repairing 50,000-gal. water tank and its tower; advertised in this issue.

New Castle, Pa.—Reported desired until Jan. 1 by Co. Comrs. for constructing bridge across Neshannock Creek on Gardner Ave.; cost about $35,000.

Flint, Mich.—Until Dec. 1, by the City Clerk, for 185½ tons of structural steel for the subway beneath the Pere Marquette RR. tracks in the north end of the city for the extension of Leith St. E. C. Shoecraft, city engr.

Newton, Iowa.—Reported desired until Jan. 1 for constructing bridges and culverts; cost about $25,000. Address C. O. Edge, co. aud.

Eugene, Ore.—See "Structural Steel Work."

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Haverhill, Vt.**—Contract awarded by officials of towns of Haverhill and Newbury to United Constr. Co., 467 B'way, Albany, N. Y., at $50,000, for constructing bridge over Connecticut River; total cost of all work about $55,000. Storrs & Storrs, engrs., Concord, N. H.

Buffalo, N. Y.—Following bids were opened Nov. 9 by Arthur W. Kreinheder, city comr., for constructing sub and superstructures of bascule bridge over Buffalo River:

H. S. Kerbaugh, 700 N. Y. Telephone Bldg., Buffalo, N. Y., Proposition No. 1: Plans and specifications Bureau of Engineering and Thomas E. Brown, Plan A, $246,000. Proposition No. 2: Superstructure, Thomas E. Brown, subconstruction, H. S. Kerbaugh, $215,000. Proposition No. 3: Strauss Bascule Bridge Co., $192,000. Proposition No. 4: Superstructure, Strauss plans, substructure, H. S. Kerbaugh, $184,000. Proposition No. 5: Piles, yellow pine, 48 cts. Piles, reinforced concrete, $2.80. Piles, reinforced concrete, H. S. Kerbaugh plans, $2.10.

Great Lakes Dredge & Dock Company, 104 South Michigan Ave., Chicago, Ill.: Substructure and superstructure, plans and specifications, Strauss Bascule Bridge Co., $176,872; add 3 months to time of completion stated in city specifications. Bureau of Engineering and Thomas E. Brown type, Plan A, $245,000. Bureau of Engineering and Thomas E. Brown type, Plan B, $252,000; add 3 months to time of completion stated in specifications. Concrete piles, per lin, ft., $2. Wood piles, 32 cts.

Strobel Steel Construction Company, 1744 Monadnock Block, Chicago, Ill.: Superstructure, City of Buffalo design, $186,400. Superstructure, Ball bascule bridge, $147,600. Substructure, Ball bascule bridge, $81,700. Piles, concrete, per lin. ft., $2. Piles, wooden, per lin ft., 60 cts. Substructure to be build according to Plan "B" before dredging.

Penn Bridge Company, Beaver Falls, Pa.: Superstructure according to plans and specifications of Strauss Bascule Bridge Co., Plan A, $159,900.

Lupfer & Remick, 592 Ellicott Square, Buffalo, N. Y.: Substructure and Superstructure, Plan "A," City of Buffalo design, $254,700. "B," Buffalo Engineering Co. (design C), $148,000. "C," Buffalo Engineering Co. design (design C), $143,000. "D," Strauss Bascule Bridge Co. design, $173,000. "E," Scherzer Rolling Lift Bridge Co. double-leaf design. "F," Scherzer Rolling Lift Bridge Co. double-leaf design (alternative), $141,300. "C," Scherzer Rolling Lift Bridge Co. single-leaf design with 6-in. reinforced concrete slab in place of buckled plates on fixed span, $154,000. For same, with buckled plate floor on fixed spand add $3,400. "H." Scherzer Rolling Lift Bridge Co. design with 6-in. reinforced concrete slab in place of buckled plates on fixed span, $166,500. For same, with buckled plate floor on fixed span add $3,400. "J," Scherzer Rolling Lift Bridge Co. design modified to Cooper's specifications for highway bridges, edition of 1909, without alteration and with double plank floor for fixed span, $150,500. Additions, concrete piles, per lin. ft., $2.80. Additions, wooden piles, per lin, ft., 45 cts. Deductions, concrete piles per lin. ft., $2. Deductions, wooden piles per lin. ft., 35 cts.

Chesley, Earl & Heimbach, Inc., 20 Breckenridge St., Buffalo, N. Y.: Substructure, city plan and Brown type, Plan "A" or Plan "B," $74,900. Concrete piles, per lin. ft. $1.80. Wooden piles, per lin. ft. 40 cts. Substructures, Strauss plans, $57,500. Plus 7 per cent for plans and rights if required to be included under contract for this work. Wooden piles, per lin. ft. 40 cts. Substructures, Strobel Steel Construction Co. plans, $73,000, plus percentage for plans and rights if required to be included under contract for this work. Concrete piles, per lin, ft. $1.80. Wooden piles, per lin. ft. 40 cts.

★**Alliance, O.**—Contract awarded Samuel Austin & Sons, 14230 Euclid Ave., Cleveland, for erecting 450 x 80-ft. steel and glass addition to plant of Morgan Eng. Co.

★**Cleveland, Ohio.**—Contract awarded by Williamson Co. to Alexander Bros. Co., 426 Williamson Bldg., for erecting 3-story, 100 x 189 ft., steel and concrete Plymouth Bldg. at Prospect Ave. and E. 22nd St.; cost, $200,000. Steffens & Steffens, archts., 1027 Williamson Bldg.

★**Waverly, Iowa.**—Contract awarded Oct. 31 to Illinois Steel Bridge Co., Jacksonville, Ill., at $18,780, for constructing superstructure of Harmon St. bridge with 3 120-ft. steel truss spans, 18-ft. creosoted wood block roadway and concrete sidewalks.

REINFORCED CONCRETE

PROPOSED WORK.

Leominster, Mass.—City Council contemplates constructing reinforced concrete arch bridge with 60-ft. span and 30-ft. roadway. J. H. Johnson, supt. of streets.

Lawrence, N. Y.—Town officials contemplate constructing, from State Highway Dept. plans, reinforced concrete bridge, with two 25-ft. spans and 24-ft. roadway; estimated cost $6,000. Address W. Fred. Storks, supt. of highways, Glen Cove.

Rosendale, N. Y.—Bd. Supervs. intend constructing reinforced concrete arch bridge, 736 ft. long, at Esopus; estimated cost $12,000. Concrete Steel Engr. Co., engr., Park Row Bldg., New York City.

Sparta, N. Y.—New concrete bridge will be constructed by city on Groveland-West Sparta highway.

See "Roads and Paving." "Prices and Lettings," under Groveland, N. Y.

Newark, N. J.—Fred. A. Reimer, co. engr., estimates replacing of present bridge over Second River at Mt. Prospect Ave. with concrete structure at $30,000.

Philadelphia, Pa.—Windsor Chocolate Co., 24th and Hamilton Sts., secured site at 6th and Moore Sts. and will erect a 4-story, 80 x 116 ft., factory.

Plans filed for 5-story, 54 x 110 ft., reinforced concrete factory to be erected on Stenton Ave. for Leeds & Northrop Co., 4901 Stenton Ave.; cost, $120,000.

Stroudsburg, Pa.—See "Foundation Piers and Dams."

Montgomery, Ala.—Concrete bridge will shortly be constructed over RR. tracks at Oakwood cemetery, by Central of Georgia RR. (C. K. Lawrence, ch. engr., Savannah).

Painesville, O.—See "Foundations, Piers and Dams."

Bloomington, Ind.—Illinois Central RR. (A. S. Baldwin, ch. engr., Chicago) intend constructing reinforced concrete bridge with 82-ft. span and two 21-ft. driveways over College Ave.; also steel bridge over Walnut St.; total estimated cost $24,000.

Richmond, Ind.—John W. Mueller, engr., Palladium Bldg., has completed plans for reinforced concrete bridge, 700 ft. long, with 42-ft. roadway and two 8-ft. walks, approaches of arch girder and slab construction with brick floor pavement; estimated cost $180,000.

Green Bay, Wis.—Plans being prepared for 5-story, 50 x 100-ft. reinforced concrete, fireproof storage plant to be erected at Broadway and Hubbard St. for Green Bay Cheese Co. (F. J. Wright, gen. mgr.); cost, including machinery, about $60,000.

Des Moines, Iowa.—Plans for new concrete bridges at Court and College Aves. will be ready for estimating about Jan. 26. Address City Clerk.

North Platte, Neb.—Estimated cost of proposed concrete bridge over South Platte River about $45,000; address County Clerk.

Kansas City, Mo.—Bd. Pub. Wks. has ordered steel bridge at 50th St. over Brush creek to be relocated at Elmwood Ave. and construction of concrete bridge in its place at 50th St.

Dallas, Tex.—See "Roads and Paving."

McLoud, Okla.—Election in township, Nov. 28, to vote $30,000 for constructing concrete culverts; address clk. township trustees.

BIDS DESIRED.

Potter, Wis.—Reported desired until Dec. 15 by Wm. Hoeing, Brillion, Wis., for constructing concrete bridge, 5 piers, 2 abutments on 50 ft. piles, six 40 ft. spans, 20 ft. roadway, and concrete floors; total cost $20,000.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Cleveland, O.**—Standard Oil Co., E. Ohio Gas Bldg., awarded contract to Crowell-Lundoff-Little Co., 1951 E. 57th St., for two 2-story concrete buildings, 80 x 275 ft.; cost $175,000.

★**Cedar Rapids, Ia.**—Contract reported awarded by Douglas Starch Works to Leonard Constr. Co., 332 S. Michigan St., Chicago, for erecting 124 x 134-ft. reinforced concrete warehouse; cost $100,000.

ROADS AND PAVING

PROPOSED WORK.

Bristol, Conn.—City Council appropriated $50,000 for sidewalks, curb and gutter work in 1917.

Hartford, Conn.—Common Council intends paving approximately 3 miles of road with asphalt on concrete base. Leon F. Peck, supt. strs.

Albany, N. Y.—Plans for State Road to be constructed with concrete, 3½ miles long and 16 ft. wide, from Macedon east in Wayne Co. (the first link in State route No. 20 from Syracuse to Rochester); also for road over Montezuma marshes, about completed. Wm. A. Acheson, div. engr., State Highway Dept., Syracuse.

Chatham, N. Y.—Contracts will soon be let for paving 5 miles of road. Chas. W. Van Hoesen, super., Austerlitz, N. Y.

Islip, L. I., N. Y.—Villages of Bay Shore, Islip and Brentwood voted $26,000 bonds to construct permanent roads in township. Address Town Clerk, Islip.

Rochester, N. Y.—Common Council intends extending Averill Ave., estimated cost $75,000; grading, laying sidewalks and sewer in Ohio St. $11,500. Jos. A. Crane, city clk.

Elizabeth, N. J.—Considerable amount of sidewalk, curbing, gutter and flagging work will shortly be under contract. Address City Clerk.

Bids for paving Front St., Caldwell Place and Cross Ave., received recently by Bd. Wks. rejected, due to samples of granite block falling short of specifications; new bids will be asked.

Franklin, N. J.—Citizens approved Nov. 7 appropriation of $20,000 for street improvements.

"OH, I GUESS the job will cost about $70,000—maybe a hundred thousand. Who has charge of it? Well, I don't know. Maybe Smith—perhaps Jones has been hired to draw it up. Nope, don't know just how soon the thing will be ready for bids."

And then a fellow comes along who says:

"Yes. Going to cost $85,000. C. B. Brown, the architect, is preparing plans and L. M. Smith is going to be engineer in charge. Will want bids about April 1."

The latter speech might be said to be that of the editor of the contracting news items of the **Engineering Record — definite, to the point, and the least time wasted in telling.**

If all the facts are not known, a warning flag "reported" appears in the first part of the item.

Careful editing, as well as discrimination in using the items, makes the contracting news of the **Engineering Record**

The Best Contracting News Service

Jersey City, N. J.—Bd. Freeholders intend issuing bonds for following road improvements: Paterson Plank Road, with amiesite or equal, $30,000; Jackson St. and Lincoln Highway bridges, $12,000.

Newark, N. J.—M. R. Sherrerd, ch. engr., Bd. Street Comrs. and Water Comrs., preparing estimates for paving portions of Chelsea, Brookdale and Sussex Aves., Cliff, Mead, South, Tyler and Amsterdam Sts., and Hinsdale Place.

New Jersey.—Citizens of state approved $7,000,000 good roads bond issue. Address State Highway Comm., Trenton.

Newton, N. J.—Citizens approved Nov. 7 bond issue for paving Spring St. with concrete.

Wallpack Centre, N. J.—Town Road Comn. contemplates constructing new road; estimated cost $10,000; address Township Clerk.

Clifton Heights, Pa.—See "Waterworks and Sewerage Systems."

Morrisville, Pa.—See "Railroads."

Scranton, Pa.—Grading and paving with sheet asphalt on concrete base and laying curbs on Monsey Ave. from Larch to Green Ridge St. (estimated cost $18,215), Forest and Dupont Courts from Vine to Oliver Sts. and Deacon St. from Sanderson to Boulevard Ave. under consideration. Contract for Deacon St. will soon be let. Ellsworth Kelly, city clk.

York, Pa.—About 16,140 sq. yd. of creosoted pine blocks will be laid next summer by city officials.

Baltimore, Md.—State Highway Comn. (C. R. Wilson, secy.) is surveying National Defense Highway, 25 miles long, from Camp Parole to Blandensburg. Contracts for 6 miles of this road will shortly be let.

Kingwood, W. Va.—Contracts will probably be let in spring by Co. Comrs., F. C. Everly, clk., for 35 miles concrete paving in Portland dist.; estimated cost $280,000. J. C. Wonders, engr., Terra Alta.

Mt. Hope, W. Va.—Contract for paving and considerable amount of excavating on Fayette-Giles-Kanawak turnpike will be let in spring by Co Comrs. J. K. McGrath, road engr.

Summerville, W. Va.—Election throughout Co. in December for $75,000 bond issue for improving 8 miles of roads in Kentucky dist. with either concrete or macadam. C. N. Wiseman, co. clk.

Wayne, W. Va.—Election throughout Co. probably in January for appropriating funds to construct about 75 miles of roads in Ceredo dist. with brick, concrete or macadam. J. J. Crum, co. clk.

Louisville, Ga.—County voted $53,000 road bonds.

Birmingham, Ala.—City Comrs. intend paving Ave. F from 18th St. to Montevallo road, 18 ft. on each side, leaving 20 ft. parkway in center to provide for building double tracked railway. Julian Kendrick, city engr.

Gadsden, Ala.—City intends improving 4th and 5th Aves.; estimated cost $28,000.

Mansfield, La.—Plans and specifications prepared for 21,000 sq. yd. paving and 8000 sq. yd of gravel with binder; address City Clerk.

Marksville, La. — Road construction bonds for $300,000 voted in Avoyelles Parish Road and Drainage Dist. No. 4 for 12-mile road from Boute du Bayou Swamp to Bayou Choctaw through Mansura, Hydropolis and Marksville; address Clerk of Police Jury.

New Roads, La.—Road bonds for $123,000 will be sold Dec. 4 by Pointe Coupee Parish. Louis Tavoure, pres. police jury.

Jackson, Miss.—Co. Comrs. sold $100,000 road improvement bonds.

Huntington, Tenn.—Election Dec. 12 for $200,000 road improvement bonds. Address County Clerk.

Memphis, Tenn.—S. W. McCleskey, engr., preparing plans for 10 miles of gravel road in northeast part of county.

Bellefontaine, O.—Plans being prepared for 10,000 sq. yd. paving on Stanton St. Chas. A. Inskeep, dir. pub. serv.

Chardon, O.—Road improvement bond issue carried in Russell ($26,000); Newbury, Burton township and Burton village; address County Clerk.

Cincinnati, O. — Plans for improving Walnut St., from Court to 12th Sts., by lowering canal bridge to boule. level and paving roadway with wood block, being prepared by Frank S. Krug, city engr.; estimated cost $25,000.

Cleveland Heights (P. O. Cleveland,) O.—Road bonds for $19,555 will be sold Dec. 18 by H. H. Canfield, village clk.

Covington, O.—Citizens voted $500,000 bonds which includes appropriation for new Holmesdale school, improving thoroughfares in Latonia and following work: extensions of Holm St., Eastern and Hermes Aves., Willow Run boule., Pike St. improvement and construction of traffic bridge in connection with laying of new emergency water main.

Dover, O.—Citizens approved $50,000 road bond issue Nov. 7.

Greenville, O.—About 2½ miles paving on Union and West Sts. and 2000 ft. concrete curb and gutter work under consideration. Robert Horn, city engr.

Kent, O.—City Council intends paving Lake St.; estimated cost $20,000.

Lebanon, O.—Contracts will soon be let by Co. Comrs., C. S. Mounts, co. aud., for paving sections A and B (about 7 miles) of Monroe-Lebanon road, Turtle Creek township.

Lisbon, O.—Co. Comrs. sold $155,500 bonds for improvement of Lincoln highway in Madison Township by construction of 14-ft. roadway with brick on concrete foundation, about 7 miles.

Springfield, Ohio.—Street Improvement bonds for $15,000 will be sold Dec. 4 by W. J. Barrett, city aud.

Tiffin, O.—City Council intends issuing $15,000 bonds for paving East Perry St., from west line of RR. right-of-way to east limits of city, with vitrified brick, and $6,500 for grading, curbing and paving Douglas St., from North Sandusky to Elwood St. Geo. W. Hoffman, city clk.

Troy, O.—City has under consideration improving portions of East and West 23d, 32d and 7th Sts. and Elyria Ave.

Youngstown, O.—City Council considering paving Alice St. from Woodland Ave. to Hughes St. and grading Thorn Hill Rd. from Hubbard Rd. to Paige Ave. M. F. Hyland, city clk.

Crown Point, Ind.—Co. Comrs. sold $41,000 highway bonds.

Cadillac, Mich.—City Comrs. considering petitions for paving Marble St. from Wood to Poplar, 24 ft. wide, with concrete; on Division St. to Cass St. and Harris St. from Shelby to Division, with brick.

Marshall, Mich. — Plans for paving North and South Marshall Ave., North and South Kalamazoo Ave. and East State and Exchange Sts., also additions to storm water system are being prepared by L. A. Boulay Co., engrs., Toledo, Ohio.

Hanava, Ill.—Paving contract for 32 blocks will soon be let by City Officials; work to be started in spring.

Woodstock, Ill.—City planning to improve Madison, Jefferson, West Jackson and Judd Sts. and Lincoln Ave.

La Crosse, Wis.—Bd. Pub. Wks. estimates $125,000 will be spent for proposed street paving. John Vollman, pres. bd.

Des Moines, Ia.—Cross lots boulevard, to be known as "Keosauqua Way," being surveyed from 7th and Chestnut Sts. to 20th and Forest Sts. John Budd, supt.

Minneapolis, Minn.—City Council considering petitions for grading and paving various streets, of which some are: 35th St., Queen and Cromwell Aves.

Columbus, Neb.—L. F. Gottschalg, engr., estimates contemplated paving in Dist. No. 1 at $100,268; address Chmn. City Council.

Omaha, Neb.—City Council has under consideration widening of 24th St. between Pacific and Cummings St.; estimated cost $988,000.

Butte, Mont.—City has under consideration paving following streets: Alabama, Galena to Diamond Sts.; Granite, from Montana to Western; Broadway, one block east from Arizona; Harrison, from Front to Massachusetts; Excelsior, from Galena to Diamond and from Granite to Caledonia. Joseph Armstrong, ch. engr.

Dillon, Mont.—Co. Officials intend rebuilding between 10 and 20 miles of important highways.

Montana.—State Highway Comm., G. R. Metlin, secy., Helena, has under consideration in spring, construction of Yellowstone Trail between Alberton and Cyr; estimated cost $110,000.

Bandera, Tex.—Road Dist. No. 2 voted $22,000 bonds. Address Co. Clerk.

Dallas, Tex.—Contracts for paving Henderson St. from Alton to Junius; Birmingham from Central to Oakland and Terry from Fitzhugh to Bank with natural lake asphalt will shortly be let by City Council.

Contracts for the following work will probably be let in spring with $500,000 bonds voted by Co. Nov. 7: 1½ miles concrete pavement on Fort Worth-Dallas Rd., from Commerce St. viaduct to Obenchain Hill; 145 miles concrete pavement through Mountain Creek bottom and construction of permanent bridges on this road, estimated cost $75,424; 2 miles concrete pavement on road from West Dallas pike to Hasty Hill and construction of 1000 ft. of concrete bridging, and construction of permanent bridges on Dallas-Coppell road, total estimated cost $106,653; replacing of wooden bridges on Dallas-Denton road with steel or iron, estimated cost $16,500, and for replacement of various wooden bridges on different roads and grading of some roads, $170,000. Address County Judge.

Galveston, Tex.—Petitions for paving 6 blocks on Postoffice St., also paving Ave. O with Uvalde rock, being considered by Bd. Comrs., who have over $200,000 left from proceeds of 1916 bond issue. John D. Kelley, city secy.

Houston, Tex.—Geo. Sands, city engr., estimates cost of paving Harrisburg Boule. within city limits at $45,000.

Victoria, Tex.—Election to vote upon approximately $100,000 paving bonds being considered by City.

Holdenville, Okla.—Calvin Township voted $30,000 road bonds; address County Clerk.

Lawton, Okla.—Road bond issue of $250,000 approved by attorney general. Address County Clerk.

Conconully, Wash.—Appropriation for road construction work in 1917 as follows: Permanent highways, $12,348; road and bridge fund, $11,854; road dists. fund, $49,681. H. E. Smith, co. engr.

Ellensburg, Wash.—Co. Comrs. appropriated $102,789 for road and bridge work in 1917. M. M. Emerson, co. engr.

Port Townsend, Wash.—Co. Comrs. have appropriated $12,000 for permanent highways, $24,000 for road and bridge work and $20,000 for road dist. work. Guy D. Edwards, co. engr.

Seattle, Wash.—Plans being prepared by A. P. Denton, co, engr., for paving 4 miles of highway between Duwamish River and Renton Junction with brick on monolithic; estimated cost, $108,000. Bids will soon be asked.

Shelton, Wash.—Co. Comrs. appropriated $15,000 for permanent highways, $22,000 for road and bridge work and $54,900 for road dist. work in 1917. Arthur L. Ward, co. engr.

Tacoma, Wash.—Co. Comrs. will ask Legislature to establish state road from Gig Harbor to connect with Navy Yard Highway near Allyn; estimated cost $60,000. Thos. N. Norris, co. aud.

Portland, Ore.—John B. Yeon, co. roadmaster, has tentative budget for 1917 as follows: Dist. No. 1, $513,000; Dist. No. 2, $77,000; Columbia River highway, including Vista House, $35,000; general fund, $68,000.

Salem, Ore.—Cost of proposed highway, now being surveyed, from Coos Bay to Eugene, through Siuslaw, will be apportioned between state and counties of Coos and Lane, and western part of Douglas Co. John H. Lewis, state highway engr.

Hanford, Cal.—Plans for grading, constructing concrete, Topeka and Warrenite pavements, corrugated iron and concrete culverts, etc., on several units of county highway system, being completed by Benn Duffield, ch. engr. co. highway comn.

Los Angeles, Cal.—City Engr. has plans for paving: 48th St. from Normandie Ave. to Gramercy Place with warrenite; Figueroa St. from College St. to New Depot St. with concrete; Vermont Ave. from Melrose Ave. to Temple St. and 7th St. from Boyle Ave. to Utah St. with bitulithic; also sewering 9th St. from Santa Fe Ave. to Los Angeles River and Grand Ave. from Slauson Ave. to 59th Place.

Sacramento, Cal.—R. M. Morton, engr., surveying highways for Co. Highway Comn. (F. B. McKevitt, chmn.); $1,750,000 bonds recently voted.

San Francisco, Cal.—Bd. Pub. Wks. have requested supervs. to appropriate $32,000 for paving Battery St. from California Ave. to Embarcadero, with wood blocks.

Salt Lake City, Utah.—Concrete road of 1½ miles, between present state highway and Cudahy Packing Co. plant, under consideration by Co. Comrs.; estimated cost $10,000. Address Co. Clk., Farmington.

London, Ont.—Estimate for paving with asphalt concrete and laying curb in Adelaide St. from Dufferin Ave. to Oxford St. is $29,976. S. Baker, city clk.

Ottawa, Ont.—Estimated cost of widening portion of Bank St. placed at $2,000,000. A. F. Macallum, comr. of works.

BIDS DESIRED.

Brooklyn, N. Y.—Until Nov. 24 by L. H. Pounds, boro. pres., for regulating and paving with permanent asphalt on a 6-in. concrete foundation on portions of E. 34th, Powell and W. 15th Sts., in all about 9027 sq. yd. asphalt pavement, together with grading, curbing and laying sidewalks on portions of 79th St.; security required $8,700.

Keyport, N. J.—Reported desired until Jan. 3 by G. D. Cooper, engr., 120 Broad St., Red Bank, for paving with warrenite on concrete; cost $65,000.

Salem, N. J.—Until Nov. 27 by Bd. Freeholders (Isaac C. Smashey, clk.) for constructing the second section of Malaga-Pennsgrove Rd., about 26,667 sq. yd. of surface pavement required.

Stone Harbor, N. J.—Until Nov. 20 by Borough Council (Leo. F. McCraven, clk.), for constructing sidewalks, grading and surfacing along nine thoroughfares.

Baltimore, Md.—Until Nov. 22 by Bd. Awards, City Register, for grading and paving with cement concrete, about 34 alleys known as Contract A3. R. M. Cooksey, highway engr.

Memphis, Tenn.—Unil Dec. 1 by Bd. Supervs. for constructing 10 miles of Pigeon Roost Rd., in Desota Co., with gravel; cost $20,000. S. W. McCloskey, engr., 11 S. 2nd St.

Owensboro, Ky.—Until Nov. 24 by Fiscal Court of Daviess Co., for improving Rockport Rd., involving 23,650 cu. yd. excavation, 6000 tons broken stone, 5000 cu. yd. river gravel, or bank gravel, 385 yd. concrete; Leitchfield Rd., involving 63,000 cu. yd. excavation, 20,180 tons broken stone, 16,816 cu. yd. river gravel or bank gravel, 1433 cu. yd. concrete; Hawesville Rd., involving 43,171 cu. yd. excavation, 14,171 tons broken stone, 11,000 cu. yd. bank gravel, 272 yd. concrete; St. Joseph Rd., involving 34,398 cu. yd. excavation, 12,650 tons broken stone, 9585 cu. yd. river gravel or bank gravel, 180 cu. yd. concrete. J. W. Spurrier, co. road engr., Owensboro.

Cleveland Heights (P. O. Cleveland, O.)—Until Dec. 18 by H. H. Canfield, village clk., for furnishing material and improving portions of Bradford Rd., Clarendon Rd., Fairfax and a number of other roads.

Forest Park, Ill.—Until Nov. 21 by Bd. Local Improvements (Jos. T. Carney, secy.) for grading and redressing the existing macadam pavement and paving with vitr. brick pavement on portions of South Desplaines Ave. Robert E. Williams, engr., 118 N. La Salle St., Chicago.

Cedar Rapids, Iowa.—Reported desired until Feb. 1 by City Clerk for paving 13 blocks on First Ave.; cost about $90,500.

Independence, Iowa.—Reported desired until Jan. 10 by City Clerk for paving 31 blocks; cost $100,000.

Kansas City, Mo.—Until Nov. 21 by Bd. Pub. Wks. (J. Pearce Kane, secy.), for paving Milwaukee Ave. and 9th St. with vertical fiber vitri. brick block; Wyoming, 45th, 43d Sts. and Quincy Ave. with Portland cement concrete pavement and curb, and laying artificial sidewalks on portions of 8th, 55th, 67th and other streets.

Camas, Wash.—Until Nov. 28 by C. E. Farr, city clk., for improving portions of 4th St. with bitulithic or hard surface redress; cost $15,431.

Eugene, Ore.—Until Nov. 25 by Stacy M. Russell, co. clk., for 41,000 lin ft. grading, including the construction of bridges and culverts.

PRICES AND LETTINGS.

★Indicates award of contract.

Boston, Mass.—See "Miscellaneous."

★Alton, N. Y.—Contract awarded (bids opened Oct. 26) by State Hightway Comn., Albany, N. Y., to Harradine Bros., Spencerport, at $81,816, for constructing Highway No. 30, between Sodus and Alton.

★Groveland, N. Y.—Contract awarded by State Highway Comn., Albany, to Atlantic Constr. Co., Atlanta, N. Y., at $34,856, for constructing with concrete (7 in. center tapering to 5 in. on edges) and with 8-in. waterbound macadam on heavy grades, Groveland-West Sparta highway; bids opened Oct. 26.

Long Island City, N. Y.—Following are bids opened Nov. 14 by Pres. Boro. Queens, Borough Hall, Long Island City: (1) Grading and repaving with granite block with bituminous grouted joints on concrete foundation portions of Junction Ave.: Clancy & Nuhn Contr. Co., 31 Huntspoint Ave., Long Island City, $28,576; Chas. A. Myers Contr. Co., Ft. Stagg St., Brooklyn, $30,620; Peace Bros., Main St., Flushing, L. I., N. Y., $31,122; Rosenthal Engr. & Contr. Co., 165 Hooper St., Brooklyn, N. Y., $31,154; Astoria Contr. Co., Astoria, L. I., N. Y., $31,456. (2) Sheet asphalt pavement on concrete foundation, portions of Buchman Ave., Anthon Ave., and Cornelia St.: Cleveland Trinidad Paving Co., Flushing, L. I., N. Y., $12,662; Sicilian Asphalt Paving Co., 41 Park Row, New York, $13,658; Borough Asphalt Paving Co., 1201 Metropolitan Ave., Brooklyn, N. Y., $14,239; Uvalde Asphalt Paving Co., 1 Broadway, New York City, $14,321. (3) Regulating and paving with sheet asphalt on concrete foundation, portions of Hancock, Decatur and Cornelia Sts.: Cleveland Trinidad Asphalt Paving Co., $16,400; Uvalde Asphalt Paving Co., $17,541; Sicilian Asphalt Paving Co., $18,426; Borough Asphalt Paving Co., $18,586.

★New York, N. Y.—Contract awarded Nov. 9 by F. J. H. Kracke, comr. dept of plant & structures, Municipal Bldg., to W. J. O'Hara, 557 3d St., Brooklyn, N. Y., a $32,841, for repaving south roadway of approaches of Williamsburg Bridge; bids opened Sept. 28.

★Atlantic City, N. J.—Contract awarded by Bd. Freeholders to Liddle & Pfeiffer, Perth Amboy, at $693,442 for paving with Warrenite White Horse Pike from Absecon to Camden Co. line.

Flemington, N. J.—Following bids were received by Town Board Nov. 9 for paving 15,600 sq. yd. on Flemington-Sand Brook Rd.: Reed & Co., Trenton, N. J., $15,447; J. Irving Demarest, Woodbridge, N. J., $18,292. L. P. Crouse, town clk.

★Jersey City, N. J.—Contract awarded by Bd. Freeholders to Wm. J. Coughlin, 665 Newark Ave., at $51,700, for reconstrucing Woodcliff bridge, on the Boulevard.

★Newark, N. J.—Contract awarded as follows (bids opened Nov. 2) by Bd. Wks.: To Newark Paving Co., 133 First St., at $40,242 for paving with wood block High St., from Warren St. to Boyden Pl.; Alex. J. Milmoe, 85 Littleton Ave., at $19,065 for paving with granite block, Market St.; Standard Bitulithic Co., Essex Bldg., at $18,644 for paving with bitulithic, Shepard Ave., and with asphalt, Mapes Ave.

★Elkton, Md.—Contract awarded by Co. Comrs. to E. Ward Brown, Port Deposit, for constructing 2½ miles of macadam road between Millers' Corner and Cowentown.

★Atlanta, Ga.—Contract awarded by Co. Comrs. for bids opened Oct. 24 to T. D. Meader, jr., 101 Wells St., at $1.59 sq. yd. (total about $45,000), for paving various streets with Bermudaz asphalt on concrete base. C. M. Holland, co. purch. agt.

★Birmingham, Ala.—Contract awarded by City Comn., Nov. 7, to Dunn Constr. Co., Birmingham, for paving with asphaltic concrete and combined curb and gutters and cement sidewalks on 11th Ave., at $8,200, also paving with sheet asphalt on concrete base Tuscaloosa Ave., at $34,300, and 6th Ave., South, at $102,480. Julian Kendrick, city engr. Unit prices on 6th Ave., South, are as follows:

30,000 cu. yds. earth excav.	$0.23
3500 cu. yd. rock excav.	0.60
51,480 sq. yd. sheet asphalt paving	1.33
2300 sq. yd. brick gutter paving on concrete and grouted	1.90
150 sq. yd. brick gutter paving on gravel	1.30
50 sq. yd. brick gutter relaid on concrete and grouted	1.20
14,600 lin. ft. cement combined curb and gutter (2-ft. gutter)	0.43
1400 lin ft. stone headers	0.40
19 class D inlets	13.00
5 class D inlets with E grates	25.00
100 lin. ft. 24-in. T. C. pipe 0 to 6	1.30
450 lin ft. 15-in. T C. pipe 0 to 6	0.65
650 lin. ft. circle granite curb 6 x 20 in.	0.60
2 manholes	23.00
1700 sq. yd. granite block track paving	2.80
14,000 lin. ft 5 x 16 in. straight granite curb	0.43
1170 lin. ft. 5 x 16 in. circular granite curb	0.50
4600 lin. ft. granite curbing reset	0.08
10 inlets rebuilt	10.00

Jennings, La.—Following firms submitted bids Nov. 2 for construction of $500,000 gravel road work in Jefferson Davis parish: Healy Constr. Co., Meridian, Miss.; Texas Grading Co., Houston, Tex.; Wm. McCorquedale, Lake Charles, La.; G. N. George & Sons, Laurel, Miss.; Perry & Bonner, Mobile, Ala.; Wetzen & Co., Monroe, La.; Worthington Constr. Co., Birmingham, Ala.; Warmack Constr. Co., Sherman, Tex.

★**Lake Charles, La.**—Contract awarded by City Council (bids opened Nov 9) to De Jersey & Naff, Lake Charles, at $15,884 for gravel pavement. E. L. Gorham, city engr.

Cincinnati, O.—Following are lowest bids received Nov. 10 by Co. Comrs. for paving North Bend Rd. with concrete: Thurber & Browning, 4231 Spring Grove Ave., $60,692; Scully Bros., 242 Loraine Ave., $63,444; Kirchner Constr Co., 221 West 9th St., $72,242. For Cameron concrete road: Peter Praechter, 2935 Gerard St., $44,232; Van Camp Bros., 3312 Eastside Ave., $44,824; Thurber & Browning, $46,088; E. O. Brown, Hamilton Pike, $48,101.

★**Youngstown, Ohio.**—Contract awarded (bids opened Nov. 8) by City to Victor Olson, Youngstown, at total of $26,456, for various street work.

★**Columbia City, Ind.**—Contract awarded by Co. Comrs., Thos. A. McLaughlin, co. aud. (bids opened Nov. 11), to Elis E. Lehmer & Co., North Manchester, Ind., at $11,648 for constructing 2 gravel roads.

★**Hutchinson, Kan.**—Contract awarded by City Council Oct. 31 to Stamey-Mackey Constr. Co., Hutchinson, at $24,945, for paving with brick 14th, 15th and 16th Sts.

★**Oklahoma, Okla.**—Contract awarded by city (bids opened Oct. 24) to Sandringham Constr. Co., Oklahoma, at $16,683 for paving Lincoln Boule. C. F. Semmelbeck, city clk.

★**Bellingham, Wash.**—Contract awarded by City Council to K. Sauset, Bellingham, at $14,089 for paving with asphalt and laying 12-in. gutters in G St. from Cornwall to Ellsworth.

Hiiwaco, Wash.—Lowest bid submitted by M. P. Zindorf, Alaska Bldg., Seattle, for paving 4 blocks of Main St. with concrete was $10,999. J. A. Howerton, city clk.

★**Los Angeles, Cal.**—Contract awarded by Bd. Pub. Wks. to Geo. H. Oswald, 405 O. T. Johnson Bldg., at $25,240, for constructing 106,604 sq. ft. asphalt pavement, 3168 lin. ft. concrete curb, storm drains, etc., in Mission Road between Gallardo and Aliso Sts.

★**San Francisco, Cal.**—Contract awarded by Bd. Pub. Wks. to G. W. McGinn & Co., Phelan Bldg., for grading and paving Railroad Ave. from San Bruno to Ingerson Aves. Bd. Supervs. requested to appropriate $17,000 to pay city's portion of work.

★**Pocatello, Idaho.**—Contract awarded by City Council for grading, paving and graveling in Dists. 14 and 17 to Francis McNally, Pocatello, at $34,931 and $20,257 respectively; same in Dist. 18, to J. J. Carroll, Boise, at $29,578; for paving in Dist. 20 to R. M. Bardsen Co., Pocatello, at $41,601.

RAILWAYS
Steam and Electric

PROPOSED WORK.

Morrisville, Pa.—Improvements authorized by Pennsylvania RR. Co. (A. C. Shand, ch. engr., Broad St. Sta., Philadelphia), at West Morrisville Yard, New York Division, consist of constructing an eastbound receiving and westbound departure yard, and an eastbound and westbound main track. Work involves about 400,000 cu. yd. grading, 3000 cu. yd. concrete masonry and about 2500 sq. yd. macadam paving.

Towson, Md.—Towson & Cockeysville Electric Ry. Co. (J. Alexis Shriver, genl. mgr., Bel Air) considering constructing extension from Timonium near Lutherville to Texas, Md., about 2 miles.

Hampton Roads, Va.—Norfolk, Washington & Yorktown RR. Co. reported considering construction of line from Hampton Roads via Yorktown, to connect with the Richmond, Fredericksburg & Potomac Ry., about 85 miles. H. Wolcott, Norfolk, may be able to give information.

Richmond, Va.—Plans being prepared for an electric railway to be constructed from Richmond to Forest Hill to Bon Air, a distance of 7 miles. T. S. Wheelwright, pres. Virginia Ry. & Power Co., reported interested.

Charleston, S. C.—Reported Charleston & Summerville Interurban Ry. Co. (J. L. David, pres.), contemplates constructing line from Charleston to Summerville, a distance of 22 miles.

Savannah, Ga.—Georgia & Florida RR. (E. B. Eppes, ch. engr., Augusta) and Atlanta, Birmingham & Atlantic RR. Co. (L. L. Beall, ch. engr., Atlanta) reported considering extending lines into Savannah.

Birmingham, Ala.—See "Roads and Paving."

Elyria, O.—See "Structural Steel."

Newark, O.—Citizens of Newark and Newton Township have petitioned Co. Comrs. to eliminate four grade crossings between Newark and Utica along Lake Erie division of Baltimore & Ohio RR.

Rochester, Minn.—Plans being prepared for extending the St. Paul Southern Electric Ry. to Rochester, thence to Cresco, Ia. E. C. Hackett, Rochester, reported interested.

St. Paul, Minn.—Plans completed for rearrangement of trackage for Great Western Ry. (E. R. Griffin, genl. mgr., Denver, Col.)

Scott City, Kan.—Colorado, Kansas & Oklahoma RR. Co. (B. L. Allen, ch. engr., Scott City) intends extending line from Scott City, Kan., to Forgan, Okla.

Hopland, Cal.—Clear Lake RR. Co. has applied to State Railroad Comn., San Francisco, for permission to construct standard gauge steam railroad from Hopland, Mendocino Co., to Lakeport, Lake Co., distance about 14 miles.

Los Angeles, Cal.—Salt Lake Ry. Co., Pacific Electric Bldg., Los Angeles, has applied to State Railroad Comn., San Francisco, for permission to construct overhead grade crossings over a number of county highways and a number of streets in Whittier.

Garfield, Utah.—See "Foundation Piers and Dams."

Ogden, Utah.—Reported Ogden, Logan & Idaho Ry. Co. (R. W. Armstrong, ch. engr., Ogden) will construct an extension from Logan through the canyon to Bear Lake.

Salt Lake City, Utah.—Salt Lake & Ogden Ry. Co. (Julian M. Bamberger, pres. and genl. mgr., Salt Lake City) contemplates double-tracking its line between Clearfield and Layton, a distance of 4 miles.

Honolulu, Hawaii.—Bd. Dirs. of Honolulu Rapid Transit & Land Co., authorized construction of new 2-mile line from Liliha St. along School St. to Kalihi Road.

BIDS DESIRED.

Brooklyn, N. Y.—Until Nov. 29, Pub. Service Comn., First Dist., No. 120 Bway., New York, for constructing Sec. IA of Route No. 49, which is to be a 3-track approach to the elevated railroad extending from 10th Ave., between 37th and 38th Sts., to a point 371 ft. southeasterly from the southeast building line of 10th Ave., work being a part of the Culver Rapid Transit RR.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Murphysboro, Ill.**—Contract awarded by Murphysboro & Southern Illinois Electric Ry. Co. to Heman Constr. Co., Title Guaranty Trust Bldg., St. Louis, for extension of line to Carbondale; estimated cost about $200,000.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Elizabeth, N. J.—Peter Breidt City Brewing Co., 604 Pearl St., intends erecting new bottling plant on Pearl St. to cost $102,718.

Jersey City, N. J.—Hudson Laundry Co., 630 Grand St., intends erecting 1-story laundry plant on Johnston Ave.; cost about $69,000.

Lebanon, Pa.—Yocum Bros., Reading, plan erecting branch cigar factory here to cost $50,000.

Marcus Hook, Pa.—Worth Bros., Commercial Trust Bldg., Philadelphia, reported contemplate erecting $15,000,000 steel plant here.

Philadelphia, Pa.—Albro-Clem Elevator Co., 7th and Glenwood Sts., will erect a 480 x 250-ft. factory on E. Erie Ave.; cost about $100,000.

Philadelphia, Pa.—See "Reinforced Concrete."

Stockertown, Pa.—Plans being prepared for cement plant which the Hercules Cement Co., Finance Bldg., Philadelphia, proposes erecting here.

Wilmington, Del.—Plans completed by Peuckert & Wunder, 310 Chestnut St., Philadelphia, for a 3- and 4-story and basement, 60 x 100 ft., brick, steel, concrete, terra cotta and granite addition to bakery of Wm. Freihofer Baking Co., at Pennsylvania Ave. and Lincoln St.; cost, including equipment, about $150,000.

Wheeling, W. Va.—Hazel-Atlas Glass Co., 16th & Market Sts., contemplates erecting 3-story addition to plant; cost about $50,000.

Youngstown, Ohio.—Youngstown Sheet & Tube Co., Stambaugh Bldg., contemplates improving plant extensively.

Chicago, Ill.—Western Electric Co., 500 South Clinton St., contemplates erecting 3-story addition to telephone apparatus shop here, to cost about $700,000.

Guggenheim Bros., 46th St. and Packers Ave., will erect addition to packing plant; cost about $250,000.

Green Bay, Wis.—See "Reinforced Concrete."

Anoka, Minn.—Federal Machine & Cartridge Co. plan erecting ammunition factory here. Chapman & Magney, 848 S. 10th St., Minneapolis, archts.

Independence, Kan.—Plans are being prepared by Western States Portland Cement Co. for rebuilding plant recently destroyed by fire; cost about $100,000.

St. Joseph, Mo.—Frank Brinson, St. Joseph, reported interested in erecting ice plant at 6th and Atchison Sts., to cost about $100,000.

Seattle, Wash.—Contract soon to be let by Blackwell & Baker, archts., Northern Bank Bldg., for reconstructing Pier 11, foot of Wall St., recently destroyed by fire, with a 138 x 700-ft. structure and a 1-story warehouse, 98 x 600 ft.

Seattle, Wash.—Reported Western Gear Wks., 1706 4th Ave., will erect 2-story, 112 x 120 ft., brick, gear cutting and manufacturing plant, at 9th Ave. S. and King St.

Los Angeles, Cal. — Moreland Motor Truck Co. (Wat Moreland, pres.), 1701 N. Main St., intends erecting new manufacturing plant; probable cost $1,000,000.

Oakland, Cal.—Pacific States Refineries Co., Fruitvale Ave. and Stuart St., intends erecting new plant to cost $2,000,000.

Salt Lake City, Utah.—Contract about to be let by B. F. Redman of Redman Van & Storage Co., 160 S. Main St., for erecting 5-story brick building at 4th W. and 1st S. Sts., to be used as a distributing plant for the International Harvester Co.; cost $50,000.

Coeur D'Alene, Idaho.—Central Heating & Lighting Co. plans new heating plant here; cost about $100,000.

South Vancouver, B. C.—Reported David Milne of Victoria, B. C., and G. R. Kennedy of Medicine Hat, Alta., contemplate erecting rolling mill here with a capacity of 30 tons per day; cost $150,000.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Worcester, Mass.**—Contract awarded J. W. Bishop Co., 109 Foster St., for erecting 4-story factory addition for Leland & Gifford Co., 1025 Southbridge St.; cost $75,000.

★**Bridgeport, Conn.**—Contract awarded Saml. Austin & Sons, 416 Newfield Bldg., for erecting 2-story, 300 x 120-ft. projectile factory for Bridgeport Projectile Co.; cost $150,000.

★**Richland, Pa.**—A. J. Fink, Reading, secured contract to erect 3-story, 50 x 140 ft., fireproof factory here for Curtis & Jones Shoe Co. of Reading; cost $55,000.

★**Sparrows Point (P. O. Baltimore), Md.**—Contract for erecting blacksmith's shop, 75 x 330 ft., for PennMary Steel Co. awarded Singer, Pentz Co., Equitable Bldg., Baltimore, at $62,000.

Alliance, O. — See "Structural Steel Works."

★**Metropolis, Ill.**—Contract reported awarded Jack Cole Paducah, Ky., for erecting 3-story and basement, 90 x 275-ft. factory for Wilson Stove & Mfg. Co.; cost $100,000.

★**Cedar Rapids, Ia.**—Contract awarded Loomis Bros., Kimball Bldg., for erecting 4-story and basement, 80 x 210-ft. cold storage building for T. M. Sinclair & Co., 3rd St. and 16th Ave.; cost $90,000.

BUILDINGS
Public and Private

PROPOSED WORK.

Chicopee, Mass.—Plans being prepared by Geo. E. Haynes, 184 North St., Pittsfield, for 3-story high school; cost, $60,000. N. Carter, chmn. school com.

Swansea, Mass.—Reported revised plans being prepared by Henry Vaughan, 20 Pemberton Sq., Boston, for high school to cost $50,000.

Winchendon, Mass.—W. H. Hunt & Son, Hawthorne Bldg., Salem, is architect for 2 and 1-story, 60 x 90-ft. and 142 x 70-ft. theater and mercantile building to cost $60,000.

New York, N. Y.—Plans filed for erecting following buildings: 8-story fireproof apartment house at 139 E. 66th St. for Brixton Holding Corp., cost $100,000; Rouse & Goldstone, archts., 38 W. 32d St.; 4-story brick and stone police station on 142d St. and Brook Ave., for city, cost $75,000, Cross & Cross, archts., 10 E. 47th St.; alterations to 8-story fireproof apartment hotel at 2 W. 91st St. for Albert L. Newman, 71 Palmetto St., Brooklyn, cost $50,000, Geo. and Edw. Blum, archts., 505 5th Ave.

Jersey City, N. J.—Bd. Educ. contemplates erecting new grammar school in Lafayette district.

Trenton, N. J.—State Bd. Educ. has appropriated $60,000 for erecting addition to local School for the Deaf.

Allentown, Pa.—Erection of new hospital contemplated for Sacred Heart Hospital; cost about $183,000.

Aspinwall, Pa.—Contract to be let about Jan. 1 for erecting high school. P. C. Dowler, archt. J. R. Brantlinger, secy. Bd. Educ.

Gettysburg, Pa.—At recent election $70,000 bond issue to erect high school was defeated. Mahlon P. Hartzell, secy. bd. educ.

Harrisburg, Pa.—Citizens recently voted $1,190,000 school bonds. D. D. Hammelbaugh, secy. school bd.

Norristown, Pa.—Dr. E. A. Krusen, Norristown, will erect a hospital on Sandy St. to cost about $55,000.

Philadelphia, Pa.—Jules Mastbaum, 2307 N. Broad St., will erect 4-story building at 664 N. Broad St.; cost about $100,000.

First Bible Christian Church will erect new edifice on present site, to cost about $60,000. Rev. H. F. Cludd, pastor.

Philadelphia Enamel Mfg. Co., 1311 Vine St., purchased site on which to erect enameling plant; cost about $100,000.

Plans prepared by Philip H. Johnson, Land Title Bldg., for proposed addition to hospital at Pine and 34th Sts.; cost about $350,000.

Plans being prepared by Frank E. Hahn, 1511 W. Oxford St., for 2-story, 80 x 182 ft. building, to be erected at Broad and North Sts., for Fisk Rubber Co.; cost $100,000.

West Chester, Pa.—Citizens voted $120,000 school bonds. Address Secy., bd educ.

Havre de Grace, Md.—Preliminary plans prepared by Theo. Pietsch, 1101 American Bldg., Baltimore, for 3-story, 100 x 75-ft. hotel to be erected for Susquehanna Inn; cost $100,000.

Newport News, Va.—Plans being prepared by Ferguson, Calrow & Wrenn, Virginia Bank Bldg., Norfolk, for 3-story school to cost $80,000. W. L. Tabb, clk. bd. educ.

Savannah, Ga.—Contract soon to be let for erecting new edifice for South Side Baptist Church; cost $50,000. Rev. John S. Wilder, pastor.

Bedford, O.—Citizens voted Nov. 7 $50,000 bonds for erecting school. Address clk., school bd.

Cleveland, Ohio.—Steps being taken by St. Casimir's Polish Catholic Church to erect new edifice on E. 81st St.; cost $100,000. Rev. C. Ruszowski, pastor.

Cleveland, O.—All bids opened Nov. 3 for Branch Library rejected as being too high. Carl Loreny, secy., public library.

New home, costing about $75,000, is to be erected at Harper and S. Kinsman Rds. for Cleveland Protestant Orphan Asylum. E. J. Henry, supt., 5000 St. Clair Ave., may be able to give information.

Plans being prepared by Allen-Osborne Co., 957 Rose Bldg., for lodge building, to be erected on E. 55th St. for Banner Lodge, Independent Order Odd Fellows. G. A. Williamson, 7004 Lexington Ave., may be able to give information.

Plans completed by H. T. Jeffery, 408 Union Bldg., for market house to be erected at St. Clair Ave. and E. 106th St. for St. Clair Market Co. (Geo. W. Hale, pres., 340 Leader-News Bldg.); cost about $200,000.

Covington, O.—See "Roads and Paving."

Milwaukee, Wis.—Following apportioned estimates for eliminating 11 grade crossings and changing grade of RR. tracks by depression tracks 28 ft. for 2 miles from Watertown plank road to Fond du Lac Ave. (a) 2 track plan, (b) 4 track plan, (c) 6 track plan. C. F. Loweth, ch. engr., Milwaukee road.

	(a)	(b)	(c)
Milwaukee road	$1,182,933	$1,998,805	$2,077,080
City	422,476	772,135	851,111
St. Railway Co.	84,495	84,495	84,495

East Palestine, O.—Preliminary sketches prepared by W. C. Owen & Co., 408 Euclid Bldg., Cleveland, for 4-story, 44 x 120-ft. hotel and club house; cost $75,000.

Rocky River, O.—Citizens voted Nov. 7 $75,000 bonds for erecting school. Address secy., Bd. Educ.

Miller, Ind.—Eagles Lodge contemplates erecting $50,000 building.

Alma, Mich.—Erection of $100,000 grade school contemplated. A. J. Archer, secy. Bd. Educ.

Chesaning, Mich.—Plans being prepared by John D. Chubb, 109 N. Dearborn St., Chicago, for 2-story high and grade school to cost $65,000. August Bauer, secy. bd. educ.

Westville, Ill.—Contract soon to be let by Township High School Bd. for erecting 2-story, 80 x 130-ft. high school; cost, $50,000. L. F. Steube, archt., Adams Bldg., Danville.

Platteville, Wis.—Parkinson & Dockendorff, La Crosse, reported architects for fireproof, brick high school to cost $125,000. O. E. Gray, secy. bd. educ.

Racine, Wis.—Racine Auto Tire Co. plans erecting new plant, including factory, warehouses and power plant; cost about $100,000.

Watertown, Wis.—Herman Gaul, 111 W. Washington St., Chicago, reported architect for $90,000 hospital to be erected for St. Mary's Hospital.

Cedar Rapids, Ia.—Edw. L. Tilton, 52 Vanderbilt Ave., New York City, is architect for 3-story and basement, fireproof, brick, stone and cement dormitory and dining hall to be erected at Coe College; cost $100,000.

Clinton, Ia.—See "Tunnels and Subways."

Duluth, Minn.—Lakeview Hospital Assn. contemplates erecting 4-story 80 x [illegible] concrete hospital; cost $[illegible]. [illegible] & Hausen, 400 Torrey Bldg., Duluth.

St. Louis, Mo.—Wm. Wedemeyer, 824 Wainwright Bldg., is architect for 5-story and basement Y. M. C. A. building to cost $[illegible],000. J. F. Mocker, secy., Y. M. C. A., 3500 N. Grand Ave.

McMinnville, Ore.—Sum of $350,000 reported available for erecting buildings at McMinnville College.

Portland, Ore.—Preliminary plans prepared for 3-story, 110 x 100 ft., business building to be erected at 10th and Burnside Sts., for Rodney L. Glisan, Spalding Bldg.; cost $75,000.

Chowchilla, Cal.—Citizens voted $50,000 bonds for erecting high school. Address clk., school bd.

Los Angeles, Cal.—Plans being prepared for car barns to be erected at Echandia [illegible] for northern division, and at Watts for southern division of Pacific Electric Railway Co. (Geo. E. Pillsbury, ch. engr., Los Angeles); probable cost $50,000.

Garfield, Utah.—See "Foundation Piers and Dams."

Montreal, Que.—Tres Saint Redempteur Congregation plans erecting new edifice, to cost $[illegible],000. Rev. J. N. Peosorrion, pastor, 188 Notre Dame St. E.

London, Ont.—Plans being prepared for additions to cost $60,000 to exchange of Bell Telephone Co. C. H. Beard, mgr.

BIDS DESIRED.

Boston, Mass.—Until Nov. 21 at the Schoolhouse Comrs. office, 1007 City Hall Annex, for erecting an elementary school building for upper grades in Henry L. Pierce Dist., Dunbar Ave. and Torrey St., Dorchester.

New York, N. Y.—Until Dec. 4 by Bd. Pub. Service, First District, 120 Broadway, for constructing station finish for 9 stations on Seventh Ave. portion of the Seventh Ave.-Lexington Ave. line in Manhattan.

Pittsburgh, Pa.—Until Dec. 5, by Geo. W. Gerwig, secy. bd. educ., 725 Fulton Bldg., Pittsburgh, for erecting the Westinghouse high school building located on Monticello St. and Mutland Ave.; separate bids for plumbing, heating and ventilating, etc. Geo. S. Orth & Bro., archts., Farmers' Bank Bldg., Pittsburgh.

Frederick, Md.—Until Dec. 26, by Jas. A. Wetmore, acting superv. archt., treas. dept., Washington, D. C., for erecting U. S. Post Office building.

Cape Charles, Va.—Until Dec. 14, by Jas. A. Wetmore, acting superv. archt., Treas. Dept., Washington, D. C., for erecting quarantine officers' quarters at U. S. Quarantine Station.

Portsmouth, O.—Reported desired until Dec. 1 by Security Savings Bank & Trust Co. for erecting a 3-story bank, store and office building; cost about $50,000.

Sullivan, Ind.—Until Dec. 30, by Bd. Co. Trustees, for erecting a hospital building. O. L. Springer, secy.

Bangor, Wis.—Until Dec. 7, by Henry Soltan, clk., Joint School Dist. No. 6, for erecting school building; separate bids for plumbing, heating and ventilating. Chandler & Park, archts., Racine.

Waconia, Minn.—Until Dec. 1, by Paul J. Nimmer, clk., School Dist. No. 44, Carver Co., for erecting school building; separate bids for plumbing, heating and ventilating. Kirby T. Snyder, archt., 1133-34 Plymouth Bldg., Minneapolis.

Omaha, Neb.—Until Dec. 7 by W. T. Bourke, secy. bd. educ., 505 City Hall, for erecting Henry W. Yates school building; separate bids for heating, plumbing and ventilating, etc. John McDonald, archt., 908-11 Omaha National Bank Bldg.; also same date for erecting the Field Club school building; separate bids for heating, plumbing, ventilating, etc. Geo. B. Prinz, archt., 1033 Omaha National Bank Bldg.; also same date for erecting New Clifton school building; separate bids for heating, ventilating and plumbing, etc. Frederick W. and B. Clarke, archts., 683 Brandeis Bldg.

St. Louis, Mo.—Until Nov. 28, by the City, Room 315, New City Hall, for erecting children's building, located at 14th St. and Clark Ave.

Paris, Tex.—Until Nov. 27 by the city for erecting a 2-story and basement high school building. Ed. H. McGuistrion, mayor.

Marlin, Tex.—Reported desired until Dec. 1 for erecting a brick and concrete building for Spivey, Carter and Bartlett. Information may be had from F. E. Robertson, 1407 Southwestern Life Bldg., Dallas.

PRICES AND LETTINGS.

★Indicates award of contract.

★Fairview, N. J.—Contract awarded A. W. Crone & Sons, 500 Central Ave., Jersey City, for erecting "English Neighborhood School"; cost, about $53,000.

Newark, N. J.—Lowest bid opened Nov. 3 by Common Council for erecting police headquarters building submitted by Essex Constr. Co., 85 Academy St., at $117,990. Jordan Green, Archt., 27 Clinton St.

Philadelphia, Pa.—Lowest bid opened by Bd. Educ. for erecting 3-story, 85 x 115-ft. school on Moore St., submitted by Cramp & Co., Denckla Bldg., at $114,959.

Cleveland, Ohio.—See "Structural Steel Work."

★Battle Creek, Mich.—Contract reported awarded S. B. Cole, Morgan Blk., for erecting 2½-story and basement, 85 x 90-ft. Y. M. C. A. building; cost $50,000.

★Taycheedah, Wis.—Contract awarded by bd of control, Madison, for erecting administration building for Home for Women at Taycheedah to Appleton Constr. Co., Appleton, at $54,832, and for erecting cottage to Immel Constr. Co., Fond du Lac, at $62,919.

Grants Pass, Ore.—Following are 4 lowest bids opened Nov. 2 by E. L. Coburn, co. clk., for erecting court house: John Almeter, $73,400; J. H. Tillman, $74,725; J. M. Dougan Co., $76,443; A. J. Green, $76,450.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Elizabeth, N. J.—Federal Board Engrs., Trenton, contemplate improving navigable channels in Raritan Bay and Upper New York Bay, including Staten Island and Kill von Kull, with a channel 40 ft. wide and 30 ft. deep at mean low water.

Philadelphia, Pa.—Dept. of Wharves & Ferries has approved plans prepared by Maj. Oakes, U. S. div. engr. in charge of Delaware River work, for dredging a 35-ft. channel in Delaware River below Philadelphia, estimated cost, $1,350,000, and for removal of the Mamelukе Rock in river at cost of $300,000.

Commerce, Ga.—Grove River Drainage Dist. No. 2 being formed for purpose of constructing ditch 7 miles long. J. M. Wood, Commerce, interested.

Quincy, Ill.—Plans prepared by Edmund T. Perkins Eng. Co., 38 S. Dearborn St., Chicago, for improving Lima Lake and Hunt Dists. improvements, consisting of canal system with levees, lateral canals and pumping stations; estimated cost $500,000.

Garner, Iowa.—County planning work in Drainage Dist. No. 81 with 6 to 28-in. tile, at cost of $30,000, and Dist. No. 8 with tile 6 to 39 in., at $200,000. W. S. Bemis, Jr., engr.

Mason City, Iowa.—Contract to be let about Jan. 1 by Co. Aud. for Drainage Dists. 40 and 31, involving an expenditure of about $200,000 and $500,000 respectively.

Moorehead, Minn.—County contemplates constructing Ditch No. 40, extending 5 miles through Kurtz Township; cost $30,000; also repair of Judicial Ditch No. 1, in Clay and Wilkin Counties; cost $12,000.

Fargo, N. D.—County Ditch No. 10, established by Co. Bd. to cost $30,000; repairs to Judicial Dist No. 1, Clay and Wilkins Cos., contemplated; cost, $12,000.

Flandreau, S. D.—Co. Comrs. of Moody and Lake Counties have taken joint action for constructing drainage ditch in both counties; estimated cost $93,000.

Raywood, Tex.—Drainage bonds for $70,000 have been sold by co. comrs.

Ellensburg, Wash.—Kittitas Reclamation Dist. has granted an option on the $5,000,000 bond issue to Twohy Bros., Spokane, Wash., and Portland, Ore., calling for construction of entire canal project, consisting of about 90,000 acres in Kittitas Valley.

North Yakima, Wash. — Directors of Selah-Moxee Canal Co. have been directed to proceed with reconstruction of old flume in company's canal; estimated cost $40,000; address Secy. of company.

Sequim, Wash.—T. Watson, Globe Blk., Seattle, has been engaged by the Happy Valley Irrigation Dist, Sequim, to prepare plans for irrigation project of about 6000 acres, for which $80,000 bonds were recently voted.

Lakeside, Ore.—Surveys are being made by C. S. McCulloch, co. surv., Bandon, for straightening Ten Mile Creek and lowering the lake 3 ft. Organization of a drainage district also contemplated.

Salem, Ore.—Jas. W. Dunlap, Medford, Ore., filed application with John H. Lewis, state engr., to divert water from Rouge River to irrigate 16,000 acres in Sams Valley, install pumping plant and construct 16¾ miles of canals; estimated cost $200,000.

State Desert Land Bd. approved application of Blue Mountain Irrigation Co., to divert water from John Day River and construct 5 miles of canals, to irrigate 1,200 acres near Mt. Vernon.

El Centro, Cal.—Board Directors of Imperial Irrigation Dist. has directed C. R. Rockwood, ch. engr., to prepare plans for following improvements to irrigation system: Constructing new heading with overpour intake in Colorado River a mile above present intake; shortening main canal by constructing cutoffs; connecting Alamo Canal with Cerro Ureita canal; dredge canals where silted. Estimated cost about $750,000.

BIDS DESIRED.

Tonawanda, N. Y.—Until Nov. 24 by W. W. Wotherspoon, supt. pub. wks., Albany, for completing the improvement of Ellicott Creek from its intersection with Tonawanda Creek, a distance of about 4800 ft.

Erie, Pa.—Until Dec. 19 by City Council for constructing flood control works; advertised in this issue. Farley Gannett, engr., 508 Palace Hardware Bldg.

New Orleans, La.—Until Dec. 11 by the Lighthouse Inspector, New Orleans, for furnishing and placing 3000 tons of rock around Sand Island Light station, Alabama; advertised in this issue.

El Centro, Cal.—Until Nov. 25 by the Imperial Irrigation Dist. for excavating 900,000 cu. yd. for canal 6200 ft. long at Colorado River; intake also 450,000 cu. yd. for canal in Mexico, four miles long. Must apply in person to C. R. Rockwood, ch. engr., Calexico, Cal.

San Dimas, Cal.—Until Jan. 1 by M. N. Hazzard, 217 N. Bright St., Whittier, for irrigation system involving constructing of arched concrete dam 130 ft. high to store 17,000 acre ft. in Puddingstone Canyon, tunnel 6000 ft. long, pipe line or flume, and canal 4 miles long; cost $750,000. Geo. P. Sturtivant, engr., Chicago, Ill.

PRICES AND LETTINGS.

★Indicates award of contract.

Philadelphia, Pa.—Following are bids opened Nov. 9 by Maj. J. C. Oakes, corps engrs. U. S. A., for dredging in Delaware River, on Deep Water Point, New Castle, and Reedy Island Lighthouse ranges: (a) Sect. K, about 2,553,000 cu. yd., (b) Sect. L & M combined, about 4,697,000 cu. yd., (c) Sects. K, L and M combined, 7,250,000 cu yd.: Maryland Dredg. & Contr. Co., Fidelity Bldg., Baltimore, Md., (c) 10.5c.; Coastwise Dredg. Co., Norfolk, Va., (a) 11c.; American Dredging Co., Mariners & Merchants Bldg., Philadelphia, Pa., (a) 10.2c., (b) 10.2c., (c) 9.9c.

Following are the bids opened same time and place as above for dredging and rock excav. in Philadelphia harbor, Delaware River, (a) dredging about 520,000 cu. yd. place measurement; (b) 65,000 cu. yd. rock removal place measurement: Great Lakes Dredg. & Dry Dock Co., 17 Battery Pl., New York City, (a) 40c., (b) $8.50; Maryland Dredging & Contr, Co., Fidelity Bldg., Baltimore, Md., (a) 56c., (b) $7.70; Bowers Southern Dredging Co., Galveston, Tex., (a) 65c., (b) $6.50; Eugene Breymann, Marine Bldg., Toledo, Ohio, (a) 65c., (b) $11.60.

Mt. Hope, W. Va.—See "Roads & Paving."

★Greenwood, S. C.—Contract awarded C. W. Bayard, Gastonia, N. C., at $22,000, for constructing 13 miles ditches, in all about 380,000 cu. yd. excavation.

Carnesville, Ga.—Contract awarded Thompson & Moseley, Banner Bldg., Greensboro, N. C., for Rose Creek Drainage Ditch at $12,184.

Miami, Fla.—Contract has been awarded by U. S. Government to the Bowers Southern Dredging Co., Galveston, for completion of outside harbor work at about $140,000; dipper dredge Gov. Herrick to be used on work. C. E. Henderson, city engr.

New Orleans, La. — Following bids opened Nov. 3 at U. S. Engrs. Office, Queen & Crescent Sts., for constructing 498,000 cu. yd. earthwork in Lafourche Levee Dist., O. O. Ogden, 203 Roumain Bldg, Baton Rouge, La., at $46,751, for Willswood Levee 457,000 cu. yd. Bids for other work were rejected, being in excess of estimate.

Quincy, Ill.—Following are four lowest bids opened Nov. 11 by Comrs. Grove Drainage Dist., for ditching about 1154 cu. yd.: R. H. & G. A. McWilliams, 3323 Michigan Ave., Chicago, Ill., $135,628; A. V. Wills & Sons, Boatsmen Bank B'dg., St. Louis, Mo., $135,752; W. E. Callahan Constr. Co., Omaha, Neb., $140,883; T. Foohey Dredg. Co., Ft. Wayne, Ind., $164,890. Webster Bushnell, engr., Quincy.

Emmett, Idaho.—Following are unit figures and totals of four lowest bids opened Nov. 2 by Bd. Canon Co., Drainage Dist. No. 1 (S. W. Nusbaum, secy.), for open drainage canal, pipe drains and appurtenances: (a) Maney Bros., Boise, $111,665; (b) Hans Pederson, Seattle, $113,845; (c) Calahan & Morrow, Omaha, $118,428; (d) Ross Constr. Co., Sacramento, $122,790.

	(a)	(b)	(c)	(d)
554,000 cu. yd. excav. of open ditch	$0.11	$0.1175	$0.134	$0.135
6,300 lin. ft. 18-in. vitr. tile pipe drain, laid	1.50	1.45	1.08	1.50
4,000 lin. ft. 8-in. vitr. tile pipe drain, laid	1.00	1.10	0.50	0.70
4 brick manholes, comp. in place	95.00	60.00	35.00	75.00
4 conc. manholes, comp. in place—Alternative with 4th Item	95.00	75.00	40.00	75.00
4 lamp holes	4.00	10.00	10.00	5.00
30 wood surface water inlets	21.00	14.00	30.00	10.00
3 pipe surface water inlets	25.00	30.00	100.00	10.00
16 county concrete arch bridges	660.00	560.00	709.00	650.00
16 county wood bridges, alternative to 9th Item	300.00	290.00	350.00	225.00
36 private farm conc. arch bridges	550.00	500.00	600.00	550.00
3 conc. tile line outlets	36.50	60.00	50.00	50.00
2 flume crossings—noble ditch	920.00	1,050.00	1,047.00	1,000.00
5 flume crossings—small ditches	285.00	425.00	276.16	250.00
30 flume crossings—farm ditches	80.00	100.00	100.00	50.00
36 wood farm bridges, alternative to Item 11	233.00	230.00	....	....

Nyssa, Ore.—Following are totals and detail bids of the four lowest bids opened Nov. 4, by Frank D. Hall, secy., Arcadia Drainage Dist., for constructing all ditches and concrete and wood structures in dist.: (a) Maney Bros. & Co., Boise, $58,868; (b) Hans Pederson, Seattle, $58,934; (c) Wheelwright Constr. Co., Ogden, Utah, $65,545; (d) Geo. P. Wright & R. H. McKee, Tacoma and Seattle, $66,216.

	(a)	(b)	(c)	(d)
265,270 cu. yd. earth excav. open trench	$33,159	$33,159	$39,790	$35,546
25,600 cu. yd. excav. and backfill closed drain	12,800	15,360	12,800	16,640
500 cu. yd. earth excav. for struc. wet	1,500	500	950	625
500 cu. yd. earth excav. for struc. dry	250	125	450	250
100 ft. 40-in. placing pipe for structures	150	300	250	125
100 ft. 48-in. placing pipe for structures	...	325	250	200
250 cu. yd. concrete structures	3,125	5,000	3,750	3,000
2,000 ft. laying tile, 12 in.	400	140	400	400
1,500 ft. laying tile, 14 in.	360	120	375	390
2,000 ft. laying tile, 16 in.	560	200	500	600
11,700 ft. laying tile, 18 in.	3,744	1,755	3,510	4,680
3,800 ft. laying tile, 24 in.	1,520	950	1,900	2,660
25,000 ft. b. m. wood structures	1,000	1,000	625	1,100

★**Algona, Iowa.**—Contract awarded Elmore Cement Tile Co., Elmore, at $48,548, consisting of about 50,015 ft. of tile from 38 to 6 in., and to Graettinger Tile Wks., Graettinger, Iowa, at $36,483, for constructing Drain No. 121, consisting of 76,428 ft. tile from 34 to 6 in.

Estherville, Ia.—Contract awarded Oct. 20 by Co. Supervs. to Graettinger Tile Wks., Graettinger, Ia., at $31,159, for constructing drainage ditch No. 104.

★**Moorhead, Minn.**—Contracts awarded for constructing ditches as follows: Ditches 2, 25, 26 and 38 to King & Eichmiller, Frazee, Minn., at $19,576, requiring 164,882 cu. yd. open work; Ditch No. 39, Northern Dredge & Dock Co., Duluth, at $30,036, requiring about 251,934 cu. yd. dirt excav.

★**New Ulm, Minn**—Contract awarded by Louis G. Vogel, co. aud., Nov. 6, to F. Aufderhieder, New Ulm, at $14,100, for constructing county ditch No 41.

★**St. Peter, Minn.**—Contract awarded W. J. Gleason Co., Aikin, at $38,451, for constructing County Ditch No. 7, including 307,605 cu. yd. excav. and spreading.

Auburn, Neb.—Following are totals of four lowest bids opened Nov. 4 by Bd. Drainage Comrs. Dist. No. 3, for constructing channel 8½ miles long, requiring removal of 325,186 cu. yd. material for main channel and 8640 cu. yd. lateral channel: Munn-Reese Constr. Co., Blencoe, Iowa, $23,304; Fred. M. Crane Co., Omaha, Neb., $27,266; Callahan Walker Constr. Co., Omaha, $28,813; Condon & Avery, Omaha, $31,395.

★**St. Ignatius, Mont.**—Contract awarded Welsh Bros. & Hannaman, Kalispell, at $17,250, for work on the Flathead irrigation project near St. Ignatius.

★**Pine Bluffs, Ark.**—Contract awarded by Drainage Dist. No. 6, known as Swan Lake Dist. to Sternberg Bros., Natl. Bank of Com. Bldg., St. Louis, Mo, for reclamation work, at about $18,000.

★**Nyssa, Ore.**—Contract awarded by F. D. Hall, secy. Nassa-Arcadia Drainage Dist. (F. D. Hall, secy.), to Maney Bros. & Co., Boise, Idaho, at $58,568, for constructing all ditches and concrete and wood structures.

★**Lindsay, Cal.**—Contract awarded Jas. Kennedy, 903 Washington Bldg., Los Angeles, at $1,400,000 for work on the Lindsay-Strathmore Irrigation Dist., a flume for which is to be constructed of Gunite.

Woodland, Cal.—Contract awarded W. L. Wales, Woodland, for constructing an irrigation system for the Honey Lake Valley Irrigation Dist. in Lassen Co., to embrace about 33,000 acres.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Bingham, Me.—Central Maine Power Co., Augusta, contemplates constructing large dam at Binghamton on Kennebec River to also act as reservoir and assist in controlling the river in the spring and keeping it at same level during rest of the year.

Schenectady, N. Y.—Frank M. Williams, state engr., Albany, states plans have been prepared by state engineering force for placing regulating locks in the Vichers dam 6 miles below city, for prevention of spring freshets which have caused considerable property losses annually.

Atlantic City, N. J.—City officials negotiating for purchase of 50 acres of marshland on harbor front for constructing municipal docks and shipping terminals.

Jersey City, N. J.—Lehigh Valley RR. Co., 143 Liberty St., New York City (E. B. Ashby, ch. engr.), contemplates making improvements to its Pier No. 6, Black Tom section; estimated cost, $20,000.

Pittsburgh, Pa.—State Water Supply Comn., Harrisburg, has approved petition and application of Pittsburgh Hydro-Electric Co., for constructing dam 220 ft. high on Big Sandy Creek in State of West Virginia three miles south of Penn.-W. Va. boundary line; reservoir formed by dam will extend up and along Sandy Creek a length of 6 miles in Penn. and along Little Sandy Creek a distance of 2 miles in Penn.

Stroudsburg, Pa.—E. F. Smith, supt. Stroudsburg Passenger Ry. Co., contemplates rebuilding dam with reinforced concrete across Pocono Creek.

Newport News, Va.—Chesapeake & Ohio RR. (F. I. Cabell, ch. engr., Richmond) contemplates reconstructing Pier 3, and improving Pier 12; estimated cost $50,000.

Louisville, Ky.—Following are unit figures and totals of bids opened Nov. 6, at U. S. Engrs. Office, Louisville, for furnishing and erecting upper and lower mitering lock gates of two leaves each, for Lock No. 41, Ohio River: (a) Independent Bridge Co., 829 Beaver Ave., N. S., Pittsburgh, Pa., $116,594; (b) J. & J. B. Milholland Co., 714 5th Ave., Pittsburgh, Pa., $127,763; (c) Penn Bridge Co., Beaver Falls, Pa., $143,670; (d) American Bridge Co., Union Trust Bldg., Cincinnati, O., $167,868.

	(a)	(b)	(c)	(d)
1,063,400 lb. structural steel	$0.078	$0.087	$0.0847	$0.1095
220,680 lb. cast steel	0.115	0.12	0.189	0.1845
4,050 lb. nickel steel	0.35	0.40	0.5574	0.19
19,400 lb. forged steel	0.14	0.15	0.129	0.15
13,100 lb. steel	0.115	0.10	0.1012	0.17
1,735 lb. cast iron	0.15	0.10	0.1032	0.155
1,920 lb. phosphor bronze	0.85	1.00	0.75	0.90
4,800 lb. babbitt	0.115	0.125	0.80	0.50
14 lb. lead	0.15	0.15	0.30	0.75
1,390 ft. b. m. white oak	100.00	125.00	192.00	220.00
452 ft. b. m. yellow pine	100.00	125.00	168.00	200.00

Milwood, W. Va.—Contract soon to be let by Maj. T. H. Jackson, U. S. Engrs. office, Wheeling, for constructing steel and reinforced concrete lock guard walls, dams and locks above Point Pleasant, Ohio River Dam No. 23.

Wheeling, W. Va.—Contracts soon to be let by U. S. Engr. for constructing three dams in the Ohio River between Pittsburgh, Wheeling and Cairo; estimated cost $1,800,000.

Columbus, O.—Election held Nov. 7 voted in favor of issuing bonds for flood protection. J. J. Thomas, city clk.

Painesville, Ohio.—County contemplates constructing retaining wall about 550 ft. long and 26 ft. high, of reinforced concrete, along Grand River; estimated cost $40,000. A. Davis, co. aud.

Seattle, Wash.—See "Industrial Plants and Warehouses."

Newport Beach, Cal.—Capt. Chas. T. Leeds, Central Bldg., Los Angeles, engaged by city trustees to prepare plans for constructing jetties in the bay; $125,000 bonds have been voted.

Paradise, Cal.—Paradise Irrigation Dist. has applied to State Water Comn., Call Bldg., San Francisco, for permission to appropriate 19,600 acres ft. by storage of flood waters of Butte Creek to be used for irrigation of lands in district; dam to be 134 ft. high, 1250 ft. long on top, 710 ft. long on bottom, 20 ft. wide on top, constructed of earth, hydraulic fill, rock riprap on face, loose rock on asphaltic concrete on back, concrete cutoff wall, concrete waste-way in natural rock, main ditch or pipe line, 7600 ft.; number of acres to be watered, 11,100. Estimated cost, $350,000.

San Francisco, Cal.—Sierra & San Francisco Power Co., 58 Sutter St. (H. F. Jackson, pres., San Francisco), has been granted permission by the State Railroad Comn. to issue $1,000,000 bonds for constructing hydroelectric plants to develop about 130,000 hp. and impound reservoirs along Stanislaus River, a 20,000-hp. power house on middle fork of Stanislaus River, Tuolumne Co. will be first unit to be constructed.

Garfield, Utah.—Utah Copper Co., Salt Lake City, contemplates constructing dam and tailing pond, changing of Western Pacific and Salt Lake Route tracks, and removing present railroad station and erecting new one, at Garfield. Estimated cost, about $1,000,000.

BIDS DESIRED.

Wheeling, W. Va.—Until Dec. 14 at U. S. Engineers Office, for furnishing and erecting lock gates for Dam No. 21, Ohio River; advertised in this issue.

Zanesville, O.—Until Nov. 21 by Dir. Pub. Service for constructing concrete revetment along the Licking River.

Santa Fe, N. M.—Until Jan. 2, at the office of the Rio Grande Light, Heat & Power Co. (Charles G. Wilfong, pres., 119 South 4th St., Philadelphia, Pa.), for constructing a hydroelectric development plant located at the mouth of the White Rock Canyon of the Rio Grande in New Mexico; advertised in this issue. A. G. Hillberg, engr., Park Row Bldg., New York.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Chelsea, Mass.—Following are bids opened Nov. 6 by Bureau Yards & Docks, Navy Dept., Washington, D. C., for repairs, extensions, etc., of present dry rubble sea wall at the naval hospital, Chelsea: (a) rebuilding old sea wall and constructing new sea wall with drains, etc., (b) net price for reconstructing old sea wall and constructing new sea wall southeast of piers, etc., as per drawing A, (c) same as (b) but as per drawing B, (d) net prices to be deducted from (same as a) if all riprap from point A to northwestern end of wall is omitted: Harry J. Stabile & Paul Caputo, 176 North St., Boston, Mass., (a) $22,500, (b) $13,785, (c) $18,500, (d) $500; John F. Coleman, 1 Marginal St., Chelsea, (a) $22,000, (b) $13,500, (c) $18,500, (d) $500; Cape Ann Granite Corp., 195 Cabot St., Beverly, Mass. (a) $17,425, (b) $10,930, (c) $15,300, (d) $510.

Newport, R. I.—Following are bids opened Nov. 4 by Bureau Yards & Docks, Navy Dept., Washington, D. C., for constructing sea wall at the naval torpedo station: (a) work complete, (b) price per cu. yd. of wall in place as shown on plans, all with location modified so as to permit a slight change in length of wall: Bay State Dredg. & Contr. Co., 247 Atlantic Ave., Boston, (a) $34,000, (b) $11.00 above low water and $9.00 below low water; Roy H. Beattie, 57 N. Main St., Fall River, Mass., (a) $26,571; (b) $9.00 above low water and $8.50 below low water.

Dayton, O.—Only bid received Oct. 31 by Dir. Pub. Serv. for widening and strengthening levee 600 ft. on either side of new Steele dam on east side of river, and 700 ft. on either side of dam on west bank of river, was that of Reichelderfer & Sons, Circleville, at $13,700.

★**Indianapolis, Ind.**—Contract awarded by Bd. Pub. Wks. to Patterson, Norton & Co., Kansas City, Mo., at $95,500, for flood levee along east bank of White River from Maylan St. to Washington Ave.

★**Corning, Iowa.**—Contract awarded by City Council to Maley & Kelly Constr. Co., Mass. Bldg., Kansas City, Mo., at $23,456, for constructing dam for waterworks extension, together with all other appurtenances except the laying of pipe, which was awarded to W. J. Cole, Corning, at $3,190.

TUNNELS AND SUBWAYS

PROPOSED WORK.

Trenton, N. J.—Penn. RR. (Alex. C. Shand, ch. engr., Philadelphia) contemplates constructing tunnel at West State St. to eliminate present grade crossings, at cost of $110,000.

Philadelphia, Pa.—Plans being prepared by Dept. of Transit, City Hall, for constructing two more sections of the Broad St. subway.

Cumberland, Md.—Contract soon to be let by Baltimore & Ohio RR. (R. N. Begeiu, ch. engr., Baltimore) for constructing Green St. subway; cost $40,000.

Memphis, Tenn.—Nashville, Chattanooga & St. Louis Ry. (H. McDonald, ch. engr., Nashville), and Union Belt Ry. contemplates constructing subway on Lamar Ave., city to pay $5,000 for paving and other incidentals; total cost $125,000.

Clinton, Ia.—Council voted in favor of resolution which carried proposition made to Chicago & Northwestern RR. Co., (W. H. Finley, ch. engr., Chicago), for constructing subways at 2d and 4th Sts., together with freight and passenger stations.

San Francisco, Cal.—See "Structural Steel."

MISCELLANEOUS

PROPOSED WORK.

Conduit—Haverhill, Mass.—Prof. Chas. B. Breed, engaged by Bd. of Health to make study of Little River, recommends construction of a covered conduit at a cost of $195,327 as the best method of abating so-called Little River nuisance.

Transmission Line—Leominster, Mass.—The Connecticut River Power Co., Brattleboro, Vt., has secured the right of way for erecting transmission line from the southwestern part of the city to the plant of the Viscoloid Co.'s plant. The power company will erect its lines to the transformer house of the Leominster Electric Light & Power Co., which is to be erected off Litchfield St., near the Viscoloid Co.'s plant. Energy will be supplied through the Leominster Co.

Garbage Incinerator—Newark, N. J.—Morris R. Sherrerd, ch. engr. Bd. of Wks., recommends installation of a 300-ton capacity garbage incinerator plant.

Park Improvements—Harrisburg, Pa.—Arnold W. Brunner, Archt., 101 Park Ave., New York City, and Warren H. Manning, archt., 1101 Tram. Bldg., Boston, have been engaged to prepare plans for improvements to Capitol Park.

Garbage Disposal, etc.—Chicago, Ill.—Garbage disposal bonds for $2,000,000, and $2,400,000 bonds for bathing beach and swimming pool facilities defeated at election held Nov. 7.

Transmission Line—Burlington, Wis.—The Wisconsin Gas & Electric Co., Kenosha, is planning to extend its electric transmission lines to the south shore of Brown's Lake.

Transmission Line—Mt. Vernon, Ia.—Arrangements have been completed by the Wapsie Power & Light Co., Mt. Vernon, for extension of its transmission line to West Branch, a distance of about 30 miles.

Transmission Line—Duluth, Minn.—Directors of the Great Northern Power Co., Duluth, have authorized bond issue to provide funds for improvements and extensions to its system, among which is the erection of an electric transmission line from Thomson to Virginia, to enable the company to give a more satisfactory service in the Mesaba range towns.

Waterpower—Butte, Mont.—Intermountain Power Co., Butte, has been formed by local capitalists with $500,000 capital to develop and sell waterpower to Butte and other cities throughout state.

Transmission Line—Dallas, Tex.—Texas Power & Light Co., Dallas, contemplates extending its transmission line to San Marcos, New Braunfels and San Antonio.

Transmission Line—Hemphill, Tex.—Knox Lumber Co., Hemphill, contemplate erecting a 2-mile transmission line at East Mayfield.

Park Improvements—Wichita Falls, Tex.—Election held Nov. 7 voted in favor of issuing bonds for park improvements. L. C. Hinckley, city engr.

Railing, Etc. — Vancouver, Wash.—Council has authorized C. L. Fellows, city engr., to prepare plans for substituting cut stone for concrete in balustrade and railing required in Coal Harbor causeway; cost, about $10,274.

Suction Dredge — Bandon, Ore.—Capt. Jas. Polhemus, Couch Bldg., Portland, is preparing plans for a suction dredge for Port of Bandon. Estimated cost $30,000. Port is contemplating a $100,000 bond issue.

BIDS DESIRED.

Cement—Philadelphia, Pa.—Until Nov. 25 by the Depot Quartermaster, U. S. A., Philadelphia, for furnishing cement.

Crane—Washington, D. C.—Until Dec. 11 at Bureau of Yards and Docks, Navy Dept. (F. R. Harris, chief), for 250-ton floating revolving crane for navy yard, Mare Island, Cal.

Struc. Steel—Washington, D. C.—See "Miscellaneous."

Locomotive Cranes—Washington, D. C.—Bids desired at the Bureau Supplies and Accounts, Navy Dept., Washington, for supplies, as follows: Sched 341—one 15-ton locomotive crane at Brooklyn, N. Y.; Sched. 343—one 12,000-gal. storage tank, at Key West, Fla.

Ry. Ties—Quebec City, Que.—Until Nov. 22 by O'Brien & Doheney, 400 Quebec Railway Bldg., for 90,000 railway ties to be delivered early next year.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Locomotive Cranes—Brooklyn, N. Y.—Following bids opened Oct. 28 by Bureau Yards & Docks, Navy Dept., Washington, D. C., for locomotive crane for delivery at navy yard, Brooklyn: (a) locomotive complete; (b) in accordance with bidders modified bid: Link Belt Co., 329 W. 39th St., Chicago, (a) $12,893; (b) $10,833; Industrial Wks., 135 Washington St., Bay City, Mich., (b) $11,500; Browning Co., 16226 Waterloo Rd., Cleveland, O. (b) for Browning No. 8, $10,427; for Browning No. 3, $13,068. McMyler-Interstate Co., Bedford, O., (b) $12,600

★**Playgrounds—Philadelphia, Pa.**—Contract awarded Mitchell Bros., 2125 Race St., Philadelphia, for playgrounds and swimming pools at 24th, Jackson and Blair Sts. and Montgomery Ave., at about $100,000.

Street Cleaning, Etc.—Philadelphia, Pa.—Following are lowest bids opened by G. E. Datesman, div. dept. pub. serv., Nov. 13, for street cleaning for year 1917: Dist. 1A—Jas. A. Mullen, 5512 Vine St., $133,700; 1B—Jas. Irvin, 28th and Moore Sts., $184,300; 2 and 3—E. H. Vare, Lincoln Bldg., $369,000 and $434,000 respectively; 4A—J. D. Dorney, 1204 E. Montgomery St., $193,000; 4B—H. E. Ruch, 1841 N. 19th St., $136,500; 5—Frank Curran, 3023 Richmond St., $328,000; 6—David McMahon Estate, P. O. Bldg., $233,500.

★**East Cleveland, O.**—Contract awarded by M. J. Herbert, dir. pub. serv., Swetland Bldg., Cleveland, to Rowe & Giles, Chagrin Falls, at $13,000 for municipal park improvements. Williard Hirsh, archt., Swetland Bldg., Cleveland.

Strandway Improvements—Boston, Mass.—Following are unit figures of 4 lowest bids opened Nov. 1 by Edw. E. Murphy, comr. pub. wks., for dredging, filling, sewerage work, grading, etc., for strandway and old harbor improvements, South Boston: (a) New York State Dredging Corp., 17 Battery Pl., New York City, $803,180; (b) Coleman Bros., Chelsea, $835,465; (c) West Roxbury Trap Rock Co., West Roxbury, $878,429, and (d) H. Nawn Constr. Co., 82 Savin St., Roxbury, $914,432:

	(a)	(b)	(c)	(d)
A1—1,130,000 cu. yd. fill from harbor	$0.29	$0.35	$0.37	$0.39
A2—40,000 cu. yd. beach sand furnished from outside	0.60	0.50	0.75	0.60
B—1,650 lin. ft. wood bulkhead	20.00	15.00	17.00	17.00
C—38,000 cu. yd. loam furnished in place	1.00	1.40	1.00	1.75
D—3,200 cu. yd. earth excav. for roadways	0.75	0.50	0.50	1.50
Ea—290,000 sq. yd. subgrade for playgrounds	0.06	0.10	0.10	0.05
Eb—72,000 sq. yd. subgrade for roadways	0.08	0.10	0.10	0.10
F—1,600 lin. ft. edgestone reset	0.30	0.25	0.25	0.25
Ga—3,600 yd. granite block gutters hauled and laid	0.60	0.50	0.75	0.90
Gb—38,000 yd. roadways paved	0.60	0.60	0.75	0.80
Gc—34,000 yd. crushed stone sidewalks	0.40	0.30	0.30	0.50
Ha—420 lin. ft. 2 ft. x 3-ft. concrete conduit	12.00	10.00	17.00	15.00
Hb—285 lin. ft. 8 ft. x 8-ft. reinforced concrete conduit Crescent St. overflow	67.50	55.00	42.00	57.50
Hc—615 lin. ft. 8 ft. x 8-ft. Crescent St. overflow	67.50	60.00	48.00	58.00
Hd—615 lin. ft. 108-in. concrete pipe in Crescent St. overflow	67.50	60.00	60.00	58.00
He—328 lin. ft. 10 ft. 3⅞ in. x 6 ft. 3-in. reinforced concrete in Kemp St. overflow	67.50	60.00	53.00	62.00
Hf—328 lin. ft. 87-in. reinforced concrete pipe in Kemp St.	50.00	55.00	60.00	55.00
Hg—120 lin. ft. 6 ft. 6-in. Vale St. conduit remodeled	27.00	25.00	25.00	40.00
Hh—245 lin. ft. 6 ft. 6 in. x 6 ft. 6-in. concrete conduit in Vale St. overflow	60.00	45.00	50.00	49.00
Hi—245 lin. ft. 84-in. concrete pipe Vale St. overflow	38.00	45.00	50.00	47.50
Hj—428 lin. ft. 60-in. concrete c.-i. single pipe line	75.00	40.00	50.00	40.00
Hk—428 lin. ft. 60-in. concrete pipe single line	70.00	40.00	50.00	39.00
Hl—428 lin. ft. 4 ft. 6 in. x 5-ft. monolithic outlet single line	85.00	50.00	40.00	49.00
Hm—[illegible] pipe line double	90.00	69.00	70.00	72.00
Hn—[illegible] ft. concrete pipe double line	80.00	69.00	70.00	64.00
Ho—[illegible] lin. ft. 4 ft. 6 in. x 5-ft. monolithic double line	110.00	65.00	60.00	60.00
Hp—[illegible] lin. ft. 60-in. c.-i. pipe line triple	135.00	95.00	90.00	109.00
Hq—[illegible] lin. ft. [illegible] pipe triple	120.00	90.00	90.00	82.75
Hr—[illegible] lin. ft. 4 ft. 6 in. x 5-ft. monolithic pipe	150.00	85.00	83.00	75.00
Hs—[illegible] lin. ft. [illegible] surface drains	1.50	1.80	2.00	1.50
Ht—[illegible] concrete gate chamber at Kemp St. overflow	6,000.00	5,000.00	6,000.00	5,490.00
Hu—[illegible] concrete gate chamber at Vale St. overflow	4,500.00	4,000.00	5,000.00	3,450.00
Hv—1 concrete weir chamber H St. overflow complete	1,800.00	1,500.00	3,500.00	1,015.00
Hw—5 manholes on conduits and surface main drains	150.00	150.00	100.00	100.00
Hx—30 manholes on 2 ft. x 3-ft. concrete conduit in surface drains	60.00	80.00	100.00	100.00
Hy—6 flanged openings on outlets, 60-in. concrete or pipe on monolithic	90.00	75.00	100.00	100.00
Hz—60 catchbasins	90.00	50.00	100.00	100.00
Haa—20,000 lin. ft. spruce piles	0.40	0.35	0.30	0.40
Hdd—900 cu. yd. Class A concrete	10.00	10.00	9.00	10.00
Hkk—Discount on single strength pipe, $4,500	60%	58%	70%	50%
Hll—Discount on single strength pipe, $6,400	60%	50%	60%	50%
I—1,900 lin. ft. fencing	$2.00	$1.80	$2.00	$2.00
J—Moving shelter	500.00	100.00	500.00	1,000.00
K—125 cords manure in place	6.00	5.00	5.00	10.00
L—13,200 tons stone ballast	2.00	2.00	2.00	2.50

Signal Towers—New York, N. Y.—Following are unit figures and totals of four lowest bids opened Nov. 9 by the Pub. Service Comn., 1st Dist., 120 Bway., New York, for constructing 13 signal towers for parts of Seventh Ave.-Lexington Ave., White Plains Rd. and Queensboro Subway Rapid Transit RR.: (a) H. C. Stowe Constr. Co., 221 Greenpoint Ave., Brooklyn, $110,651; (b) Snare & Triest, 233 Bway., New York, $112,443; (c) Thos. Dwyer, Bway. at 216th St., New York, $113,444; (d) John B. Roberts, 3 W. 29th St., New York, $125,520.

	(a)	(b)	(c)	(d)
750—110 lin. ft. tr. stairways (i), wood treads	$1.10	$2.40	$2.00	$2.53
810 lin. ft. tr. stairways (j), steel treads	2.00	3.10	2.00	3.95
751—420 sq. ft. stairway landings (i), wood	0.95	1.30	2.00	2.14
350 sq. ft. stairway landings (j), steel	2.00	2.20	2.00	3.40
752—3 ton steel columns, etc.	130.00	170.00	150.00	154.00
753—20 cu. yd. masonry, etc. (b), concrete found'ns.	10.00	17.00	10.00	19.00
12 cu. yd. brick or concrete manholes, each	50.00	80.00	50.00	58.00
6 cu. yd. (d) rock excavation	6.00	6.00	10.00	10.00
756—[illegible] lin. ft. railings (f), pipe	1.60	1.10	1.50	2.13
768—[illegible] lin. ft. metal leaders (a), 3-in. corr. g. i.	0.35	0.35	0.50	0.33
[illegible] lin. ft. do. 3½-in. w. i.	1.60	1.30	1.50	1.23
[illegible] lin. ft. do. 3½-in. copper	0.75	0.90	1.00	0.74
772—[illegible] enclosures bet. sta. (a), steel framing	130.00	145.00	130.00	149.00
[illegible] ton (b) steel girders, etc., supporting	130.00	135.00	132.00	164.00
[illegible] ton (c) steel girders, reinforcing	160.00	180.00	140.00	224.00
775—[illegible] drilling holes in steel, per hole	0.35	0.40	0.50	0.50
777—170 sq. ft. metal lath (a), without furring	0.12	0.20	0.30	0.32
779—12 doors (c), oak toilet stalls, each	12.00	12.00	20.00	10.00
780—250 hdwe. for doors (c), d. h. sash, per window	5.00	3.50	4.00	3.75
11 (h), hinged sash, each	4.50	7.00	3.00	3.85
12 (jj), toilet stall doors, each	12.00	12.00	5.00	9.00
3 (m), vent doors, each	4.50	4.00	5.00	3.85
20 (p) single door signal towers, per door	12.00	10.00	5.00	10.90
10 (q), double door signal towers, per opening	18.00	20.00	10.00	26.00
781—20 additional hardware (a), door checks, each	6.00	5.00	10.00	5.00
30 (b), door stops, each	3.50	2.50	3.00	3.05
10 (c), rubber covered chains, each	2.50	2.00	2.00	2.00
783—470 cu. ft. h. t. masonry (b), h. t.	0.75	0.90	1.00	0.73
786—400 sq. ft. slate (m), wainscoting	0.90	1.20	2.00	0.86
185 sq. ft. (n), pipe-chamber partition	1.00	1.40	2.00	0.92
60 sq. ft. (o) shelves	1.00	1.50	2.00	0.87
620 sq. ft. (p), stall partition	1.00	1.30	2.00	0.90
787A—23,700 sq. ft. walls, floors, etc. (a), copper covered and windows and walls	1.25	1.30	1.30	1.60
23,000 sq. ft. (b), crimped g. i. and ceilings and walls	0.25	0.18	0.25	0.18
9,500 sq. ft. (e), floor reinf. concrete	0.50	0.70	0.50	0.55
14 (f), g. i. roof vent., each	9.00	5.50	10.00	7.40
9,850 sq. ft. (g), roof	0.60	0.70	0.50	0.66
200 sq. ft. (h), partition walls	0.40	0.70	1.00	0.20
[illegible] cu. yd. (i), concrete piers	10.00	17.00	20.00	15.00
[illegible] cu. yd. (k), concrete copings	1.00	2.00	2.00	1.50
[illegible] sq. ft. (l), copper transoms	0.50	0.35	0.30	0.30
28 (m) [illegible] saddles, each	5.00	7.00	5.00	7.00
788A—[illegible] sq. ft. wood [illegible] (a), passageways	0.25	0.30	0.50	0.39
790—2 [illegible] fixtures (a), water closet bowls, each	55.00	45.00	60.00	54.00
22 [illegible] (b)	15.00	36.00	50.00	42.00
791—rough plumbing, 13 towers, lump sum	7,960.00	7,000.00	10,000.00	6,390.00
792B—12 c. i. registers, each	5.00	10.00	10.00	4.00
793—2,150 heel supporting shapes, per lb.	0.07	0.14	0.10	0.15
821—12 sewer and water connections (a), sewer connections, all sizes, each	255.00	160.00	160.00	160.00
12 (b), water connections, all sizes, each	175.00	60.00	160.00	80.00
X—Per cent., additional per cent. and max. eff.	5%	....	....	....

Canton, O.—Contract awarded Canton Fertilizing & Chemical Co., Canton, for 10 years, for erecting garbage disposal plant. W. E. Sarver, city engr.

★**Transmission Line—Sherbrooke, Que.**—Contract awarded by City Council to the Two Mile Falls Power Co. of Weedon, Que., at $500,000, for constructing transmission line from power station at Weedon to Sherbrooke, a distance of about 30 miles, for transmission of power to the city of Sherbrooke for industrial purposes.

Proposals

For Proposals Advertised See Pages 44, 45 and 46.

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.	See Eng. Record.
Nov. 20. Plainfield, N. J. Adv. Nov. 4.	Nov. 4
Nov. 21. Washington, D. C. Adv. Nov. 4.	Nov. 4
Nov. 21. Shakerheights (P. O.) Cleveland, O.	Nov. 4
Nov. 21. Sonyea, N. Y. Adv. Nov. 4 to 18.	Nov. 4
Nov. 21. Washington, D. C. Adv. Nov. 4 to 18.	Nov. 4
Nov. 21. Fayette, Ia.	Nov. 18
Nov. 21. Madison, Wis.	Nov. 18
Nov. 24. New York, N. Y.	Nov. 18
Nov. 24. Panama.	Nov. 11
Nov. 24. Red Cloud, Neb.	Nov. 11
Nov. 25. Pittsburgh, Kan.	Nov. 18
Nov. 27. St. Paul, Minn.	Nov. 11
Nov. 27. Wilmington, Ill.	Nov. 18
Nov. 27. St. Paul, Minn.	Nov. 18
Nov. 27. St. Paul, Minn.	Nov. 18
Nov. 28. Winton, Pa.	Nov. 18
Nov. 28. Michigan City, Ind. Adv. Nov. 4 to 18.	Nov. 4
Nov. 28. Washington, D. C. Adv. Nov. 4 to 18.	Nov. 4
Nov. 29. New Orleans, La.	Nov. 18
Dec. 1. St. Cloud, Fla. Adv. Oct. 21, Nov. 4 and 18.	Oct. 21
Dec. 1. Troy, O.	Nov. 4
Dec. 5. Fort Hancock, N. J. Adv. Nov. 18.	Nov. 18
Dec. 6. Erie, Pa.	Nov. 18
Dec. 6. Cleveland, O. Adv. Nov. 18.	Nov. 18
Dec. 12. Detroit, Mich. Adv. Nov. 11.	Nov. 11
Dec. 18. Winnipeg, Man. Adv. Nov. 18.	Nov. 18
Dec. 21. New Orleans, La.	Nov. 4
——— Granite City, Ill. Adv. Sep. 30.	Sep. 30

STRUCTURAL STEEL WORK

Nov. 21. Ft. Standish, Mass.	Nov. 11
Nov. 21. Eatonton, Ga.	Nov. 4
Nov. 21. Albany, N. Y.	Nov. 11
Nov. 27. Stroud, Okla.	Nov. 11
Nov. 29. Des Moines, Ia.	Oct. 28
Nov. 29. Des Moines, Ia.	Nov. 11
Dec. 1. Flint, Mich.	Nov. 18
Jan. 1. Newton, Ia.	Nov. 18
Jan. 1. New Castle, Pa.	Nov. 18
Dec. 2. Weir, Que.	Nov. 11
Dec. 4. Dothan, Ala.	Oct. 28
Dec. 4. Des Allemanda, La. Adv. Nov. 11, 18.	Nov. 11
Dec. 5. Cape May, N. J.	Nov. 11
Dec. 11. Americus, Ga.	Nov. 11
Jan. 1. Mitchell, S. D.	Oct. 7

REINFORCED CONCRETE.

Nov. 21. Dayton, O.	Nov. 11
Nov. 22. Kansas City, Mo. Adv. Oct. 28, Nov. 4.	Oct. 28
Dec. 1. Knoxville, Tenn.	Oct. 28
Dec. 1. Knoxville, Tenn. Adv. Oct. 14.	Oct. 14
Dec. 15. Potter, Wis.	Nov. 18

ROADS AND PAVING.

Nov. 21. Albany, N. Y. Adv. Oct. 28 to Nov. 18.	Oct. 28
Nov. 21. Indiana.	Oct. 28
Nov. 21. Baltimore, Md. Adv. Nov. 11, 18.	Nov. 11
Nov. 21. Forest Park, Ill.	Nov. 18
Nov. 21. Kansas City, Mo.	Nov. 18
Nov. 22. De Kalb, Ill.	Nov. 11
Nov. 22. Baltimore, Md.	Nov. 18
Nov. 24. Brooklyn, N. Y.	Nov. 18
Nov. 24. Owensboro, Ky.	Nov. 18
Nov. 27. Eugene, Ore.	Nov. 18
Nov. 27. Euclid, O.	Nov. 11
Nov. 27. Salem, N. J.	Nov. 18
Nov. 28. Camas, Wash.	Nov. 18
Dec. 1. Fillmore, Cal.	Oct. 28
Dec. 1. Memphis, Tenn.	Nov. 18
Jan. 3. Keyport, N. J.	Nov. 18
Dec. 4. Eutaw, Ala.	Nov. 11
Dec. 15. Greenville, S. C.	Nov. 4
Dec. 15. Grove Hill, Ala.	Oct. 28
Dec. 18. Cleveland Heights (P. O. Cleveland, O.)	Nov. 18
Jan. 1. Sidney, O.	Nov. 4
Jan. 10. Independence, Ia.	Nov. 18
Feb. 1. Cedar Rapids, Ia.	Nov. 18

RAILWAYS

Nov. 29. Brooklyn, N. Y.	Nov. 18
Dec. 5. Atlanta, Ga.	Nov. 11
Dec. 6. Portland, Ore. Adv. Sep. 30 to Oct. 14.	Sep. 23
Dec. 6. Portland, Ore.	Oct. 28

BUILDINGS.
Public and Private.

Nov. 21. Rockville, Conn. Adv. Oct. 7, 14.	Oct. 7
Nov. 21. Hibbing, Minn.	Oct. 21
Nov. 21. Anoka, Minn.	Oct. 28
Nov. 21. Charleroi, Pa.	Nov. 4
Nov. 21. Clearwater, Fla.	Nov. 11
Nov. 21. Coudersport, Pa.	Nov. 11
Nov. 21. Boston, Mass.	Nov. 18
Nov. 22. Franklin, Va.	Oct. 21
Nov. 25. Haverlock, Ia.	Nov. 11
Nov. 27. East Orange, N. J.	Oct. 7
Nov. 27. Newark, N. J.	Nov. 11
Nov. 27. Paris, Tex.	Nov. 18
Nov. 28. Washington, D. C. Adv. Oct. 28.	Oct. 28
Nov. 28. Beaver Falls, Pa.	Nov. 4
Nov. 28. Wheeling, W. Va. Adv. Nov. 4 to 18.	Nov. 4
Nov. 28. Dumas, Ark. Adv. Nov. 4 to 18.	Nov. 4
Nov. 28. St. Louis, Mo.	Nov. 18
Dec. 1. Pueblo, Col.	Oct. 28
Dec. 1. Chillicothe, O.	Nov. 11
Dec. 1. Newton, Kan.	Nov. 11
Dec. 1. Marlin, Tex.	Nov. 18
Dec. 1. Portsmouth, O.	Nov. 18
Dec. 1. Waconia, Minn.	Nov. 18
Dec. 4. Washington, D. C. Adv. Oct. 28, Nov. 4.	Oct. 28
Dec. 4. New York, N. Y.	Nov. 18
Dec. 5. Pittsburgh, Pa.	Nov. 18
Dec. 6. Twin Falls, Idaho	Oct. 21
Dec. 6. Wellsville, O.	Nov. 18
Dec. 7. Omaha, Neb.	Nov. 18
Dec. 7. Chadron, Neb.	Oct. 28
Dec. 7. Columbus, Miss.	Nov. 4
Dec. 7. Bangor, Wis.	Nov. 18
Dec. 11. Eureka Springs, Ark.	Nov. 4
Dec. 11. Cape Charles, Va.	Nov. 18
Dec. 15. Tucson, Ariz.	Oct. 14
Dec. 15. Danville, Ill.	Nov. 11
Dec. 21. Bonne Terre, Mo.	Nov. 4
Dec. 22. East St. Louis, Mo.	Oct. 28
Dec. 26. Frederick, Md.	Nov. 18
Dec. 30. Sullivan, Ind.	Nov. 18
Jan. 1. Webster, S. D.	Sep. 16

FOUNDATIONS, PIERS AND DAMS.

Nov. 21. Zanesville, O.	Nov. 18
Nov. 24. El Paso, Tex.	Oct. 28
Nov. 27. Annapolis, Md.	Oct. 28
Dec. 8. Cincinnati, O. Adv. Nov. 11, 18.	Nov. 11
Dec. 11. Zanesville, O.	Nov. 11
Dec. 14. Wheeling, W. Va. Adv. Nov. 18.	Nov. 18
Jan. 1. San Dimas, Cal.	Nov. 18
Jan. 2. Santa Fe, N. M. Adv. Nov. 18.	Nov. 18

EXCAVATION, DREDGING AND DRAINAGE.

Nov. 20. Trenton, N. J. Adv. Nov. 4 to 18.	Nov. 4
Nov. 21. Albany, N. Y. Adv. Oct. 28 to Nov. 18.	Oct. 28
Nov. 21. Des Moines, Ia.	Nov. 4
Nov. 22. Morris, Minn.	Nov. 4
Nov. 22. Eagle Lake, Tex.	Nov. 11
Nov. 24. New York, N. Y. Adv. Oct. 28 to Nov. 18.	Oct. 28
Nov. 24. Albany, N. Y. Adv. Nov. 4.	Nov. 4
Nov. 24. St. Paul, Minn.	Nov. 11
Nov. 24. Tonawanda, N. Y.	Nov. 18
Nov. 25. El Centro, Cal.	Nov. 18
Nov. 27. Annapolis, Md.	Oct. 28
Nov. 27. Gaylord, Minn.	Nov. 11
Nov. 28. St. Ignatius, Mont.	Oct. 28
Nov. 28. Dyersburg, Tenn.	Nov. 4
Nov. 28. Brooklyn, N. Y. Adv. Nov. 4 to 18.	Nov. 4
Dec. 4. St. Louis, Mo. Adv. Nov. 4 to 18.	Nov. 4
Dec. 8. New York, N. Y. Adv. Nov. 11, 18.	Nov. 11
Dec. 11. New Orleans, La. Adv. Nov. 18.	Nov. 18
Dec. 19. Erie, Pa. Adv. Nov. 18.	Nov. 18

TUNNELS AND SUBWAYS.

Dec. 7. Philadelphia, Pa. Adv. Oct. 14, 21.	Oct. 14
——— New York, N. Y. Adv. Nov. 11, 18.	Nov. 11

MISCELLANEOUS.

Nov. 22. Garbage, Reading, Pa. Adv. Nov. 11, 18.	Nov. 11
Nov. 22. Ry. Ties, Quebec City, Que.	Nov. 18
Nov. 25. Cement, Philadelphia, Pa.	Nov. 18
Nov. 27. Crane, Pearl Harbor, T. H.	Nov. 4
Nov. 27. Cement, Winnipeg, Man. Adv. Nov. 4, 11.	Nov. 4
Dec. 1. Garbage, Wilkes-Barre, Pa. Adv. Oct. 28 to Nov. 18.	Oct. 28
Dec. 6. Grade Crossings, Portland, Ore. Adv. Sep. 30 to Oct. 28.	Sep. 30
Dec. 11. Crane, Washington, D. C.	Nov. 18
Dec. 12. Needle Valves, Washington, D. C. Adv. Nov. 4.	Nov. 4
Jan. 4. Transmission line, Weeversville, Cal.	Oct. 21

Rail Prices Advance Again as Workers Get Pay Increase

Pig-Iron Prices Still Rising—Shipbuilding Without Precedent Enables American Bottoms to Carry Increasing Proportion of Foreign Commerce

AN ADVANCE of $5 per ton in the price of Bessemer and open-hearth rails was reported last week, bringing the price of the former to $38 and that of the latter to $40 per ton. The importance of this advance, which is the second made since the beginning of the present upward movement, lies in the generally believed fact that the steel mills have been holding rail prices as low as was consistent with the cost of production. Rail prices thus represent a level below which it is considered unlikely that steel will again fall, and increases indicate that the cost of producing ore, pig iron and rolled products is permanently rising. Previous to the two increases mentioned, rail prices stood for years at $28 a ton for Bessemer and $30 a ton for open hearth. Further considerable increases in the price of pig iron of various grades are attributed to a fear on the part of steelmakers of a shortage next year, which is partly accounted for by recent large sales of pig iron for export.

A further indication that the cost of producing steel and all sorts of construction materials is steadily growing, and is likely to continue its upward trend as long as immigration is shut off, is the fact that the United States Steel Corporation has just raised the wages of all its employees 10 per cent for the third time since 1914. Common labor employed by this corporation now receives $2.67 a day as compared with $2 before the war. It is expected that independent companies will follow suit, and that wages throughout the steel business will be generally readjusted on a higher basis. A rise of wages in the steel industry and the present exceedingly busy condition of the closely allied industry of shipbuilding directly affect the labor supply for contractors, as the common and skilled labor employed in these lines are practically the same as that which must be drawn on for carrying out construction work. During the first ten months of 1916 there were finished and commissioned in this country 968 vessels having a gross tonnage of 405,894. In addition to this, our shipyards will complete during 1917 vessels now under construction having a gross tonnage of nearly 1,000,000, and have also under construction vessels with a gross tonnage of more than 500,000 which will be completed in 1918. More than 5 per cent of this entire tonnage was contracted for during the past month alone.

This great increase in shipping has at once been put to use. The proportion of our exports carried in American bottoms has increased from 9 per cent in 1914 to 12 per cent during the first nine months of this year, which means that the total tonnage so carried has more than quadrupled in view of the enormous growth of our exports. A relatively small proportion of the vessels being built here are for foreign owners, and the merchant marine which we are now building should prove an important factor in prolonging business activity at profitable levels after the war.

This shipbuilding activity has also greatly benefited the lumber industry, especially on the Pacific Coast, where in the north section of the coast alone fifty-three wooden vessels are in course of construction. Approximately 106,000,000 ft. of lumber will be used to build them, and when completed this fleet alone could transport in five trips the entire reduced volume of annual lumber exports which has prevailed since the war. At present the lumber business is tied up by the unprecedented shortage of railway cars and locomotives, the largest volume of unfilled orders since the beginning of the war being on hand at both Southern and Western mills. Next year, however, the shipbuilding activities mentioned should greatly improve the water movement of lumber, both coastwise and export, and lumber men expect that with the resumption of normal railroad movements their position will continue to increase in strength. Engineers and contractors, therefore, should not count too confidently on a recurrence during the next construction season of the easy deliveries and the low prices which have prevailed for some years past.

Buildings

Actual letting of building work is naturally less, owing to the lateness of the season, but the volume of prospective work being noted, taken together with a 40-per cent increase, as compared with September, in the value of the building permits issued during October in twenty leading cities indicates that 1917 will be a busy year for building contractors in spite of increasing material costs. Building contractors who expect to be busy next season should begin now to line up their work, get their plant and organizations in shape and follow the material and labor markets. They should prepare to take advantage of every possible economy to make their profits on next season's work as large as possible. It is noteworthy that the strong firms which are able to keep up their business and hold their organizations together during adverse times make large profits in prosperous times at the same prices which yield only small profits to the mediocre firms. Therefore the contractor whose business has done little more during the last season than come out on the right side of the ledger should exert himself to the utmost to make more of the coming season.

The larger building contracts noted in this issue are summarized below:

	Kind	Cost
Contracts awarded:		
Los Angeles, Cal.	Hotel	$82,000
Los Angeles, Cal.	College building	150,000
Bids opened:		
Brooklyn, N. Y.	Library	264,000
Proposed work:		
Chester, Pa.	School buildings	500,000
Philadelphia, Pa.	Hospital	350,000
Columbus, Ga.	Cotton mill	250,000
Cleveland, Ohio	Factory	200,000
Milwaukee, Wis.	Club building	1,000,000
St. Paul, Minn.	Church	200,000
Des Moines, Iowa	Cathedral	250,000
Hutchinson, Kan.	Elevator	500,000
Austin, Tex.	Office building	300,000
Butte, Mont.	Packing plant	500,000
Hamilton, Ont.	Theater	200,000

Roads and Paving

Excellent prospects for a busy road-building season are developing. Conditions pointed out in this journal from time to time which favor the sale of improvement bonds have induced an increased number of counties and towns to finance road work on a large scale, as is well shown in the large number of bond issues voted at fall elections. The more important highway projects noted in this issue are summarized below:

	Kind	Cost
Contracts awarded:		
Philadelphia, Pa.	Asphalt	$50,000
Cincinnati, Ohio	Concrete	105,000
Jennings, La.	Highways	500,000
Bakersfield, Cal.	Grading	70,000
Proposed work:		
South Bethlehem, Pa.	Bonds voted	175,000
Smethport, Pa.	Bonds voted	750,000
Cleveland, Ohio	Paving	127,000
Cincinnati, Ohio	Brick highway	164,000
Cadiz, Ky.	Bonds sold	90,000
Paducah, Ky.	Bonds voted	200,000
Belleville, Ill.	Bonds voted	1,500,000
Hattiesburg, Miss.	Bonds for sale	150,000
Jackson, Miss.	Bonds sold	130,000
Brookhaven, Miss.	Bonds sold	175,000
Ellisville, Miss.	Bonds voted	475,000
St. Louis, Mo.	Paving	93,000
Okmulgee, Okla.	Bonds voted	800,000
McKinney, Tex.	Bonds voted	865,000
The Dalles, Ore.	Bonds voted	260,000
Walla Walla, Wash.	Road and bridge work	175,000
Bakersfield, Cal.	Bonds for sale	500,000
Ventura, Cal.	Bonds sold	150,000
Modesto, Cal.	Bonds voted	1,480,000

Waterworks and Sewers

The following waterworks and sewer construction is noted in this issue:

	Kind	Cost
Contracts awarded:		
*Knoxville, Tenn.	Pumping station	$145,000
Cleveland, Ohio	Sewers	58,000
Milwaukee, Wis.	Sewer	113,000
Vancouver, B. C.	Sewer section	97,000
Bids desired:		
Lima, Ohio	Waterworks	500,000
Proposed work:		
Lenox, Mass.	Reservoir	87,000
Auburn, N. Y.	Filter	200,000
Williamsport, Pa.	Disposal plant	300,000
Lima, Ohio	Sewers	500,000
Greenville, Ohio	Waterworks	85,000
Georgetown, Ky.	Waterworks	100,000
Wilburton, Okla.	Waterworks and sewers	75,000
Port Arthur, Tex.	Waterworks and sewers	180,000
Coalinga, Cal.	Waterworks	100,000
Ford, Ont.	Sewer system	114,000

*Bids opened.

Miscellaneous Headings

The construction of a drainage project to cost $135,000 has been contracted for at Quincy, Ill. At Sledge, Miss., a $235,000 drainage contract has been awarded, and another contract of the same class amounting to $125,000 has been let at Virginia, Minn. It is reported that bids are desired for constructing an $8,000,000 railroad line near Newport News, Va. Dredging work to cost $150,000 will be let Dec. 20 at Oakland, Cal.

The city of Buffalo will sell shortly bonds in the sum of $1,233,000 for various municipal construction projects. Bridge work aggregating $1,184,000 is being planned at Jacksonville, Fla. Bonds have been voted for a $250,000 bridge at Milwaukee. A company has been organized at Ely, Minn., to construct a $1,500,000 hydroelectric plant. It is reported from Seattle that $1,250,000 will be spent next year in extending and rebuilding a railroad property. Plans are being prepared for constructing transmission lines to cost $300,000 near San Luis Obispo, Cal. A site has been purchased at Los Angeles on which a $2,000,000 oil refinery is to be erected.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Lenox, Mass.—Reported plans of A. B. Farnham, Pittsfield, approved by Pub. Serv. Comn., for proposed 52,000,000-gal. reservoir which the Lenox Water Co. contemplates constructing on Richmond Mountain; estimated cost, $87,000.

Waterbury, Conn.—Town considering installation of water main in Huntingdon Ave.; cost, about $48,000. C. E. McDonald, supt. waterworks.

Auburn, N. Y.—City voted to install a slow sand filter; cost, $200,000. Contract will probably be let in January. Hazen, Whipple & Fuller, engrs., 30 E. 42nd St., New York City. J. W. Ackerman, ch. engr. and supt., bd. water comrs.

St. Ann, N. Y.—Reported contract soon to be let by Village for constructing waterworks system; cost, about $25,000.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Where name of official is not given inquiries should be addressed to City Clerk, County Clerk or corresponding official.

Buffalo, N. Y.—See "Miscellaneous."

Paterson, N. J.—Bd. Wks. considering construction of sewers in Jasper, May, Walnut, E. 25th Sts. and Iowa and 21st Aves. Arthur Livingston, actg. city clk.

Charleroi, Pa.—Boro. Council considering construction of sewage disposal plant.

Seward, Pa.—Citizens defeated bond issue for constructing reservoir and about 2 miles of pipe line. No further work will be done. O. P. Thomas, engr., Leader Bldg., Johnstown.

Souderton, Pa.—Boro. will install sewer system and sewage disposal plant to cost $20,000. C. E. Collins, engr., Drexel Bldg., Philadelphia.

Williamsport, Pa.—It is proposed to lay 2300 ft. 24 and 48-in. pipe and construct sewage disposal plant of 10,000,000 gal. capacity, install Imhoff tank and pumping station; total estimated cost $300,000. Farley Gannett, engr., Harrisburg.

Westfield, Pa.—Boro. considering construction of sewer system; cost, about $58,000. W. C. Emigh, boro. engr.

Waynesboro, Pa.—Citizens voted $28,000 bonds for constructing sewers. G. C. Brehm, boro. engr; A. Stover Fitz, boro. clk.

Youngsville, Pa.—Later reports state no sewer improvements contemplated. Robt. L. Mead, city clk.

Newark, Del.—Town Council has decided to sink an additional well and install pumping station.

Vinton, La.—Contract will be let in January by T. H. Mandell, engr., Lake Charles, for construction of waterworks, to consist of 500-gal. pump, 50,000-gal. tank on 100 ft. tower, 4 miles 6-in. mains c. i., standard hydrants, etc.; cost, $25,000.

Sumrall, Miss.—Contract will be let in Dec. by city for constructing 50,000-gal. reservoir; cost, about $10,000. J. I. Brueck, city clk.

Georgetown, Ky.—Reported city voted $100,000 bonds for installing municipal waterworks system and electric light plant.

Olive Hill, Ky.—Village voted $10,000 bonds for installing municipal waterworks system and electric light plant.

Versailles, Ky.—Chas. E. Collins, Drexel Bldg., Philadelphia, is engineer for new water supply system for which citizens recently voted $20,000 bonds. D. C. Naive, city clk.

Cincinnati, O.—See "Roads and Paving."

Cincinnati, O.—City Council considering issue of $23,200 bonds for constructing sewers in Baltimore Ave.

Chas. F. Hernberger, pub. serv. dir., will ask City Council to issue $125,000 bonds for waterworks improvements.

Greenville, O.—City Council passed ordinance providing for issue of $85,000 bonds for well system. J. P. Lucas, supt. waterworks.

Lima, O.—Citizens voted $500,000 bonds for constructing relief and storm sewers. Geo. W. Fuller, engr., 170 Bway., New York City. Bailis Simpson, Mayor.

Mt. Vernon, O.—Contract will be let in April by city for installation of meter system; estimated cost, $20,000. D. G. Pickard, supt. waterworks.

Plymouth, Mich.—Contract will be let in the spring for constructing sanitary sewer system and disposal plant; cost $30,000. Head & Decker, engrs., Ann Arbor. C. A. Hearn, village clk.

Berwyn, Ill.—Reported plans being prepared for tile sewer to be constructed on 22d and other streets; estimated cost, $20,000. B. Strutzenburg, city engr.

Chester, Ill.—City contemplates construction of sanitary sewer; probable cost, $66,000.

White Hall, Ill.—Town will install new equipment for waterworks plant and construct new flow line. Frank L. Wilcox, engr., Syndicate Trust Bldg., St. Louis.

Necedah, Wis.—Preliminary estimates prepared by W. G. Kirchoffer, 22 N. Carroll St., Madison, for proposed waterworks system; address Village Clk.

Carroll, Ia.—Later reports state no waterworks and sewer improvements contemplated. J. A. Daugherty, city clk.

Ada, Minn.—L. P. Wolff, 1001 Germania Life Bldg., St. Paul, reported engaged by city to prepare plans for storm sewers and disposal plant; cost, about $25,000.

Ironton, Minn.—Waterworks bonds for $15,000 will be sold Dec. 7 by E. R. Burns, village clk.

St. Paul, Minn.—City Council considering construction of sewers on portions of Pascal and White Bear Aves.

Plans approved by City Council for three sewerage systems, one to be constructed on Morton St., one on Harvester Ave., and one on Bayard Ave.

Buffalo, Kan.—City voted $15,000 waterworks bonds.

Fairmount, N. D. — Construction of about 16 blocks of sewers contemplated in the new year. L. N. Abbott, Mayor.

Livingston, Mont.—City considering construction of waterworks plant to cost $225,000.

Batesville, Ark.—Bd. Water & Light Comrs. engaged Frank L. Wilcox, Syndicate Trust Bldg., St. Louis, to report on new water supply by filtration of existing supply or by sinking deep wells.

Bastrop, Tex.—Contract soon to be let by town for constructing sewage disposal plant. Hall Constr. Co., engrs., Austin.

Bryan, Tex.—City voted $10,000 bonds for erecting new sewage disposal plant.

Frost, Tex.—Contract will soon be let by town for constructing sewerage system and disposal plant, to include about 4 miles of 6 and 8-in. pipe.

Port Arthur, Tex.—City voted $180,000 bonds for sewer and water extensions. G. N. Bliss, mayor.

Attorney General at Austin has approved above bond issue.

Wellington, Tex.—Contract soon to be let by Town Council for constructing water system; cost, about $27,000.

Wilburton, Okla.—City voted $55,000 waterworks bonds and $20,000 sewer bonds.

Granada, Col.—Town voted $25,000 waterworks bonds. W. R. Waldo, town clk.

Everett, Wash.—Surveys and investigations being made for purpose of constructing storage reservoir in connection with the Sultan River Water Supply Project now under construction. R. E. Koon, engr., 875 E. Yamhill St., Portland, Ore.

Seattle, Wash. — Streets and Sewers Com. of City Council granted petition providing for complete system of water mains in Carleton Park Dist.; cost about $60,000.

Tacoma, Wash.—Council adopted resolution providing for construction of 8, 12, 16 and 18-in. pipe sanitary sewers in S. 7th and other streets. W. D. Nickeus, city clk.

Walla Walla, Wash.—Waterworks bonds for $338,000 will be sold Dec. 5 by the city.

Albany, Ore.—Reported town will not vote upon a municipal water system this year, as source of proposed water supply is contested by parties holding prior rights.

Alhambra, Cal.—State Railroad Comn., San Francisco, granted permission to city to purchase water plant and distributing system of San Gabriel Water Co.

Coalinga, Cal.—Citizens voted bonds Nov. 8 for constructing municipal waterworks system. Dessery & Bell, engrs., 314 Central Bldg., Los Angeles. Geo. E. H. Satchell, treas. citizens com.

Coalinga, Cal.—City voted $100,000 bonds will either construct new water system or purchase and improve plant owned by Pleasant Valley Water Co.

Hanford, Cal.—Election to vote $30,000 bonds for constructing extensions to fire pressure mains contemplated. Edw. Lynch, city engr., Glendale.

Los Angeles, Cal.—Bonds for $1,020,000 will be sold Nov. 29 by the city for improving water system in Hollywood; and on Dec. 6 $200,000 bonds of Improvement Dist. No. 3 for constructing water distributing system in Blairstown; construction of steel mains to bring water from Los Angeles Aqueduct, together with laterals, will be chief items.

San Francisco, Cal.—All bids recently opened by Constructing Quartermaster, Ft. Mason, for improvements to water supply system at Presidio of San Francisco, rejected.

Stockton, Cal.—City Council considering construction of two sewage disposal plants at San Joaquin River. H. S. Compton, city engr.

Ventura, Cal.—City Trus. have instructed City Engr. to prepare plans for sewage disposal system.

Whittier, Cal.—Contract will be let in Dec. by City Council for furnishing pipe and fittings for new mains with service laterals; cost, about $15,000.

St. Marc des Carrieres, Que.—Proposed to improve waterworks system to include 6 and 8-in. iron or wood pipe, 16 hydrants, pump, etc.; estimated cost $15,000. Goulet & Belanger, engrs., Quebec. J. N. Gingras, secy.-treas.

Ford, Ont.—Reported plans prepared by T. A. Murray, 303 Lumsden Bldg., Toronto, for sewage system contemplated by town; probable cost, $113,915.

Sault Ste. Marie, Ont.—Contract about to be let for installation of two motor driven pumps of 5,000,000 gal. capacity each. W. W. Van Every, engr., Sault Ste. Marie. R. G. Campbell, city clk.

BIDS DESIRED.

Boston, Mass.—Until Nov. 27, by Metropolitan Water & Sewerage Bd. (Fred. D. Smith, ch. engr.), Boston, for constructing 1370 ft. 24 x 27 in. and 36 in. concrete sewer in trench, and 2630 ft. 36 in. concrete sewer in rock and earth tunnel, masonry, etc.

Long Island City, N. Y.—Until Dec. 1, by Maurice E. Connolly, pres. boro. Queens, for constructing sewer and appurtenances in Grand, Hull and Maure Aves. and other streets, in all about 5178 lin. ft. plain concrete sewer ranging from 2 ft. 9 in. to 3 ft. 6 in., and 4814 ft. reinforced concrete sewer from 4 ft. to 6 ft. 6 in., together with basins, junction chambers and about 40,000 ft. timber, etc.; security about $88,000. Also for portions of Decatur St., Edison Pl., Kimball Ave. and other streets, in all about 14,219 ft. 6 to 24-in. vitr. pipe sewer, together with basins, junction chambers, etc.; security about $26,350.

Bridgeton, N. J.—Until Dec. 5 by City Council for furnishing c. i. water pipe, fittings and valve boxes; gate valves, fire hydrants and lead; advertised in this issue. Jacob B. Jones, city clk.

Irvington, N. J.—See "Roads and Paving."

Palisades Park, N. J.—Until Nov. 28 by Benjamin E. Budds, Mayor, for constructing 15,018 ft. of 8 to 12-in. pipe sewer, 298 ft. of 16 and 20-in. c.-i. pipe sewer, 62 manholes and siphon under Northern RR., etc. Lozier, Zabriskie & Van Keuren, engrs., Broad Ave. and Central Boule., Palisades Park.

Franklin, Pa.—Until Dec. 2 by the city at the office of Morris Knowles, C. E., 2541 Oliver Bldg., Pittsburgh, for constructing a reinforced concrete pump well, laying about 1200 ft. 12-in. suction main in deep trench, and installing connections to existing wells; advertised in this issue.

Pittsburgh, Pa.—Until Nov. 28 by the city comptroller, Municipal Hall, for furnishing and installing piping and appurtenances in Brilliant Pumping Station, Contract 13h. (Third contract.) Mayor Jos. G. Armstrong, dir. dept. pub. wks.

Shreveport, La.—Until Dec. 9 on $438,000 work remaining of the $1,200,000 issue for water works plant and extension; address J. McW. Ford, mayor.

West Park, O.—Sewer bonds for $20,000 will be sold Dec. 19 by Fred Feuchter, village clk. for constructing storm water sewers.

Cincinnati, O.—Following are unit figures of four lowest bids opened Nov. 16 by Walter J. Friedlander, Safety Dir., for laying high pressure water mains in district bounded by Elm St., Central Ave., 4th and 8th Sts.: (a) Thurber & Browning, 4231 Spring Grove Ave., $55,834; (b) Kirchner Constr. Co., 221 W. 9th St., $57,985; (c) Crumley, Jones & Crumley, 536 Findlay St., $59,467; (d) Thos. P. Strack, Goodall Bldg., $62,580.00.

	(a)	(b)	(c)	(d)
3,500 lin. ft. 20-in. high pressure pipe, lay complete per lin. ft	8.00	6.00	6.00	5.00
1,000 lin. ft. 16-in. high pressure pipe, lay complete per lin. ft.	4.50	5.00	4.75	5.00
4,100 lin. ft. 12-in. high pressure pipe, lay complete per lin. ft.	3.00	5.00	4.50	4.70
400 lin. ft. 8-in. high pressure pipe for fire hydrants, complete per lin. ft.	3.50	4.00	6.00	3.00
300 cu. yd. additional excav. in changes of alignment, per cu. yd.	0.03	0.10	1.50	3.00
900 cu. yd. additional excav. in changes of grade, bet. 7 and 10 ft.	0.60	0.50	2.00	4.00
150 cu. yd. additional excav. in changes of grade, bet. 10 and 13 ft.	0.70	0.50	2.50	5.00
50 cu. yd. additional excav. in. changes of grade below 13 ft.	1.00	1.00	3.00	5.00
300 cu. yd. brick work in valve chambers, piers and pipe protection, per cu. yd.	15.00	16.00	16.00	18.00
150 cu. yd. concrete in valve chambers, piers and pipe protection, per cu. yd.	7.00	7.00	8.00	12.00
15,000 lb. steel in valve chambers, piers and pipe protection per lb.	0.08	0.05	0.15	0.12
60 air cocks, furnished and installed complete	17.00	11.00	15.00	18.00
860 lin. ft. of 10-in. water main to be removed complete, per lin. ft.	1.00	2.00	0.70	4.50
4 20-in. valves placed in existing 20-in. water mains complete (each)	75.00	75.00	85.00	40.00

★**Milwaukee, Wis.**—Following are unit figures of the four lowest bids opened Nov. 16 by Sewerage Comn. (John E. Fowles, secy.) for Contract No. 14, Intercepting Sewer: (a) Herman Hohensee, 965 27th St., Milwaukee, $113,346 (awarded contract); (b) Geo. E. Zimmerman, 3102 McKinley Boule., Milwaukee, $114,977; (c) John F. Casey & Co., Oliver Bldg., Pittsburgh, $116,131; (d) Jas. Ferry & Sons, Atlantic City, N. J., $120,660.

	*(a)	(b)	(c)	(d)
244 lin. ft. reinforced concrete aqueduct	....	....	....	....
60 lin. ft. 8-in. t.-c. pipe connections at Aver Ave.	....	....	....	....
3,900 lin. ft. 60-in. concrete sewer	$16.90	$16.70	$17.75	$18.50
1,550 lin. ft. 60-in. reinforced concrete sewer	18.90	17.50	18.75	19.00
100 lin. ft. 24-in. t.-c. pipe culvert	7.00	7.00	2.50	3.00
240 lin. ft. 18-in. t.-c. pipe culvert	7.90	6.00	2.00	2.50
200 vert. ft. standard manholes	5.00	7.00	6.00	8.00
18 c.-i. manhole frames and covers	12.00	20.00	20.00	20.00
26,000 B M ft. plank foundation	22.00	22.00	25.00	25.00
10,000 B M ft. timber caps	30.00	25.00	25.00	25.00
6,000 lin. ft. piles in place	0.40	0.30	0.50	0.30
3,000 lin. ft. underdrain	0.35	0.40	0.50	0.10

Lima, O.—Until Dec. 14, by A. L. Metheany, dir. pub. serv., for constructing Lost Creek reservoir, conduits, pump station and filtration plant, pumps turbo-generator, etc.; cost about $500,000. Advertised in this issue.

Fayette, Ia.—Until Nov. 28 by Town, for constructing 17,000 ft. sewer; also separate bids on septic tank and 13,000 ft. pipe and tile. F. B. Claxton, clk.

Lockhart, Tex.—Until Nov. 28, by Mayor R. A. Beaty, for constructing sanitary sewer system, sewage disposal plant and garbage incinerator. Henry E. Elrod, engr., Dallas.

Marlow, Okla.—Until Dec. 4 by City Clk. for furnishing one 250 hp. engine, pumps, motors, 19,000 ft. water pipe and a large amount of waterworks supplies. George T. Putty, Mayor.

Oklahoma, Okla.—Until Dec. 5 by Bd. Comrs. (C. F. Semmelbeck, clk.), for the following: Sect. A, reinforced concrete main dam; Sect. B, By-Pass excavation and embankment; Sect. C, riprap; Sect. D, earthern diversion dam; Sect. E, drainage ditch No. 1; Sect. F, drainage ditch No. 2; Sect. G, reservoir embankment; Sect. H, cleaning and grubbing 600 acres of timber; Sect. I, bridge No. 1, combination highway and Interurban Railway bridge; Sect. J, three highway bridges; Sect. K, excavating clear well; Sect. L, concreting clear well; Sect. M, 7½ miles conduit. Bids must be accompanied with certified check in the sum of 3 per cent on sections B, C, D, E, F, G, H and K and 5 per cent on sections A, I, J, L and M.

Manhattan Beach, Cal.—See "Reinforced Concrete."

San Diego, Cal.—Until about Dec. 1, Allen H. Wright, city clk., for extending sewer system in northeast section of the city, work includes 26,212 ft. 6-in., 1642 ft. 8-in., 7126 ft. 10-in. cement pipe. George Cromwell, city engr.

San Francisco, Cal.—Until Dec. 8 at the office of Depot Quartermaster, U. S. Army (Col. John T. Knight), for furnishing pipe fittings, gate valves, iron pipe, galvanized iron tees, valves and other supplies.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Albany, N. Y.**—Contract for constructing sewers in Hoffman Ave. and adjoining streets, Delaware Ave. from Leonard Pl. north to Myrtle Ave., and Schuyler St. from Green to S. Pearl St., reported awarded by Contract and Supply Bd. to John Doyle, 14 James St., at $26,608.

★**Plainfield, N. J.**—Contract for constructing storm sewers awarded by Common Council (bids opened Nov. 20) to Chas. A. Peterson, Plainfield, at $28,362. John J. Carroll, city clk.

Knoxville, Tenn.—Lowest bid recently opened by City Water Comn. for constructing pumping plant, reported submitted by Allis Chalmers Co., W. Allis St., Milwaukee, Wis., at $145,200.

Salem, O.—Lowest bid opened by city for constructing reinforced concrete water storage reservoir at pumping station reported submitted by F. L. Stoffer, Washingtonville, at $17,701.

★**Cleveland, O.**—Contract for constructing sewers for subways at Detroit-Superior viaduct reported awarded by Co. Comrs. to Sewer Constr. Co., 510 Commercial Bank Bldg., at $58,000.

★Contract awarded by City Bd. Control to Gawne Co., 10510 Euclid Ave., for constructing sewer in E. 140th St. at $27,386.

★**Cairo, Ill**—Contract for improving Commercial Ave. sewer reported awarded by City to F. W. Keller, Cape Girardeau, Mo., at $20,192.

★**St. Paul, Minn.**—Contract awarded by City Council to O'Neill & Preston, Lexington St. and Edgerton Ave., for constructing sewer on Brainerd St. and Edgerton Ave., at $6,970, and sewer on Payne and Edgerton Aves. at $24,500 respectively.

★**Argonia, Kan.**—Contract awarded by city (bids opened Nov. 15) to Bickel Co., Kansas City, Mo., at $14,462, for constructing waterworks system, including 25,180 ft. of 4 and 6-in. c. i. pipe; 1400 ft. 2-in. galvanized iron pipe; 7700 lb. c. i. special, hydrants, valves and boxes, 150,000-gal. tank on 90-ft. tower.

★**Big Timber, Mont.**—Reported G. Nordquist, Great Falls, secured contract for constructing sewers for city at $38,000.

★**Great Falls, Mont.**—Contract for constructing sewers in 4th, 5th and 7th alleys south and 4th alley north awarded by City Council to F. E. Evans Contr. Co., Great Falls, at about $13,738.

★**Claremont, Cal.**—Contract for constructing 1,500,000-gal. concrete reservoir 150 ft. diam., 12 ft. deep, for Claremont Co-operative Water Co., awarded J. L. Ackland, 730 Title Insurance Bldg., Los Angeles. Ralph Bennett, engr., 1125 Central Bldg., Los Angeles.

Merced, Cal. — See 'Structural Steel Work."

★**Porterville, Cal.**—Contract for furnishing 30 tons c.-i. pipe and fittings awarded by City Trus. to U. S. Cast Iron Pipe & Foundry Co., Burlington, N. J.

★**Vancouver, B. C.**—Contract for constructing Sect. 5C of the Stanley Park Interceptor reported awarded by Vancouver and Districts Joint Sewerage and Drainage Bd. to H. P. Peterson, Vancouver, at $97,430.

STRUCTURAL STEEL WORK

PROPOSED WORK.

Portland, Me.—Plans are being prepared by Portland Terminal Co., B. T. Wheeler, ch. engr., St. John St., for steel and concrete bridge at St. John St.; estimated cost, $20,000.

Lynn, Mass.—Co. Comrs. investigating advisability of reconstructing floating bridge and will make report to State Legislature second Saturday in January.

Springfield, Mass.—Report containing estimates of cost and location of proposed bridge between Springfield and West Springfield will be presented shortly to Court at Boston by John L. Bates, chmn. court-appointed bridge comn.

Buffalo, N. Y.—See "Miscellaneous."

Chittenango, N. Y.—Bd. Supervs. contemplate constructing bridge over Chittenango Creek in 1917. Geo. S. Tibbits, co. supt., Oneida, N. Y.

Highlands, N. J.—Plans have been prepared by John T. Simpson, engr., 31 Clinton St., Newark, N. J., for steel and concrete bridge to be erected here.

Newark, N. J.—Estimated cost of proposed bridge over Central of New Jersey RR. tracks at Port St. is $120,000; address Clk. Bd. Pub. Wks.

Pennsylvania.—State Highway Dept., Harrisburg, intends constructing $40,000 bridge between Olyphant and Blakely.

Pennsylvania.—Following applications to construct bridges have been approved by State Water Supply Comn., Harrisburg:

Branch of Little Bull creek, about 1 mile N. W. of Birdville, on Birdville road, Fawn township, Alleghany Co. (Pittsburgh, co. seat).

Outlet of Norconk pond, 100 ft. N. of Sullivan Co. line, about 5 miles W. of N. W. of Dushore, Wilmot township, Bradford Co. (Towanda, co. seat).

Frey Mill Race, about 75 yd. from outlet into Swatara creek, Boro. of Middletown, Dauphin Co. (Harrisburg, co. seat), (reconstruction).

Bissett Run, ¾ mile S. E. of Deep Valley on Deep Valley or Ned road, Springhill township, Greene Co. (Waynesburg, co. seat).

Run which flows into Little Chartiers creek, 100 ft. from its mouth, on state highway route No. 118.

Pennsylvania RR. (Alex. C. Shand, ch. engr, Broad St., Philadelphia), bridge over Little Dark creek and 8-ft. concrete culvert over Crooked creek, Shade township, Somerset Co.; bridge over Maple creek, 1586 ft. from its mouth, in Speers Boro., and over same creek, 2430 ft. from its mouth, in Charleroi Boro., Washington Co.

Washington, D. C.—All bids received by Comrs. Dist. of Columbia rejected; additional appropriation of $35,000 will be asked; lowest total bid opened was $118,300 for constructing Benning viaduct. Daniel E. Garges, ch. clk. engr. dept.

Huntington, W. Va.—Plans have been prepared by A. P. Maupin, city engr., for constructing $54,000 bridge at 5th Ave.

Bainbridge, Ga.—County Comrs. Court intend replacing bridge over Flint River with larger and more modern structure.

Jacksonville, Fla.—Plans for concrete and steel bridges, one over McGirts creek at Ortega, $115,000; other over Trout creek at Panama, $69,000, being prepared by Ellis, Curtis & Kooker, Jacksonville; election in April; bonds will also be voted for $1,000,000 bridge over St. John's River, plans for which have been prepared by Howard, Harrington & Ash, 1012 Baltimore Ave., Kansas City, Mo.

Biloxi, Miss.—Plans are being prepared for constructing $50,000 bridge. Address Chmn. Co. Comrs.

Covington, Ky.—City voted to reconstruct water main bridge between Latonia and Campbell County into traffic bridge; estimated cost, $40,000.

Barberton, O.—Plans have been completed for bridge at Center St. and another at Tuscarawas Ave.; address City Clk.

Bucyrus, O.—Plans for improving roads and constructing bridges in townships of Whetstore, Holmes and Liberty contemplated by Co. Comrs.

Springfield, O.—City intends spending $10,000 to repair Dugan St. bridge.

Elgin, Ill.—Soundings to construct new Kimball St. bridge (for city) being made by A. B. Bell, 219 S. Dearborn St., Chicago.

Milwaukee, Wis.—Citizens approved bonds for constructing $250,000 bridge over Milwaukee River between Oneida and Cedar Sts. J. C. Pinney, Jr., city supt. bridges.

Centerville, Ia.—Plans have been prepared by A. H. Withington, co. engr., for 3 bridges: One 24 ft. I-beam span, 20 ft. roadway; another 40 ft. pony truss, 20 ft. roadway; third, 50 ft. pony truss span, 20 ft. roadway; all with concrete floors and abutments.

Indianola, Ia.—Plans have been prepared by F. O. Laing, co. engr., for 50 ft. pony truss span, 18 ft. roadway with concrete floor and abutments; also 120 ft. steel truss span, 16 ft. roadway, with tubular steel piers and 3-20 ft. wooden approach spans with pile substructure.

Maquoketa, Ia.—Plans have been prepared by Chas. M. Fischer, co. engr., for 30-ft. I-beam span, 16-ft. roadway; one 50-ft. skewed pony truss span, 18-ft. roadway; both with concrete floors and abutments.

McGregor, Ia.—Plans for steel bridge are being prepared by Chicago, Milwaukee & St. Paul Ry., C. F. Loweth, ch. engr., Chicago, Ill.

Toledo, Ia.—Plans are being prepared by A. R Hebenstreit, co. engr., for steel bridges as follows: 50 ft. pony truss span with 20-ft. roadway, 60-ft. skew pony truss span with 16-ft. roadway, 26-ft. I-beam span with 16-ft. roadway and 32-ft. I-beam span with 16-ft. roadway; all with concrete floors and abutments.

Palisade, Minn.—Plans for 280-ft. steel bridge, with 18-ft. roadway, for Aitken Co. and Twp., being prepared by Toltz Engr. Co., Pioneer Bldg., St. Paul; H. C. Beecher, co. aud.

St. Paul, Minn.—C. P. Joy of Joy Bros. Motor Car Company, 173 E. 6th St., will erect steel and concrete garage building on Pleasant Ave.; cost $75,000.

Kansas City, Mo.—Park Bd. intend constructing $40,000 bridge over Cliff Drive on Central Ave. traffic way through North Terrace Park. Kansas City Terminal Co., J. V. Hanna, ch. engr., Kansas City, Mo., will construct viaduct to extend traffic way over tracks into East Bottoms on Guinotte Ave.

Rison, Ark.—Estimated cost of 150-ft. steel bridge over Saline River is $100,000. W. E. Galloway, co. judge.

Waco, Tex.—City voted $25,000 to construct bridges at S. 5th, S. 7th and Austin Sts. and Riverside Drive.

Tacoma, Wash.—County intends to construct rolling lift bridge over Hylebos creek; estimated cost, $20,000. D. H. White, co. engr.

Baker, Ore.—Expenditure of $30,000 allowed by Co. Court for new bridges to be constructed in 1917. Ira L. Hoffman, co. engr.

Condon, Ore.—Comrs. of Gilliam and Sherman Cos. intend constructing 2-span bridge, 310 ft. long, at McDonald Ferry on Wasco-Pendleton road and 80-ft. bridge to replace Cottonwood bridge on Condon Road, both over Day River. C. E. Hardin, co. engr., Condon, Gilliam Co.; Wm. Heinrichs, co. engr., Moro, Ore., Sherman Co.

Oregon City, Ore.—Reported Southern Pacific Ry. (W. Hood, ch. engr., Flood Bldg., San Francisco, Cal.), will construct steel viaduct over 14th St. near Main St.

Ventura, Cal.—City intends constructing bridge over San Jon Barranca connecting county and state highways.

Oakland, Cal.—Federal Government has condemned 2 estuary bridges here and has ordered bridge of vertical lift or bascule type to be constructed in their place within 2 years; will have span of 200 ft., to afford 200 ft. clearance in accordance with the plans of U. S. Board of Army Engrs.

Embrun, Ont.—Plans are being prepared by F. Stidwell, engr., Cornwall, Ont., for constructing concrete bridge and steel bridge in Russell township. T. Emard, reeve.

BIDS DESIRED.

Flemington, N. J.—Until Dec. 7, by Bd. Freeholders, for constructing two 50-ft. span steel bridges at Sidney and at Frenchtown.

Miami, Fla.—Until Dec. 14 by Bd. Co. Comrs. (Z. T. Merritt, clk.) for constructing the Miami Causeway across Biscayne Bay connecting the city of Miami and the town of Miami Beach; Klyce & Kackley, engrs., Real Estate Bldg., Miami; advertised in this issue.

Florence, Ala.—Until Dec. 10 by Co. Comrs. for constructing 2 bridges, one across Little Cypress Creek near Sharp's mill, the other over Second Creek at Sledge Ford. J. F. Koonce, Judge of Probate.

Seale, Ala.—Until Dec. 7, by Court Co. Comrs., for steel bridge with concrete piers or reinforced concrete bridge over Bush Creek, Russel Co., Ala.

Shoals, Ind.—Until Dec. 4 by Co. Comrs. for constructing 3 steel bridges; L. D. Haga, co. aud.

Des Moines, Ia.—Until Nov. 28, by Horace Susong, city clk., for constructing bridge across Des Moines River at Grand Ave. K. C. Kestberg, city engr., advertised in this issue.

Seattle, Wash.—Until Dec. 1 by C. B. Bagley, secy. bd. pub. wks., for constructing portion of Fremont Ave. viaduct over Northern Pacific Ry. Co.'s main line; work includes unloading from cars and erecting structural steel, concrete footings, building up concrete retaining walls, completing deck of bridge and covering structural steel work with cement mortar; plans on file with A. H. Dimock, city engr.; separate bids same time for furnishing, fabricating, painting and delivering structural steel pipe railing with wire inserts and c. i., for Fremont Ave. viaduct over Northern Pacific Co.'s main line; check for 5 per cent required with each bid.

New York, N. Y.—Following are 4 lowest bids received Nov. 16 by Dept. of Plant and Struct., F. J. H. Kracke, comr., Municipal Bldg., for improving southerly portion of Manhattan Plaza of Manhattan bridge: (a) P. T. Cox Contr. Co., Tribune Bldg., $105,769; (b) Snare & Triest Co., Woolworth Bldg., $114,857; (c) Oscar Daniels Co., Woolworth Bldg. $131,948; (d) Thos. Dwyer, Bway. and 216th St., $134,204.

	(a)	(b)	(c)	(d)
1—3,000 cu. yd. excav.	$1.70	$1.80	$2.50	$2.00
1a—grading, lump sum	300.00	2,000.00	5,000.00	1,000.00
2—2,210 cu. yd. concrete	7.45	8.50	9.00	9.00
3—6,000 lb. reinforcing rods, dowels and cramps	0.04	0.05	0.05	0.10
4—11,350 sq. ft. waterproofing	0.10	0.13	0.14	0.15
5—146 cu. yd. common brick masonry	12.00	13.00	15.00	15.00
6—600 cu. yd. granite masonry	46.00	52.00	55.00	60.00
7—1,455 cu. ft. granite balustrade	6.90	6.60	7.50	6.00
8—1,300 sq. ft. vault lights	1.20	1.30	1.30	1.50
9—10 cu. yd. cutting concrete and granite	17.00	30.00	10.00	25.00
10—107,000 lb. structural steel	0.0592	0.06	0.068	0.06
10a—132,000 lb. erection of steel furnished by city	0.02	0.013	0.02	0.01
11—3,200 lb. cast iron	0.10	0.08	0.08	0.15
12—310 lin. ft. 8-in. tile drain	2.00	2.30	9.00	2.00
13—400 lin. ft. 6-in. tile drain	1.15	1.40	5.00	1.50
14—525 sq. ft. 15-in. terra cotta tile arches	0.50	0.42	2.50	0.50
15—775 sq. ft. 10-in. terra cotta tile arches	0.40	0.32	2.00	0.45
16—3,600 sq. ft. 4-in. terra cotta tile	0.20	0.12	0.25	0.25
17—620 sq. yd. plastering	1.20	1.00	0.50	1.00
18—240 sq. yd. hung ceiling	1.50	1.50	4.00	1.00
19—1,090 sq. ft. floor tile laid, including foundation	0.65	0.50	0.70	0.50
20—2,060 sq. ft. floor tile laid	0.50	0.40	0.60	0.40
21—600 sq. ft. safety treads	1.00	1.30	1.50	0.80
22—2 kalameined doors, etc.	80.00	100.00	100.00	50.00
23—30,000 sq. ft. granolithic sidewalk	0.15	0.19	0.17	0.25
24—5,250 sq. ft. granolithic surface	0.07	0.08	0.10	0.10
25—500 lin. ft. granolithic curb	0.60	0.80	0.75	0.85
26—10 lin. ft. steel-bound curb	0.70	1.00	2.00	2.00
27—2 stairways complete	1,000.00	950.00	800.00	350.00
28—62 lin. ft. railings, type "A"	8.50	4.00	7.00	3.00
29—285 lin. ft. railings, type "B"	2.15	1.60	2.10	3.00
30—176 lin. ft. railings, type "C"	4.25	3.00	4.50	3.00
31—200 lin. ft. pipe hand rail	0.70	0.80	0.80	3.00
32—150 sq. yd. brick facing	3.00	4.00	4.00	4.00
33—37 short tons running rails, guard rails, etc.	100.00	150.00	80.00	120.00
34—4 switches	350.00	250.00	150.00	700.00
35—4 frogs	550.00	150.00	80.00	400.00
36—24,300 rail fastenings	0.08	0.06	0.06	0.10
37—14 M ft. b. m. timber ties, creosoted	65.00	70.00	80.00	150.00
38—250 cu. yd. ballast	2.50	2.70	2.50	3.00
39—124 rail bonds (bonded rail joint complete)	4.80	6.00	3.00	5.00
40—lump sum, overhead trolley system, complete	2,700.00	3,300.00	3,500.00	7,000.00
41—lump sum, electric lighting system, complete	1,135.00	2,000.00	4,000.00	5,000.00
42—lump sum, plumbing system, complete	925.00	1,150.00	990.00	3,000.00
43—inspection, structural steel, etc., 112 short tons	1.00	1.00	1.00	1.00

Total amount of lowest bid exceeds appropriation.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Charlotte, N. C.**—Contract awarded by Co. Comrs. to Virginia Bridge & Iron Co., Roanoke, Va., at $23,171, to construct steel bridge with concrete piers over Catawba River at Betty's Ford.

★**Dayton, O.**—Contract awarded by Co. Comrs. Nov. 4 to Central States Bridge Co., Indianapolis, Ind., at $26,880, for constructing superstructure of Upper Union bridge in Stillwater Township.

Youngstown, O.—Following are bids opened Nov. 2 by city for constructing E. Federal St. bridge, piers, abutments and retaining walls, including 82 tons reinforced steel: Heller Bros., Furnace St., $110,165 with gravel used in concrete, $113,576 with limestone used in concrete; Henderson Constr. Co. and Veeder Heasley (jointly), 262 Lincoln Ave., $137,045 with slag in concrete, $139,077 with gravel, $141,109 with limestone; W. S. Rae, 52 Tacoma Ave., $131,250; all of Youngstown.

★**Rock Rapids, Ia.**—Contract awarded (Nov. 13) by Co. Bd. Supervs. to Western Bridge & Constr. Co., Omaha, for constructing 80 ft. skew pony truss span, with 18 ft. roadway, concrete floor and abutments at $8,100 and for 100 ft. steel truss span, with 18-ft. roadway, concrete floor and abutments at $6,695; piling, 50 cts. per lin ft., extra concrete, $16.50 per cu. yd.

★**Tulsa, Okla.**—Contract awarded by city to Jos. Langtry, Tulsa, at $31,082 for constructing approaches to bridge over Arkansas River.

★**Merced, Cal.**—Contract awarded Pittsburgh-Des Moines Steel Co., 8316 Rialto Bldg., San Francisco, for constructing 308,500-gal. steel tank with 92-ft. tower for Crocker-Huffman Land & Water Co. Contract for concrete foundation was awarded to W. H. McElroy, Merced.

★**Montreal, Que.**—Contract awarded by City to J. F. Jago Co., 37 Mayor St., at $8,900, for steel and concrete bridge at Church Ave.

REINFORCED CONCRETE

PROPOSED WORK.

Charleston, S. C.—Bids for constructing concrete bridge (received Nov. 3 by Sanitary Comn.) rejected as too high; indefinite when new bids will be asked.

Montgomery, Ala.—County voted $50,000 as its proportionate cost to $60,000 concrete bridge to be constructed at Judkin's Ferry over Tallapoosa River. W. F. Black, clk. bd. revenue. T. H. Edwards, engr., Montgomery.

Chattanooga, Tenn.—County Comrs. intend constructing 3 concrete piers to present bridge over Chattanooga creek in Alton Park with idea of eventually constructing complete concrete structure. L. B. Bryan, co. engr.

Cleveland, O.—Reported Isaac Leisy Brewing Co., 3320 Vega Ave., plans erecting 1-story, concrete, 120 x 172-ft. refrigerator and storage house at Fulton Rd. and Vega Ave.; cost, about $85,000.

Indianapolis, Ind.—Plans being prepared by B. J. T. Jeup, city engr., for $25,000 culvert over Pague's run on Michigan St.

Sycamore, Ill.—County considering constructing $60,000 concrete bridge, 40 ft. wide, 200 ft. span; road and bridge bond issue of $1,000,000 contemplated; Mr. Miller, co. road supt. County and township in conjunction will spend $20,000 on 5 concrete bridges.

Indianola, Ia.—See "Structural Steel."

Jefferson, Ia.—Plans are being prepared by H. W. Thompson, co. engr., for concrete bridges as follows: Two 28-ft. skew concrete deck spans, one 28-ft. sq. and one 26-ft. deck girder span; and 20-ft. slab span, all with 18-ft. roadways; and 24-ft. deck girder span with 16-ft. roadway.

Newport Beach, Cal.—See "Miscellaneous."

Santa Ana, Cal.—Citizens considering constructing $15,000 concrete bridge to replace one recently washed out at Hannah St. and replacing present N. Main St. bridge with $20,000 concrete bridge; address City Clk.

Santa Ana, Cal.—City considering constructing two reinforced concrete bridges, one on Hannah St. and one on North Main St.; estimated cost $40,000.

Toronto, Ont.—Plans have been prepared by Bowman & Connor, 31 Queen St., W. Toronto, for 700 ft. reinforced concrete bridge with 10 variable sized spans, 18-ft. roadway, 100 lb. per sq. ft. capacity; alternative bids may be submitted on steel; estimated cost, $56,000; election in January for debenture bonds.

BIDS DESIRED.

Pinehurst, Tex.—Until Dec. 4 by John M. Murch, co. aud., for constructing 4 reinforced concrete bridges on the Dickinson-Alta Loma road.

Pawhuska, Okla.—Until Dec. 4 by Bd. Comrs. for constructing reinforced concrete bridge 510 ft. long across Bird Creek, consisting of 100 ft. main span, open spandrel, arch type, and 20 spans of 20 ft. each T-beam arched type; cost, $32,000. J. M. Buckley, city engr.

Earlimart, Cal.—Reported desired until Dec. 5, by Bd. Co. Supervs., Visalia Co., for constructing 80-ft. reinforced concrete bridge.

Manhattan Beach, Cal.—Reported desired about Jan. 1 by M. M. Murray, city engr., for improving 27 blocks, consisting of reinforced concrete promenade about 15 ft. wide, vitr. clay sewer pipe storm drain, various reinforced concrete walls, 200 ft. light sea wall and 2 stairways, iron pipe railing and 800 ft. of ornamental concrete balustrade, etc.; cost $52,000.

PRICES AND LETTINGS.

★Indicates award of contract.

Logan, W. Va.—Contract awarded by County (bids opened Nov. 11) to Luten Bridge Co., York, Pa., at $11,679 for concrete arch bridge; to Pipes & Watson, Middlebourne, W. Va., at $6,607 for concrete girder bridge; all bids rejected for road work; estimated cost $100,000. A. J. Bragonier, clk.

★**Cleveland, O.**—Contract awarded John Grill & Sons Co., 1301 Citizens Bldg., by Cleveland Telephone Co., Champlain Ave. and W. 3d St., for alterations and erecting a 2-story concrete and brick, 168 x 415-ft. addition to Garfield Exchange Bldg., 2059 E. 105th St.; cost, $50,000. Hubbell & Benes, archt., 4500 Euclid Ave.

★**Independence, Ia.**—Contract awarded Nov. 3 by Bd. Supervs. to Widell Co., Mankato, Minn., at $38,777 for constructing 3-80 ft. reinforced concrete arch span bridge, 42 ft. brick roadway, 2-6 ft. sidewalks; bids for filling rejected.

★**Seattle, Wash.**—Contract awarded by Bd. Pub. Wks., C. B. Bagley, secy., to Graff & Sheldon, Tacoma, at $19,305, for constructing steel and concrete approach to Fremont Ave. bridge.

★**Corona, Cal.**—Contract awarded by city to Johnson-Shea Co., Riverside, at $10,225 for 82,710 sq. ft. concrete pavement and 788 cu. yd. concrete for bridge at North Main and River Sts.

★**Los Angeles, Cal.**—Reported contract awarded by Salt Lake RR. to Robert Sherer & Co., 650 Pacific Elec. Bldg., for grading and constructing bridges and culverts on new 25-mile extension from Los Angeles to Whittier.

★Contract awarded Alta Planing Mill Co., 830 McGarry St., at $82,800, for erecting 11-story and basement, 60 x 80-ft. reinforced concrete hotel building at 6th St. and Grand Ave., for Frank Simpson. Morgan, Walls & Morgan, archts., 1136 Van Nuys Bldg.

★Contract awarded Los Angeles Planing Mill Co., 1812 Industrial St., for erecting 3-story and basement, 80 x 170-ft. reinforced concrete and brick academic auditorium and administration building, on W. 16th St. for St. Vincent's College; cost, $150,000.

★**Santa Barbara, Cal.**—Contract awarded by Bd. Supervs. to W. M. Ledbetter Co., Pacific Elec. Bldg., Los Angeles, at $9,450, for constructing 124-ft. reinforced concrete arch bridge, 85 ft. long and 19 ft. wing walls, over Gaviota Creek on state highway.

ROADS AND PAVING

PROPOSED WORK.

Brook Haven, L. I., N. Y.—Plans for expending $77,417 on roads contemplated in 1917 by town. Clarence E. Dean, supt. highways.

Watervliet, N. Y.—Bd. Estimate and Apportionment considering issuing $300,000 paving bonds for proposed improvement work.

Watertown, N. Y.—City planning to improve road next spring from Franklin to Gotham Sts. and Washington St. entrance to city park.

Camden, N. J.—City intends paving portions of Decatur and 9th Sts. with 6-in. concrete and resurfacing Market St. with asphalt. Wm. D. Brown, city clk.

Cranford, N. J.—Citizens voted $15,000 for road improvements; address Town Clk.

Linden, N. J.—Citizens voted $20,000 for road improvements; address Town Clk.

Newton, N. J.—Bd. Freeholders sold $25,000 bonds to construct Sparta-Newton macadam road.

Newark, N. J.—Bd. Freeholders contemplate paving Bloomfield Ave., 1½ miles.

Rutherford, N. J.—Township Comn. has appropriated $12,867 for reconstructing Park Ave. from Rutherford Ave. to River road. John F. Woods, township clk.

Sea Island City, N. J.—Plans for reconstructing 7 miles gravel road, paving 4½ miles other roads, probably with Topeka mixed, and constructing 5 miles new roads contemplated by Bd. Freeholders. Frank W. Fowkes, clk.

Sussex, N. J.—Bd. Freeholders sold $25,000 road improvement bonds.

Bradford, Pa. — County approved bonds to construct 100 miles of roads.

Mt. Oliver, Pa.—City Council intends grading, paving and curbing portion of Ormsby and Hays Aves.

Mt. Penn, Pa.—City voted $15,000 for street improvements.

Pittsburgh, Pa.—City intends grading, paving and curbing various streets, of which some are De Soto ($17,000) and Westwood ($8,400).

Smethport, Pa.—County voted $750,000 for road improvements.

South Bethlehem, Pa.—City voted $175,000 bonds for street improvements and for purchase of motor apparatus.

Versailles, Pa.—Plans for new street running parallel to Walnut St. are being considered by Boro. Council. R. C. Bayne, boro. engr.

Wilkes-Barre, Pa.—Plans are being prepared by Smith & Welles, engrs., Coal Exchange Bldg., for constructing road in Luzerne Co. from Laurel Run to Ashley Boule.

Citizens approved $136,000 paving bonds. Contracts will soon be let to extend Elizabeth St. across Lehigh Coal & Navigation Co. tracks to Franklin St. Fred H. Gates, city clk.

New Cumberland, W. Va.—Contracts will probably be awarded in March for constructing roads with brick on concrete or stone foundation for which $200,000 bonds have been sold in following districts: Grant, $125,000; Pie, $40,000; Clay, $40,000. C. E. Grafton, co. road engr.

Winfield, W. Va.—Road bonds for $90,000 will be sold March 1 for improving 8 miles of road with brick or stone by J. M. Huson, co. clk.

Augusta, Ga.—Cost of proposed paving of Central Ave. will be divided as follows: $7,519 to be paid by Street Ry. Co., $5,536 by property owners, and $4,800 by city. Nisbet Wingfield, city engr. and com. pub. wks.

Alabama.—See Mississipi, "Roads and Paving, Proposed."

Estimated cost of highway improvements planned by W. S. Keller, state highway engr., Montgomery, for next 5 years placed at $1,600,000.

Colfax, La.—Election will shortly be held in Road Dist. No. 8 to vote upon $300,000 good road bonds; $120,000 will be used to construct 33 miles of Jefferson highway passing through Grant. Contemplated gravel roads to be constructed are as follows: From Verda to Colfax (10 miles), from Verda to Fishville by way of Dry Prong and Pollock (30 miles), Colfax-Rochelle model road near Lincecum, extending to Rapides parish line by way of Howcott, Sand Spur and Pollock (17 miles), from Phillips place to L. R. & N. crossing, and from Aloha to J. W. O'Quinn's place (these two measuring 4 miles).

Brookhaven, Miss.—Road construction bonds have been sold by Bd. Supervs. as follows: $95,000 in dist. No. 4 and $80,000 in dist. No. 2.

Ellisville, Miss.—County voted $200,000 additional road bonds to those voted in Beat 1 of $100,000 and in Beat 2 of $175,000.

Hattiesburg, Miss.—Bonds for $150,000 will be issued by Bd. Supervs. for road work.

Jackson, Miss.—Road construction bands were sold by Bd. Supervs. as follows: $30,000 for dist. No. 4 and $100,000 for dist. No. 1.

Mississippi.—Preliminary plans are being made by State Highway Comn., Jackson, for proposed S.S. Prentiss highway from Mobile, Ala., to Natchez, Miss.; route has been definitely decided upon from Mobile to Liberty, Miss. X. A. Kramer, engr., Magnolia, Miss.

Cadiz, Ky.—Road bonds for $90,000 sold by County.

Greenup, Ky.—All bids received by C. S. Bennett, highway engr., Nov. 10 for constructing 30 miles of road rejected; new bids will be asked on roads 45,F1; 45,G3; 45,E4.

New Albany, Ky.—See "Roads and Paving, Prices and Lettings."

Paducah, Ky.—County voted $200,000 to construct roads; address J. M. Lang.

Pineville, Ky.—Citizens approved $105,000 bond issue Nov. 7 for completing roads and constructing bridges. S. M. Bryant, co. engr. W. C. Bingham, co. court clk.

Cincinnati, O.—Contracts will probably be let in December by Co. Rd. Comrs. for paving Hamilton pike (part of Dixie highway) from Mt. Healthy to Butler Co. line with brick on concrete foundations and laying concrete curbs; estimated cost $164,620.

City Council, Fred Schneller, clk. intends grading portion of Race St., Columbus Ave. and grading, laying granite curbs and paving with wood block portion of Dorchester Ave.; also laying sewer in Highland Ave.; estimated cost, $16,700.

Estimate of Frank S. Krug, city engr., for paving with brick and laying 6-in. water man in Evanston Ave. from Hewitt to Fairfax Aves is $14,698.

Estimated cost of improving Asbury Road placed at $18,000 by Wm. Boeh, co. surv.; bids will be received soon.

Cleveland, O.—Plans are being prepared by R. Hoffman, city engr., to repave and widen Cedar Ave. at estimated cost $127,600; also, pave Cromwell and Buckingham Sts., widen and pave Denison Ave. and grade Harvard Ave.

Tiffin, O.—Street improvement bonds for $45,000 will be sold Dec. 9 by George W. Hoffman, city aud.

Laurium, Mich.—Plans for constructing concrete highway between Red Jacket and Laurium being considered by township highway officials. Geo. Martin, clk.

Nashville, Mich.—Election Dec. 4 to vote bonds for improving Main St.; address, Village Clk.

Bellville, Ill.—County voted $1,500,000 good road bonds at Nov. 7 election.

Illinois.—Petitions will be presented to legislatures of Wisconsin and Illinois to construct 160-mile highway of either asphalt or concrete, 20 ft. wide, from Mississippi River to Lake Michigan, through Beloit, Wis., and join Dubuque, Ia., on west and Kenosha, Wis., and Waukegan, Ill., on east.

Urbana, Ill.—Contracts will probably be let for 30 blocks of paving in spring. C. B. Holmes, city clk.

Milwaukee, Wis.—Plans for widening Oklahoma Ave. from Superior St. to 77th Ave. consists of 15 ft. sidewalks, 2-20 ft. center plots and 25 ft. roadways on each side. H. P. Bohmann, comr. pub. wks.

Wisconsin.—See Illinois, "Roads and Paving, Proposed."

St. Paul, Minn.—City contemplates spending about $125,000 for wood block pavement.

Ft. Scott, Kan.—Plans are being prepared by E. E. Toles, co, engr., for improving 9 miles of Fulton road, 7 miles of Walkertown road and 11 miles of Pawnee road.

Girard, Kan.—Plans being prepared to improve approximately 25 miles of Jefferson Highway; address Co. Clk.

Hoisington, Kan.—Estimated cost of paving work contemplated for next spring is $20,000. W. B. Rollins & Co., 439 Railway Exchange Bldg., Kansas City, Mo.

Anaconda, Mont.—Construction of road from here to Hamilton, 26 miles, planned by citizens of Deer Lodge County; address Co. Clk.

Independence, Mo. — Contracts will probably be let in spring for 60,000 sq. yd. of paving. H. H. Pendleton, city engr.

Kansas City, Mo.—Numerous new roads will be built in tract of Evergreen Land Co., part of Union Cemetery development; grades established by City Council.

St. Louis, Mo.—Estimated cost of paving Olive St., from 14th St. to Channing Ave. placed at $93,000 by Bd. Pub. Serv.

Conway, Ark.—Preliminary plans for proposed Conway-Vilonia highway, 19 miles, completed; estimated cost, $110,372; address John W. Holt, co. judge.

Little Rock, Ark.—Petitions for paving portions of West 3d and West 4th Sts., also Pike Ave., being considered by City Council.

Phoenix, Ark.—Tentative plans for relieving Cave Creek flood sect. estimated at $200,000 to $300,000. A. P. Davis, dir. reclamation comn., suggests excavating roadways 3 or 4 ft. and then grading and paving so that flood water will drain into river.

Ballinger, Tex.—Comrs. Court will construct 18-mile air line road from Ballinger to Winters, paralleling A. & S. RR.

Cameron, Tex.—Rd. Dist. No. 7 approved issue of $15,000 road bond; address Co. Clk.

Cleburne, Tex.—Dallas capitalists will finance paving streets here on basis of one-fifth cash and balance on time. Address the Mayor.

McKinney, Tex.—At recent election in Collins County bonds were voted in dists. as follows: $450,000 in McKinney; $125,000 in Celina; $200,000 in Farmersville, $90,000 in Princeton.

Wellington, Tex.—County voted $100,000 for road work. Herbert Dysert, co. clk.

Wichita Falls, Tex.—Bond issue of $500,000 contemplated by County.

Ardmore, Okla.—Chamber of Commerce has raised $75,000 of $200,000 needed to construct macadam road to oil fields. B. A. Simpson, chmn. of comn. will construct 6-story office building as soon as road fund has been raised.

Okmulgee, Okla.—County voted $800,000 for road work.

Woodward, Okla.—Haskew township, C. L. Love, clk., appropriated funds for road and bridge purposes.

Blaine, Wash.—Plans are being prepared by J. C. Hills, city engr., for improving Washington Ave. from Martin St. to Clark Inv. Co.'s bldg. by constructing concrete bulkhead, reconstructing drains and repaving with concrete. E. E. Pruner, city clk.

Newport, Wash.—County appropriation for road and bridge work in 1917 as follows: Permanent highways, $8,983; road and bridge fund, $5,964; road dist. No. 1, $8,563; No. 2, $8,928; No. 3, $6,482; road and bridge fund, $7,060. H. A. Sewell, co. engr.

Seattle, Wash.—Bd. Pub. Wks. desires bids shortly on grading and paving portions of numerous streets of which some are: 2d Ave., N. E., E. 47th and E. 50th Sts., W. Halladay St. A. H. Dimock, city engr.

Walla Walla, Wash.—County Comrs. (Grova Cookerly, engr.), contemplate spending $175,500 on road and bridge work in 1917 as follows: Permanent highways, $47,607; roads and bridges, $80,932; road dists., $47,961.

Coquille, Ore.—Expenditure of $600,000 contemplated by county for road work in 1917. C. S. McCulloch, co. surv., Bandon.

Eugene, Ore.—Reported contracts will soon be let for 6-mile highway from Black Butte over hills to Coon creek. H. W. Libby, co. surv.

Fossil, Ore.—County voted $80,000 for good roads. H. F. C. Heidtman, co. engr.

Marshfield, Ore.—Preliminary plans for proposed "Skyline Drive" from Marshfield to North Bend being prepared by Sam. Lancaster, engr., Portland; engineering expense borne by Col. C. S. Jackson, Portland Journal, Portland; construction expense by towns of North Bend and Marshfield and property owners en route.

The Dalles, Ore.—County voted $260,000 bonds to construct highways; county's share of State Highway fund, $90,000. Roy T. Campbell, co. engr.

Bakersfield, Cal.—Highway bonds for $500,000 will be sold Dec. 5 by Bd. Co. Supervs. (F. E. Smith, clk.).

Glendale, Cal.—Contract will probably be let in December by Co. Bd. Supervs., A. M. McPherrin, clk., Los Angeles, for grading and constructing with 5-in. concrete pavement, 30 ft. wide, cement curbs, concrete culverts, guard fence, etc., in Road Improv. Dist. No. 116, on Grand View and other avenues northwest of here.

Hanford, Cal.—City voted $200,000 to pave with bitulithic on concrete 60 blocks; bids will be asked for first sect. in December. Edw. Lynch, eng., Glendale.

Modesto, Cal.—County highway construction bonds for $1,480,000 voted Nov. 7; 126 miles concrete roads contemplated.

San Jacinto, Cal.—Election Nov. 21 for $28,000 paving bonds. Address City Clk.

Ventura, Cal.—Bonds for $150,000 sold by County for highway construction.

Douglas, Ariz.—Contracts will probably be let for 60,000 sq. yd. of paving early in spring. Geo. N. Wood, city engr.

Yuma, Ariz.—Contract will probably be let in December for constructing 7-mile cut-off and improving national highway throughout reservation; $10,000 available. L. L. Odle, supt., Yuma Indian Reservation.

Saskatoon, Sask.—Plans for $200,000 street improvements under consideration by city.

New Westminster, B. C.—City contemplates diverting $225,000 borrowed some years ago to construct gas plant, to pave streets; election probably in January.

BIDS DESIRED.

Stamford, Conn.—Until Nov. 27, by Chas. J. Bennett, state highway comr., Hartford, for 25,282 lin. ft. native stone macadam construction.

Elizabeth, N. J.—Reported desired until Dec. 7, by W. P. Neafsey, Street Comr., for 6145 sq. yd. sheet asphalt, 3237 sq. yd. granite block pavement, 7000 ft. bluestone curbs and headers.

Irvington, N. J.—Until Nov. 29, by Bd. Comrs., for paving, curbing, recurbing and sewer connections in portions of 21st St. and Ellis Ave.; work includes 11,270 sq. yd. bitulithic pavement, on 6-in. concrete foundation, 7600 sq. yd. 2-in. asphalt block pavement on 6-in. concrete foundation, 6052 lin. ft. 5 by 16-in. quarry cut bluestone curbing, 2730 lin. ft. 4 by 20-in. bluestone retrimmed and reset in concrete and 125 4-in. sewer connections. I. J. Casey, town engr.

Somerville, N. J.—Until Dec. 13 by Bd. Freeholders for improving 1¼ mile of Chimney Rock Rd.; improving bridges and building 406 cu. yds. of concrete retaining wall; about $40,000 will be spent for improvements. F. W. Remsen, dir.

De Land, Fla.—Reported desired until Dec. 1 by G. A. Kreka, chmn. bd. pub. wks., for 31,653 sq. yd. paving, 38,592 lin. ft. granite or sand cement curb, 2000 lin. ft. 4 x 10-in. sand cement headers, 3000 cu. yd. excavation.

Perry, Fla.—Until Dec. 6 by Bd. Co. Comrs. (Robert L. Stripling, clk.) for constructing improved highways as follows: 458,537 lin. ft. roadway, 101,545 cu. yds. excav., 605,406 cu. yds. embankment, 443,893 sq. yds. pavement, all classes, 917,074 lin. ft. concrete or wood curb sunken, 1425 lin. ft. drain pipe, 15 to 30 in., 1640 lin. ft. piles to be driven, 9420 lb. of steel, etc. W. A. Sanders, engr., Perry.

Sanford, Fla.—Until Dec. 5, by Co. Comrs. (L. P. Hagan, chmn.), for furnishing material and laying about 13,700 sq. yds. brick pavement, 19,500 lin. ft. of 4 x 10 in. concrete curb; alternate bids 525,000 first quality paving brick, 550 bbls. of cement, 40 cu. yds. sand to be approved by the engineers.

Bay Minette, Ala.—Until Dec. 5, for portion of State Trunk Rd. No. 12, through Baldwin Co., Ala. W. S. Keller, state highway engr., Montgomery.

Luverne, Ala.—Until Dec. 16, by Bd. Co. Comrs., for constructing Patsburg and Luverne Road; J. M. Garrett, co. engr., 120 Catoma St., Montgomery.

Lake Charles, La.—Until Dec. 14, by the city for paving Miller Ave., Mill, Pine and Moss and other streets with reinforced concrete, asphaltic concrete, vertical fiber brick, and concrete curbs. E. L. Gorham, city engr.

Monroe, La.—Until Dec. 18 by Bd. Supervs. Dist. No. 2, Ouachita parish, at the court house, for grading, draining and surfacing with gravel the following roads: Monroe Loop 4 9/10 miles, Monroe-Farmersville 15 3/10 miles, Morehouse Parish 2 3/10 miles, Monroe-Bastrup 15 2/10 miles, each road to be separate contract, except the Morehouse Parish Road; separate bids same date by Bd. Supervs. Dist. No. 1 for grading, draining and surfacing with gravel the following roads: Monroe-Columbia 18 8/10 miles, Monroe-Millhaven 6 11/100 miles, each road to be separate contract. R. P. Boyd, engr., Monroe.

Norwalk, O.—Until Dec. 2, by Co. Comrs. (Chas. E. Bloomer, clk.) for improvements to following roads, Inter County Highway, No. 291, a distance of about 5 miles; Greenwich Angling Road, about ¾ mile; Rome-Greenwich Road, about 1½ miles; Butler Road No. 63, about 5 miles, and other roads; certified check 5 per cent of price bid.

Indiana.—By Co. Comrs., for constructing roads as follows: Until Dec. 6, Spencer, for a stone road in Marion township, Samuel M. Royer, co. aud. Until Dec. 5, Kokomo, for a stone road in Howard township, Wm. L. Benson, co. aud. Rensselaer, stone road in Union township. Jos. P. Hammond, co. aud.

Amboy, Ill.—Until Dec. 19, by Bd. Local Improvements, for paving Main St. with vitrified brick and combined curb and gutter; cost about $25,000. Fred W. Leake, city engr., advertised in this issue.

Mt. Vernon, Wash.—Until Dec. 6 by E. Crookston, city clk. for paving Cleveland Ave. and 4th St. North; work includes 12,920 sq. yds. one course concrete, 8730 lin. ft. concrete curb; cost about $32,000. L. J. Caufield, city engr.

Bakersfield, Cal.—Until Dec. 6 by Bd. Superv. (F. E. Smith, clk.) for grading, paving and constructing culverts on 5.75 miles of Bakersfield-to-Taft Rd. Div. 7. Sec. 3.

Huntington Beach, Cal.—Until Dec. 6 by Co. Bd. Superv., Santa Ana, for constructing 3 miles of roadway northwest from Huntington Beach, involving 20,000 cu. yd. sand excavation, 7500 cu. yd., clay surfacing, and 1168 ft. of pile trestle.

Pasadena, Cal.—Until Dec. 12, by Heman Dyer, city clk., for constructing 48,900 ft. 5-in. concrete pavement on Madison Ave.

Santa Ana, Cal.—Reported desired until Dec. 6, by Bd. Co. Supervs. (W. B. Williams, co. clk.), for constructing 2.53 miles 18-ft. wide concrete pavement, between Brea and Olinda.

Ventura, Cal.—Reported desired until Dec. 5, by J. B. McCloskey, clk. bd. co. supervs., for paving Casitas, La Crosse, Montalvo, Saticoy and Sespe bridges; in all about 48,500 sq. ft. asphalt concrete.

PRICES AND LETTINGS.

★Indicates award of contract.

Albany, N. Y.—Following bids were opened Nov. 21 by State Highway Comm., 55 Lancaster St., Albany, N. Y., for improving State Aid roads: Road No. 5636, Schenectady Co. line-Guilderland, 4 miles, —Belmar Contr. Co., Troy, N. Y., $59,854. Sewage Dist. & Water Plant Co., Schenectady, $61,101. Road No. 1479, Arcade-Farmersville, part 2, 4 miles.—Frank M. Foote, Arcade, N. Y., $69,579. Road No. 5628, Amenia-Pine Plains, part 3 miles—A. T. Moran, New York City, $79,270. Kemdt & Washington, Monticello, N. Y., $79,828. Amos T. Bridges' Sons, Inc., Hazardville, Conn., $94,163. Road No. 5631, Mohawk Village (Columbia and Hammond Sts.), Newport Const. Co., Herkimer, N. Y., $41,438. Harry W. Roberts Co., Utica, N. Y., $41,590. Wm. Brennen, Herkimer, N. Y., $41,598. Road No. 1424 Stonehouse-N. Petersburg-Vermont State line, 5 miles, C. W. Tryon, Poland, N. Y., $69,453. Road No. 1425. Melrose-Schaghticoke Hill, 3 miles, John T. O'Neil, Troy, N. Y., $37,547. Road No. 1478, Fosterbury-Orange Co. line, 4 miles, Jackson Bros., Cuddebackville, N. Y., $47,808. Edw. P. Abogast, Stroudsburg, Pa., $48,157. G. P. Meckes, Long Pond, Pa., $52,505. Road No. 5637, Whitehall-Dresden Center, part 2, six miles. Kennedy Constr. Co., Montreal, Que., $146,240.

★Coatesville, Pa.—Contract awarded by city (bids opened Nov. 6) to B. G. Coon Constr. Co., Luzerne, Pa., at $10,974, for macadamizing 5450 ft. road. Ellis E. Stern, city clk.

★Philadelphia, Pa.—Contract awarded by Bd. Pub. Wks. to E. H. Vare, local at $50,000, for paving with asphalt Passyunk Ave.; granite block between car tracks.

★Harrisville, W. Va.—Contract awarded by Ritchie County to Winston & Co., Pennsboro, W. Va., for constructing 20 miles of concrete road in Clay dist.; also, by City of Pennsboro for paving 1½ miles of streets.

Logan, W. Va.—See "Reinforced Concrete."

★Jennings, La.—Contract awarded by Jefferson Davis Parish (bids opened Nov. 2), to Healey Constr. Co., Meridian, Miss., for constructing 27 miles of roads from Calcasieu Parish to here, to J. M. George & Son, Baton Rouge, La., for constructing 66 miles of road and to Worthington Constr. Co., Birmingham, Ala., for constructing 22 miles of road; contracts include constructing of concrete bridges and culverts. Bond issue of $500,000 recently voted.

★New Albany, Ky.—Contract awarded by Co. Comrs. Nov. 9 to W. O. Sweeney & Co., Jeffersonville, Ky., at $12,997 for constructing Spikert Knob road No 2, in New Albany township. Co. Bd. Viewers consider favorably construction of proposed Graybrook and Ford roads.

★Akron, O.—Contract awarded by Co. Comrs., U. G. High, clk (bids opened Nov. 15), for grading, draining and paving with brick 2½ miles Stow-Tallmadge road, to McAlonan Bros., Akron, at $48,617.

★Bowling Green, O.—Contracts awarded (bids opened Nov. 1) for road improvements as follows: C. J. Miller, Chamber Commerce Bldg., Toledo, O., at $21,117, for Wm. Westerfield, W. W. Billman and R. H. Wollam roads; Geo. E. Mercer, Pemberville (R. F. D.), O., at $44,067 for David Shanks and Chas. H. Lemmerbrock roads. R. S. Gillespie, co. aud.

★Cincinnati, O.—Contract awarded by Co. Comrs. (bids opened Nov. 10) for paving with concrete North Bend Road, to Thurber & Browning, 4231 Spring Grove Ave., at $60,692; for paving with concrete Cameron Road, to Peter Praechter, 2935 Gerard St., at $44,233.

★Columbia City, Ind.—Contract awarded by Co. Comrs. to Elsee Lehmer & Co., North Manchester, at $37,654 for constructing gravel road in northwest part of county.

★Winchester, Ind.—Contracts awarded by Co. Comrs. to N. L. Grant Constr. Co., Frankfort, Ind., at $35,945 for improving J. B. Sarff road and at $28,880 for improving Charles L. Spitler road, both in Ward township.

★North Yakima, Wash. — Contract awarded by city to Washington Paving Co., L. C. Smith Bldg., Seattle, at $22,000 ($1.30 cu. yd.) for paving with bituminous concrete arterial highway connecting business and Moxee dist. R. V. Hopper, city clk.

Seattle, Wash.—Following are lowest bids received by Bd. Pub. Wks., C. B. Bagley, secy., for paving Rainier Ave., G. Argentieri & Co., 989 Rainier Ave., at $15,343; for 11th Ave. N. E., Washington Paving Co., L. C. Smith Bldg., at $28,016; laying concrete walks, grading and sewers in W. 65th St., J. L. Smith, at $31,535; all of Seattle.

Spokane, Wash.—Reported City received low bid of $19,599 from C. M. Payne, E. 1511 Sprague St., for grading Nevada St. Morton Macartney, city engr.

★Bakersfield, Cal.—Contract awarded by Bd. Supervs. (bids opened Nov. 9) for grading and constructing bridges and culverts on 12 miles of Bakersfield-Mojave road between Keene school and summit of Old Town grade, including approximately 120,000 cu. yd. excavating, to Robert Sherer & Co., 750 Pacific Elect. Bldg., Los Angeles, at $70,155; other bidders: Messmer & Rice, Marsh-Strong Bldg., $73,528; Geo. S. Benson & Son, Stimson Bldg., $85,372; C. H. Hudson, Trust & Savings Bldg., $87,815.

★Delano, Cal.—Contract awarded by city to Lynn S. Atkinson, 917 Investment Bldg., Los Angeles, at $22,565 for laying 22,600 lin. ft. and 138,000 sq. ft. cement walks; other bidders: T. L. Shaw, Delano, $22,736; Garfield & Caldwell, $23,079; Corfield & Tompkins, $23,383.

★Los Angeles, Cal.—Contract awarded by Bd. Pub. Wks. Nov. 2 to California-Arizona Constr. Co., 1700 East Washington St., at $19,813, for improving Normandie Ave. from Santa Barbara to Vernon Aves.

★Los Angeles, Cal.—Contract awarded by Bd. Pub. Wks. to California-Arizona Constr. Co., 1700 E. Washington St., at $23,634, for 104,116 sq. ft. Warrenite paving, vitrified brick and granite block gutters and cement walks on Maple Ave., also at $31,394 for 154,068 sq. ft. Warrenite paving, cement curbs and walks, storm drains and culverts, on 12th St.

★Ventura, Cal.—Following are 4 lowest bids opened Nov. 8 by Bd. Supervs. for 27,000 cu. yd. excav., 58,600 lin. ft. grading, 11,573 cu. yd. "B" concrete pavement, etc., on 11 miles division No. 1, Ventura-Santa Paula road: Brashear-Burns Co., La Brea Ave., near Wilshire Boule., at $39,349 (awarded contract); Connor Constr. Co., Higgins Bldg., $39,939; Rogers Bros. Co. Hibernian Bldg., $40,765; C. H. Hudson, Trust & Savings Bldg., $40,902; all of Los Angeles.

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If you read the story you will realize the value of the contracting news pages of the Engineering Record. They give

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★Ontario, Cal.—Contract awarded to J. S. Miller, 1336 8th St., Santa Monica, at $16,000 for 147,000 sq. ft. of concrete pavement and concrete curbs.

★Yuma, Ariz.—Contract awarded by city to O. & C. Constr. Co., Yuma, at $37,584 for paving with bitulithic on concrete, 26,100 sq. yd. W. H. Elliott, city engr.

RAILWAYS
Steam and Electric

PROPOSED WORK.

Worcester, Mass.—Reported Worcester Consolidated Street Ry. Co. (H. C. Page, genl. mgr., Worcester), contemplates constructing an extension to Rochdale.

Albany, N. Y.—Albany Southern RR. Co. (Jas. E. Hewes, genl. mgr., Rensselaer), proposes to construct an extension to Troy.

Jamestown, N. Y.—Panama Traction Co. reported incorporated, with capital of $60,000 to construct and operate railroads. N. M. Sanderson, 22 Maurice St., Buffalo, may be able to give information.

Rochester, N. Y.—New York State Rys. Co. (E. J. Cook, genl. mgr., Rochester), has asked Council for a franchise to construct a line to connect with the existing double tracks at Clarissa and Exchange Sts., thence through Clarissa St. to Plymouth Ave. and in Plymouth Ave., connecting with existing double tracks in Clarissa St. and Caledonia Ave.

Paterson, N. J.—Morris & Essex RR. Co. and Delaware, Lackawanna & Western RR. (Geo. J. Ray, ch. engr., Hoboken), contemplate elevating tracks over seven streets in Paterson.

Pen Argyl, Pa.—Slate Belt Electric Street Ry. (L. H. Mountney, genl. mgr., Pen Argyl), reported contemplates constructing during 1917, a new line between Wind Gap and Stroudsburg, 15 miles.

Philadelphia, Pa.—City has applied to Pub. Serv. Comn. for permission to construct an additional station at Huntingdon St. and Kensington Ave. on Frankford Elevated Ry. Line, and the construction of a double-track surface passenger railway through the 35th Ward, distance about 10 miles.

Charleston, W. Va.—Reported N. Y. C. RR. Co. (G. W. Kittredge, ch. engr., New York City) has authorized construction of 20 miles of railroad along the bank of Gauley River.

Morgantown, W. Va.—Morgantown Interurban Ry. Co. contemplates construction of electric railway from Morgantown, W. Va., to Port Marion, Pa., a distance of 20 miles. J. McDermott, Price Bldg., Morgantown, reported interested.

Henderson, N. C.—J. C. Kitrell, Henderson, reported interested in construction of railway from Henderson to Wilson, via Castalia, distance about 50 miles.

Nashville, Tenn.—Construction of railroad from Nashville to Chattanooga contemplated. W. H. Hillyer, Equitable Bldg., Atlanta, Ga., reported interested.

Danville, Ill.—Mississippi Valley RR. & Navigation Co., recently reported incorporated, contemplates construction of a steam railroad from Danville to Metropolis and Chester, Ill. Edwin M. McKinney, 134 S. La Salle St., Chicago, reported interested.

Springfield, Ill.—Springfield Consolidated Ry. Co. (C. A. Cryster, ch. engr., Springfield), has applied to Pub. Utilities Comn. of Illinois for permission to extend Bergen St. car line, a distance of about 1 mile of single track; cost, $13,000.

St. Paul, Minn.—Bd. Dirs. Northern Pacific RR. Co. (H. E. Stevens, ch. engr., St. Paul) authorized double tracking of line between Rice and Little Falls, Minn., a distance of 17 miles.

Brownsville, Tex.—Reported Rio Grande Ry Co. (D. A. O'Brien, genl. mgr., Brownsville), making surveys for new route from Brownsville to the Gulf.

Dallas, Tex.—Dallas Northwestern Ry. Co. (J. T. Witt, ch. engr., Dallas), considering construction of line from Dallas to Krum, thence to Bowie and Wichita Falls, distance about 120 miles.

Oklahoma City, Okla.—Ingham Lumber Co. (S. K. Ingham, pres.), Oklahoma City, will construct 35-mile railroad from Frisco intersection at Antlers to east side of Pushmataha Co.

Strong City, Okla.—Cheyenne RR. Co. recently incorporated with capital stock of $10,000 to construct a line from Strong City to Cheyenne, distance 7 miles. T. A. Cushman, Clinton, Okla., and others, reported interested.

Tulsa, Okla.—Sand Springs Ry. Co. (C. F. Tingley, secy., 414 First Natl. Bank Bldg., Tulsa), considering extension of its line from Sand Springs to Pawhuska, distance, about 50 miles.

Seattle, Wash.—Port of Seattle Comn. (G. L. Nicholson, ch. engr.), Bell St. Wharf, decided to call election Dec. 2 to vote $450,000 bonds for constructing a belt line along waterfront, to connect various public docks, car shops, etc., at Spokane St. Reported Puget Sound Traction, Light & Power Co., 800 Stuart Bldg., and subsidiary companies contemplate spending $1,250,000 in 1917 for reconstructing and extending line.

Salt Lake City, Utah.—Reported Salt Lake & Utah RR. Co. (W. R. Armstrong, genl. mgr. and ch. engr., Salt Lake City), considering construction of line from Salt Lake City into the Sanpete Valley; cost, $1,000,000.

Hull, Que.—Hull Electric Ry. Co. (G. Gordon Gale, genl. mgr, Hull) contemplates constructing extension on Chelsea and Montcalm Sts.

Toronto, Ont.—Ontario Ry. & Municipal Bd. has authorized city to construct and the Toronto Street Ry. to equip and operate a line along Wilton Ave. to Broadview, north on Broadview to Gerrard, along Gerrard to Carlaw to Guelph and Pape and north on Pape to Danforth Ave.

BIDS DESIRED.

Washington, D. C.—Until Nov. 27 by Bd. Comrs. (Olive P. Newman, secy.), for restoring street railway tracks to grade on 1st St. east, from B St. south to B St. north; advertised in this issue.

Newport News, Va.—Reported desired until Dec. 1 for constructing $8,000,000 steam railroad 160 miles; stations, round house, etc., for the Washington-Newport News short line; Channing M. Ward, engr., Va. R. R. & Power Bldg., Richmond.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Philadelphia, Pa.**—Contract reported awarded Jas. McGraw Co., Commercial Trust Bldg., for construction of extension of South Chester Line of Philadelphia, Baltimore & Washington R.R. from Marcus Hook to Essington, including grading, track construction, bridges, etc.

★**Laurel, Mont.**—Contract awarded Grant, Smith & Co., 1505 Pioneer Bldg., St. Paul, for constructing branch line for Northern Pacific Ry., from Laurel, Mont., to the Lake Basin dist., distance 35 miles.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Rockland, Mass.—Emerson Shoe Co. plans erecting brick shoe factory; cost, $60,000. Address Gen. Mgr.

Harrisburg, Pa.—J. W. Pomraning, Harrisburg, awarded contract to erect $50,000 addition to Hershey Creamery Co. plant here.

Columbus, Ga.—Meriats Mills will build $[illegible],000 addition to cotton cloth plant.

Tifton, Ga.—W. W. Banks, of Tifton, and associates, plan erecting packing plant; cost, about $100,000.

Jacksonville, Fla.—Plans being prepared to rebuild Florida Cotton Seed Oil Mills, Denson & Lemon Sts., recently destroyed by fire; loss, $80,000.

Cleveland, O.—See "Reinforced Concrete."

Cleveland, O.—Reported Commercial Motors Co., Leader-News Bldg., plans erecting factory on St. Clair Ave.; cost, $80,000.

John Kleinbohl, care J. Timendorfer, 1011 Garfield Bldg., intends erecting brass foundry at E. 49th St. and Hamilton Ave.; cost, $50,000.

Erection of cloak and suit factory reported contemplated at E. 24th St. and Superior Ave.; cost, about $200,000. Jos. Laronge Co., 215 Williamson Bldg., may be able to give information.

Reported Cleveland Macaroni Co., 3300 W. 73d St., will erect $100,000 factory building at Shaw and Wentworth Aves.

Erection of $100,000 automobile factory in the Collinwood factory district reported contemplated. Goakes & Dettelbach, 309 Williamson Bldg., may be able to give information.

Minneapolis, Minn.—J. F. Jordan of Wyman, Partridge & Co., plans erecting $100,000 factory building in Midway Dist. on University Ave. at Pelham St.

St. Paul, Minn.—See "Reinforced Concrete."

Tri-State Land Co. plans erecting 4-story warehouse on E. 8th St., between Willius and Grove Sts.; cost, about $125,000.

Hutchinson, Kan.—Labaree Flour Mills Corp., Hutchinson, will build $500,000 flour mill and grain elevator.

Butte, Mont.—Hansen Packing Co., 1917 S. Gaylord Ave., reports constructing 4-story, 125 x 250-ft. combination brick, concrete and frame plant; cost, $500,000.

Seattle, Wash.—See "Railroads."

Portland, Ore.—Reported Dri-Fresh Co., 47 N. 5th St., plans erecting fruit and vegetable packing plant in the vicinity of Salem; cost about $50,000.

Huntington Park, Cal.—Peoples & Cheney, 912 Haas Bldg., engaged to prepare plans for steel, timber, frame and corrugated iron, 113 x 240 ft. foundry, equipped with 10-ton traveling crane; 10 x 60-ft. pattern shop, 40 x 40-ft. storage building and 24 x 30-ft. office for Warman Steel Casting Co., 650 S. Los Angeles St., Los Angeles; probable cost, $100,000.

Los Angeles, Cal.—See "Foundations, Piers and Dams."

Salt Lake City, Utah.—Reported B. F. Redman, 24 D., will erect 5-story storage building, to be leased by International Harvester Co.; cost, $50,000.

Electronet Garment Co. will erect $50,000 manufacturing plant. W. F. Corbett, 743 Blair Ave., reported interested.

Hailey, Idaho.—Reported Cudahy Packing Co., 3 W. N. 4th St., Salt Lake City, Utah, plans erecting large packing plant and stock yards here.

Montreal East, Que.—Dominion Cutlery Co., 591 St. Catherine St. W., plans erecting new $50,000 factory.

Cochrane, Ont.—Frederickhouse & Abitibi Pulp Wood Co. preparing plans for a new plant; cost, $150,000. J. A. McAndrews, Lumsden Bldg., Toronto, in charge.

Hamilton, Ont.—Contract awarded Frid & Co., Bank of Hamilton Bldg., Hamilton, for addition to plant of Underground Cable Co. of Canada, Sherman Ave. N.; mill construction; cost about $50,000.

Ingersoll, Ont.—Plans being prepared to erect $200,000 factory for manufacturing auto tires. Reported Mayor Elliott interested.

Whitby, Ont.—Canadian Tractor Co. plans erecting new factory; cost $65,000. Guy R. Creelman, Fenton, Mich., reported interested.

South Vancouver, B. C.—David Milne, 2580 Bowker Ave., Victoria, B. C., preparing plans for rolling mills; cost $150,000.

Vancouver, B. C.—Dominion Glazed Pipe Co., Front St., plans erecting new plant for manufacturing cement sewer pipe; cost $50,000.

Vancouver, B. C.—J. D. Shipton, 1146 Pendrill St., plans erecting copper and zinc smelter, capacity 5 tons per day, on N. Vancouver waterfront.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Irvington, N. J.**—Contract awarded Frank Hill Smith, Inc., Blanchard St., Newark, for erecting plant on Chancellor Ave., for Gould & Eberhardt, Newark, manufacturers of machinery; cost about $225,600.

★**Newark, N. J.**—Contract awarded August W. Schumacher, 267 S. 6th St., for erecting additions to brewery and bottling plant of Gottfried Kruger Brewing Co., Belmont Ave., at $74,640.

★**Philadelphia, Pa.**—William Seele & Sons Co., Kingsley & Cresson Sts., awarded contract for 4-story brick and concrete factory bldg. at Milnor and Unruh Sts., for Exrben-Harding Co.

★**Thoroid, Ont.**—Standard Steel Constr. Co., Welland, and the Canadian Westinghouse Co., Hamilton, awarded contract for steel and electrical work on $100,000 factory addition for Exolon Co.

BUILDINGS
Public and Private

PROPOSED WORK.

Concord, Mass.—Town appropriated $55,000 to erect new grammar school.

Worcester, Mass.—L. E. Jallade, 37 Liberty St., N. Y., is archt. for 7-story building to be erected for Y. M. C. A. (F. L. Miller, genl. secy.).

Buffalo, N. Y.—See "Miscellaneous."

Camden, N. J.—School bonds for $200,000 will be sold Dec. 15 by George A. Frey, city treas.

Morristown, N. J.—City officials contemplate spending $50,000 for rebuilding Lyceum Bldg. for music hall to replace old one destroyed by fire.

New Brunswick, N. J.—Pennsylvania R. R. Co. (Thos. Rodd, ch. engr., Pittsburgh, Pa.) contemplates spending $90,000 for freight improvements, including freight station on Baldwin St.

Plainfield, N. J.—Y. M. Assoc. plans erecting building; cost, about $200,000. Address Secy.

Chester, Pa.—Citizens voted bond issue of $500,000 for erecting school buildings; address Secy. Bd. Educ.

Philadelphia, Pa.—Plains being prepared by Philip H. Johnson, Land Title Bldg., for alterations and additions to hospital building at Pine and 34th Sts.; cost, about $350,000.

Philadelphia, Pa.—Southwark Realty Co. plans erecting 15-story apartment bldg. at 16th and Spruce Sts.; cost, about $700,000.

Philadelphia, Pa.—See "Railroads"

Baton Rouge, La.—Citizens voted Nov. 16 $125,000 bonds for erecting two schools; address Clk. School Bd.

Cincinnati, O.—Contract soon to be let by Bd. Educ. for addition to Windsor School; cost $50,000. Address Chas. W. Handman, business mgr., 511 W. Court St

Milwaukee, Wis.—Milwaukee Athletic Club, Wells Bldg., plans erecting club building; cost, about $1,000,000.

Des Moines, Ia.—Plans being prepared for 5-story stone exterior Consistory Cathedral; cost $250,000. Keffer & Jones, archts., Youngerman Block.

Sergeant Bluff, Ia.—Contract soon to be let for erecting brick and stone consolidated school; cost $75,000. W. L. Belfage, pres. School Bd. Wm. L. Steele, archt., Sioux City.

Minneapolis, Minn.—Plans to be prepared by E. L. Masquery, 595 Endicott Bldg., archt., for brick and stone church edifice to be erected at Pleasant Ave. and 38th St.; cost, $100,000.

St. Paul, Minn.—St. Luke's Catholic Parish will erect new church edifice; cost, between $200,000 and $250,000. Address Chmn. Bldg. Comm.

St. Paul, Minn.—Grant Waldref of the Waldref Motor Car Co., 172 W. 5th St., plans erecting steel and concrete garage at corner of Pleasant Ave. and Third St.

South St. Paul, Minn.—City plans erection of library and community house at 3rd and Marie Aves.; cost, $50,000. F. H. Ellerbe, archt., 117 Mackubin St.

White Bear, Minn.—Reported erection of $60,000 summer hotel on White Bear Lake, between Shary Lane and Johnson Ave. J. W. Ryckman, 114 E. Endicott Arcade, St. Paul, reported interested.

Neodesha, Kan.—Election to be held Nov. 28 to vote $100,000 school bonds. A. K. Rippert, clk. School Bd.

Bozeman, Mont.—Reported State Bd. of Examiners, Helena, will release funds for reconstruction of Science Bldg. at State College; cost $50,000.

Austin, Tex.—Contract soon to be let by state for erecting 4-story land office building; $300,000 available. Atlee B. Ayres, archt.; W. R. Hendrickson, State Inspector of Masonry, Austin.

Tyler, Tex.—City voted $85,000 school improvement bonds. Sanguinet & Staats, archts, First Natl. Bank Bldg., Ft. Worth. F. H. Merrill, chmn. bd. educ.

Ardmore, Okla.—See "Roads and Paving."

Bartlesville, Okla.—Citizens voted $100,000 Nov. 7 for erecting high school. F. E. Thurman, clk. Bd. Educ. J. H. Felt & Co., 800 Grand Ave. Temple, Kansas City, archts.

Stillwater, Okla.—County voted $100,000 bonds for erecting courthouse.

Everett, Wash.—Citizens will vote Dec. 2 on question of issuing $200,000 for addition to Washington School. A. L. Bichard, clk. school bd.

Seattle, Wash.—Contract soon to be let for erecting 5-story brick and terra cotta apartment house on 4th Ave. for Securities Constr. Co., Securities Bldg.; cost, $70,000. R. Hamilton Rowe, archt., Northern Bank Bldg.

Corvallis, Ore.—Later reports state no election to vote $75,000 bonds to erect high school contemplated. A. T. Grugett, municipal judge.

Salem, Ore.—Legislature will be asked to appropriate $86,000; $50,000 for an addition to Normal School dormitory, $25,000 for addition to main bldg. for assembly hall, and $11,000 for miscellaneous purposes.

Los Angeles, Cal.—Plans being prepared by A. C. Martin, 430 Higgins Bldg., for 3-story, 70 x 175-ft. community house, to be erected during 1917, at St. Vincent's College.

Merced, Cal.—Plans being prepared by Allison & Allison, 1405 Hibernian Bldg., Los Angeles, for proposed union high school; cost, $150,000.

Hamilton, Ont.—L. Solman, Royal Alexandra Theater, Toronto, to erect theater, to cost $200,000; architect to be chosen.

Montreal, Que.—Contract awarded Atlas Constr. Co., 37 Belmont St., for steel reinforced concrete and terra cotta theater for Loew's Montreal Theater Co.; cost $50,000.

BIDS DESIRED.

Bridgewater, Mass.—Until Dec. 4, by State Bd. Educ., State House, Boston, for erecting dormitory, refectory and service building on grounds of the state normal school at Bridgewater. Guy Lowell, archt., 12 West St., Boston.

New York, N. Y.—Until Dec. 4 by C. B. J. Snyder, supt. school bldgs., Dept. Educ., Park Ave. and 59th St., for addition to public school 32, located on southerly side of E. 183d St. between Cambreleng and Beaumont Aves., boro. of Bronx; security, $50,000.

Jersey City, N. J.—Until Dec. 20, by Bd. Educ. (G. Frank Ege, secy.), for erecting the Lincoln high school building.

Verona, N. J.—Until Nov. 27, by Bd. Trustees. Verona Free Pub. Library, for erecting library building on southwest corner of Bloomfield and Montrose Aves. Nelson & Van Wagenen, archts., 15 W. 38th St., New York.

Farrell, Pa.—Reported desired until Dec. 19 by Joseph Brento Verbeck, archt., Theater Bldg., Oil City, for erecting 1-story 56 x 100 ft. edifice for St. Ann's Roman Catholic Church; cost, $50,000; Rev. Simon V. Mishovick, pastor, 619 Fruit Ave.

Reinerton, Pa.—Until Dec. 4, by Bd. Dir. School Dist. (W. E. Updegrove, secy.), for erecting 2-story brick vocational school building; separate bids for heating, ventilating, plumbing and electric work. Hauer & Mowere, archts., 3110 Columbia Ave., Philadelphia.

Frederick, Md.—Until Dec. 26 by Jas. A. Wetmore, act. superv. archt., Treas. Dept., Washington, D. C., for erecting U. S. Post Office; advertised in this issue.

Charleston, W. Va.—Until Nov. 28 by Charleston Ind. School Dist., for erecting brick high school building, 2-story, 175 x 90 ft.; cost about $120,000; F. L. Packard, archt., Hayden Bldg., Columbus, O.

Marion, S. C.—Until Jan. 18 by Jas. A. Wetmore, act. superv. archt., Treas. Dept., Washington, D. C., for erecting U. S. Post Office; advertised in this issue.

Leighton, Ala.—Until Dec. 15 at office of Town Clk. for erecting public school building; advertised in this issue. Knight & Quayle, engrs., Chattanooga, Tenn.

Ashland, Ky.—Until Dec. 4 by Bd. Educ. (Geo. F. Parks, secy.), for erecting a high school building

Cincinnati, O.—Reported desired until Dec. 11 by Chas. W. Handman, bus. mgr. bd. educ, for erecting an addition to the grade school building; cost, $50,000. Bausmith & Drainie, archts., 901 Gerke Bldg.

Cleveland, O.—See "Reinforced Concrete."

Lorain, O.—Reported desired until Nov. 30, by Schenker & Ilg., 433 Broadway, for erecting a 2-story theater building at 441 to 449 Broadway.

Wellsville, O.—Until Dec. 6, by F. H. Eckfeld, clk. bd. educ., for erecting a fireproof high and grade school; separate bids for heating, plumbing, ventilating, etc. Howard & Merriam, archts., 8 E. Broad St., Columbus.

Oak Park, Ill.—Reported desired until Dec. 5 by W. C. Jones, archt., 30 N. La Salle St., Chicago, for erecting 2-story, 80 x 80 ft. edifice for Harvard Congregational Church; cost, $50,000. Rev. E. J. Ridings, pastor.

Clear Lake, Ia.—Until Dec. 7, for erecting a Carnegie Library. Address Ira W. Jones, Clear Lake. J. H. Jeffers, archt., Mason City.

Des Moines, Ia.—Reported desired until Dec. 5, by A. L. Clinite, secy. bd. educ., for erecting Stowe school building for independent school dist. Smith & Keffer, archts., Youngeman Bldg., Des Moines.

Iowa City, Ia.—Until Dec. 7, by A. J. Hertz, secy. bd. educ., for erecting 3 grade school buildings; separate bids on plumbing, heating, ventilating and electric work, etc.; G. L. Lockhart, archt., 120½ E. Washington St.

Hendricks, Minn.—Until Dec. 15, by Bd. Educ. (A. L. Swenson, clk.), for erecting brick high and grade school building. H. Edward Walker, archt., 202 Lumber Exchange, Minneapolis.

Minneapolis, Minn.—Reported desired until May 1 by Y. M. C. A. for erecting 8 story, 125 x 160 ft., building; cost about $500,000. Long-Lamoreaux & Long, archts., 830 Hennepin Ave.

Wichita, Kan.—Until Dec. 11, by John T. Hessel, chmn. bd. co. comrs. for erecting the Sedgwick Co. jail and residence on the present court house site; separate bids on heating, steel cell work, plumbing, etc.

Havelock, Neb.—Reported desired until Dec. 8, by Bd. Educ. (F. B. Young, secy.), for erecting two-story and basement 118 x 144 ft. brick, stone and reinforced concrete fireproof high school building; cost $75,000. W. F. Gernandt, archt., 437 Keeline Bldg., Omaha.

Omaha, Neb.—Reported desired until Dec. 7, by Bd. Educ. (W. T. Bourke, secy.), for erecting two-story and basement 186 x 124 ft. brick, stone, terra cotta trim and reinforced concrete fireproof school building to be known as the Park school; cost $119,000. Thomas R. Kimball, archt., 836 World Herald Bldg.

Nacogdoches, Tex.—Until Dec. 21 by Jas. A. Wetmore, act. superv. archt., Treas. Dept., Washington, D. C., for erecting U. S. Post Office; advertised in this issue.

Port Arthur, Tex.—See "Foundations, Piers and Dams."

Woodward, Okla.—Reported desired about Dec. 4, by H. H. Alexander, city clk., for erecting city hall; cost, $50,000. F. H. Kilburn, engr., Woodward.

Astoria, Ore.—Until Dec. 5 by W. H. Sherman, clk. school dist. No. 1, for erecting an elementary school building; separate bids for heating, ventilating, plumbing and wiring. Whitehouse & Fouilhoux, archts., Railway Exchange Bldg., Portland.

Los Angeles, Cal.—See "Reinforced Concrete."

Trenton, Ont.—Until Nov. 30, by W. Gayson Brown, archt., Hamilton Clyde Bldg., for erecting high school building. W. H. Mayhew, chmn. school bd.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Brooklyn, N. Y.—Following are bids opened Nov. 15, by Louis H. Pounds, boro. pres., for furnishing material for excavations, foundations and superstructures in connection with the south of Flatbush Ave. wing of Central Library building,

located at Prospect Park Plaza, between Flatbush Ave. and Eastern Parkway; Thos. Dwyer, Bway. and 216th St., New York City, $264,500; D. Diamond, 12 Bergen St., Bklyn., $307,220; John Thatcher & Son, 60 Park Ave., Bklyn., $303,904.

Brooklyn, N. Y.—See "Foundations, Piers and Dams."

New York, N. Y.—Lowest bids opened Nov. 20 by C. B. J. Snyder, supt. school bldgs., New York City, for completing and finishing Evander Childs high school submitted by Conners Bros. Co., Inc., 64 W. 88th St., at $146,450.

★**Potsdam, N. Y.**—Contract for reconstructing State Normal and Training School (bids opened No. 14) awarded by Thos. E. Finegan, Deputy Comr. of Educ., Albany, to Bradley & Wood, 200 Fifth Ave., New York City, at $237,400.

★**Coatesville, Pa.**—Contract awarded F. W. Van Loon, Denckla Bldg., Philadelphia, for erecting 4-story brick and stone hotel for Worth Bros.; cost about $100,000.

★**Philadelphia, Pa.**—Contract awarded Melody & Keating, 1322 Race St. for erecting 4-story 114 x 122 ft. school at Madison and Belgrade Aves.; cost $130,000.

★**Clarksville, Tenn.**—Contract for erecting First Baptist Church awarded Foster-Creighton Co., Nashville; cost, $70,000. John Gaylord, archt., Memphis.

★**Auburn, Ind.** — Contract awarded Harry Achimier, Auburn, by Bd. Educ., (S. E. Van Fleit, secy.), Oct. 26, for erecting high school at $88,338.

★**Grants Pass, Ore.**—Following are four lowest bids received by County Court (Eugene L. Coburn, clk.) for erecting courthouse: John Almeter, Portland, $73,400; J. H. Tillman, Portland, $74,725; Sound Constr. Co., Couch Bldg., Portland (awarded contract), $76,443; Green & Green, $76,450.

Fresno, Cal.—All bids opened Nov. 8 for erecting addition to Fresno County Hospital rejected. Lowest bid submitted, R. Pedersen Co., Fresno, at $69,890.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Camden, N. J.—The New York Shipbuilding Co., Camden, contemplates constructing two new shipways, 150 x 1000 ft., as first unit of proposed enlargement of its present facilities at Camden.

Pennsylvania.—Applications have been filed with the Waterworks Comn., Harrisburg, for permission to construct following dams:

Butler Co.—Butler Water Co., Butler, for constructing dam on Connoquenessing Creek, Oakland Township.

Cambria Co. — Bakerton Water Co., Bakerton, for constructing a dam on tributary to west branch of Susquehanna River, near Bakerton, West Carroll Township.

Tioga Co.—Elwin G. Kelts and Ralph D. Whitney, for constructing a temporary dam across Cowanesque River, about 400 ft. from bridge on Boatman Rd. in easterly direction, at Knoxville.

Cape Henry, Va.—War Dept., Washington, D. C., has authorized Col. J. P. Jervey, corps engrs., U. S. A., Norfolk, to prepare plans for constructing a 1500-ft. creosoted wooden pile wharf on Chesapeake Bay, 2 miles west of Cape Henry, as adjunct of new Ft. Story, head of pier to have three faces; estimated cost, $125,000.

Ely, Minn.—Kawishiwi Power Co. organized to construct a hydroelectric power plant; cost $1,500,000. T. W. Orbison, engr., Appleton, Wis.

Los Angeles, Cal.—Citizens will probably vote $1,000,000 bonds for constructing a municipal drydock and shipyard at San Pedro, Los Angeles harbor. Fred. T. Woodman, mayor.

Union Oil Co., 6th and Spring Sts., Los Angeles, secured site of about 300 acres on inner harbor at Wilmington, Los Angeles Harbor, and will erect an oil refinery costing about $2,000,000. City will probably construct wharf 1200 ft. long and dredge channel to a depth of 30 ft. for company's use.

Yuma, Ariz.—Plans being prepared for Greater Yuma project, to consist of storage dam and reservoir at Yuma, dam bulkwarks to include Prison Hill, Yuma, and Indian Hill, Cal., spillways for water to Mexican lands to generate power for pumping waters to mesa lands, and commercial purposes; estimated cost about $25,000,000.

Vancouver, B. C.—The British Columbia Sulphit Co. filed plans and made application for water right to store 100,000,000 gal. of water at Henrietta Lake in Cedar Valley, Howe Sound, by constructing dam at south end of lake and flooding an area of 60 acres; water required to gain a head of power to operate pulp plant, which company proposes to build.

BIDS DESIRED.

New York, N. Y.—Until Dec. 1 at U. S. Engineer's office, Army Bldg., 39 Whitehall St., New York City, for constructing timber groins and repairing seawall near southern boundary of Sandy Hook Reservation, N. J.; advertised in this issue.

Wheeling, W. Va.—Until Dec. 5 at U. S. Engineer's office, for furnishing and delivering metal work for dams Nos. 23, 25 and 27, Ohio River; advertised in this issue.

Bay St. Louis, Miss.—Until Dec. 1 by Bd. Bond Comrs. (Joseph F. Cazeneuve, chmn.) for constructing a concrete sea wall about 701 ft. along the city front; separate bids for about 1365 cu. yds. of sand for filling behind sea wall. David V. Harris, engr., Mobile, Ala.

Cincinnati, O.—Until Dec. 1, by Chas. F. Hornberger, dir. pub. service, for constructing a reinforced concrete retaining wall on north side of Glencoe Pl., between Auburn Ave. and Inwood Pl.

Cincinnati, O.—Until Dec. 19 at U. S. Engineer's office, for furnishing and erecting lock gates for dams Nos. 31 and 35, Ohio River; advertised in this issue.

Indian Harbor, Ind.—Until Dec. 15 at the U. S. Engineer's office, 508 Federal Bldg., Chicago, Ill., for constructing rubble mound breakwater; advertised in this issue.

Ludington, Mich.—Until Dec. 11 at the U. S. Engineer's office, Grand Rapids (F. W. Altstatter, maj. engrs.), for furnishing, delivering and placing about 56,000 tons riprap around breakwater already constructed; cost, $125,000.

Port Arthur, Tex.—Until Dec. 1, for constructing foundations and buildings for a pumping station. L. A. Witter, city clk.

Yuma, Ariz.—Until Dec. 15, by Maj. G. B. Pillsbury, corps of engrs., 723 Central Bldg., Los Angeles, Cal., for revetting stone levee on Colorado River.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**New York, N. Y.**—Contract awarded Raymond Concrete Pile Co., 140 Cedar St., for constructing piles in foundations as follows: Reconstruction of old ore unloading dock for Marine Dept. of Bethlehem Steel Co., at Sparrows Point, Md.; also for their blacksmith shop; for Swift Packing Co.'s building, Kansas City, Kan.; Campbell apartment, Chicago, Ill., Robt. De Goyler, archt., 122 S. Michigan Ave.; under buildings for Sizer Forge Co., Buffalo, N. Y.; for boiler house for Revere Sugar Co., Boston, Mass.; Cadillac Motor Co., Detroit, Mich., W. E. Wood Co., engrs., 1805 Ford Bldg., Detroit; for Goodyear Tire & Rubber Co., building at Akron, O. W. C. State, dir. of eng., and for Holy Trinity Church, Newark, N. J., Hughes & Backoff, archts., 31 Clinton St.

Following are bids opened Nov. 20, by R. A. Smith, comr. of docks, Pier A, North River, City, for Contract No. 1420, extending pier 20, and Contract 1549, extending pier No. 21, (a) pier work; (b) rip rap, (c) totals: Pier 20, Riverside Contr. Co., 39 Cortlandt St., City, (a) $35,618; (b) $6,560; (c) $42,178; Pier 21, (a) $28,314; (b) $5,520; (c) $33,834; Pier 20, Allen N. Spooner & Sons, Inc., Pier 11, North River, City, (a) $37,882; (b) $6,500; (c) $44,382; Pier No. 21, (a) $30,079; (b) $5,520; (c) $35,599; Pier 20, Tulloch & Connor, 39 Cortlandt St., (a) $38,111; (b) $6,560; (c) $44,671; Pier 21, (a) $31,227; (b) $5,520; (c) $36,747 Pier 20, Snare & Trieste, Woolworth Bldg., City, (a) $39,800; (b) $6,970; (c) $46,770; Pier 21, (a) $30,800; (b) $5,865; (c) $36,665.

★**Greenwood, S. C.**—Contract awarded to C. W. Bayed, Gastonia, N. C., at $22,000 for constructing 13 miles of ditches requiring about 380,000 cu. yd. excavation.

★**Kansas City, Kan.**—Contract awarded by Kaw Valley Drainage Dist., Bd. (P. J. Broll, secy.) to A. A. Luck Constr. Co., 524 Rialto Bldg., Kansas City, Mo., at $25,000 for levee work.

★**South Auburn, Neb.**—Contract awarded to Munn & Reese, Blanco, Ia., for constructing 1½ miles of channel requiring 333,826 cu. yd. excavation.

★**Modesto, Cal.**—Contract awarded by C. C. Horsley, secy. Waterford Irrigation Dist., Waterford, for constructing portions of main canal to W. C. Price & Co., 211 Clay St., San Francisco, as follows: 55,000 cu. yd. excav. at 22c.; 43,000 cu. yd. canal excav. at 27c.; 2000 cu. yd. borrow (earth), at 27c., price given per cu. yd.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Newark, N. J.—Standard Dredging Co. has been incorporated with a capital of $25,000, to engage in dredging. Geo. F. Brandenburgh, 145 Orange Ave., Irvington, and Howard K. Stokes, 945 Central Ave., Plainfield, among incorporators.

Walterboro, S. C.—Southern California Assoc. (S. L. Reid, secy.) contemplates formation of two drainage districts, namely: Dist. No. 1, located 2 miles south of here, an area containing about 10,000 acres; Dist. No. 2, situated about 10 miles northwest of here and takes in a portion of Bells Township and a portion of Red Bank School Dist., contains about 7000 acres in all. F. G. Eason, ch. engr. of dist.

Lake Charles, La.—Police Jury has ordered election to be held to issue $250,000 bonds for deepening Intercostal Canal. Address Pres. Police Jury.

Bellefontaine, O.—Contract soon to be let by Co. Clk. for improving Muchinippi Creek ditch; estimated cost, about $51,000.

Dayton, O.—Petition approved by Co. Comrs. for constructing Murr ditch, running about 3 or 4 miles in Madison Township; cost about $15,000.

Indianapolis, Ind.—Contract will probably be let in spring by Lake Co. Circuit Court for constructing "Singleton Ditch," to be a canal 44 miles long, 50 ft. wide at bottom, and 6 ft. deep, to drain about 150,000 acres of land lying along north bank of Kankakee River all through Lake County, emptying into Kankakee River a short distance above Monence, Ill. Ray Seeley, co. aud.

Webster City, Ia.—Contract will be let about Feb. 1, by Comrs. Drainage Dist. No. 4, for 2 miles of 18 to 26-in. pipe and constructing the Richardson Drainage Dist.; estimated cost $50,000.

Grand Rapids, Minn.—Surveys are being made and contract will be let in spring for Judicial Ditch No. 2; estimated cost $75,000. Frank Sherman, co. aud.

Fargo, N. D.—Contract soon to be let by W. A. Tucker, co. aud., for constructing Osgood Drain No. 21, requiring 600,000 cu. yd. floater work and 1,000,000 dry land work.

Steffenville, Mo.—Steffenville Drainage Dist. contemplates straightening South Fabius River; estimated cost $70,000. Address Secy. of Dist.

North Yakima, Wash.—U. S. Reclamation Service Engrs. are preparing estimates as to cost of enlarging first 40 miles of Sunnyside Canal to water 30,000 acres.

Trus. of the Selah Moxee Ditch Co. recommends formation of irrigation district bonding same and replacing 12,622 ft. wooden pipe with steel.

Sunnyside, Wash.—R. K. Tiffany, J. G. Heinz, of U. S. Reclamation Service, and Fred Bonstedt, engr. on Highline and Kennewick extensions, are investigating cost of enlarging first 40 miles of Sunnyside Canal. Canal irrigates 110,000 acres and if enlarged will irrigate 30,000 acres more between Kiona and Kennewick.

Mt. Vernon, Ore.—Contract soon to be let by Mt. Vernon Ditch Co., Mt. Vernon, for constructing 4¾ miles of irrigation ditches.

Prineville, Ore.—The Ochocco Irrigation Dist. voted in favor of issuing $100,000 bonds for constructing a dam and irrigation system to irrigate about 23,400 acres.

Fresno, Cal.—Jefferson J. Graves and Walker C. Graves, Merchants Natl. Bank Bldg., San Francisco, contemplate constructing irrigation system, including motor driven pumps, etc., for a 200 acre tract near Kings River; cost $100,000.

BIDS DESIRED.

Brooklyn, N. Y.—Until Dec. 4 by R. A. C. Smith, Comr. Docks, Pier A, Battery Pl., North River, New York City, for contract No. 1553, furnishing all labor and materials required for dredging at the foot of 29th, 30th, 35th Sts., South Brooklyn; security, $4,000.

Bridgeton, N. J.—Until Dec. 5 by the city council for furnishing all materials and labor, making all excavations and back filling, and constructing reinforced concrete coagulation basin and gate chambers complete, including sluice gates, special fittings and pipe; advertised in this issue. Jacob B. Jones, city clk.

Alexander, La.—Until Nov. 30 by Bd. Comrs. of Red River, Atchafalaya and Bayou Boeuf Levee Dist. (Howard B. Gist, secy.) for constructing the following levee work: Alexander south levee, Parish of Rapides, right bank river side enlargement about 125,000 cu. yd.; Coco Point to "V" levee, Parish of Avoyelles, Bayou des Glaizes, right bank; river side enlargement and, in places, rectification of line; about 300,000 cu. yd.

Lima, O.—Until Dec. 7, by A. L. Metheny, dir. pub. services, City Bldg., for Ottawa River improvement, work includes straightening, deepening, widening and constructing levees, etc., advertised in this issue.

Sibley, Ia.—Until Dec. 12, by the Co. Aud., for constructing joint drainage dist. No. 3 of Dickerson and Osceola Counties, work will consist of about 226,000 cu. yd. open ditch excavation, 281,700 ft. of 6 to 42-in. tile, 19 bulkheads, 200 inlets. L. A. Wilson, engr.

Duluth, Minn.—Until Dec. 9 for constructing Co. Ditch No. 6, work includes 1,417,000 cu. yds. excavation, clearing 150 miles, road grading 140 miles; estimated cost $250,000; A. J. Bawden, engr., 205 Court House, Duluth.

Ortonville, Minn.—Until Dec. 2, by A. V. Randall, co. aud., for digging and constructing Ditch No. 13; also for one or more sections, including 8 branches located in Sections 11, 13, 14, 15, 22, 23, 25, 26, 27 and 34, Township 123, Range 47, construction of each ditch is as follows: 18,000 lin. ft. drain tile, varying from 5 to 15 in., 1075 lin. ft. 33-in. drain tile, 4 galvanized iron culverts, 38 cu. yd. concrete, 70,000 cu. yd. open ditch excavation; cost about $21,767.

Duluth, Minn.—Reported desired until Dec. 20 by O. Halden, co. aud., for constructing ditch No. 7; cost about $22,722.

Glencoe, Minn.—Until Dec. 22, by F. D. Stocking, co. aud., McLeod Co., for digging, tiling, filling trenches, and constructing Judicial Ditch No. 4, Renville and McLeod Counties, in all about 63,677 ft. 8 to 24 in. tile, and 29,154 cu. yd. excav.

St. Louis, Mo.—Reported desired until Dec. 4 by Secy. Mississippi River Comn., 1311 International Life Bld., St. Louis, for constructing 100,000 cu. yd. earth work in the East Cape Girardeau and Clear Creek Drainage Dist., Ill.

Oakland, Cal.—Reported desired about Dec. 20 for dredging; cost $150,000. Address Col. T. H. Rees, U. S. Engineer's Office, San Francisco.

Tracy, Cal.—Until about Dec. 15, by Wm. von Sosten, for constructing ditches, pumping plant, etc., work to be constructed with $295,000 bond issue recently voted. W. G. Hunter, engr., 611 Commercial & Savings Bldg., Stockton.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Providence, R. I.—Lowest bid opened by Bd. Contract & Supply, for excavating and filling at city sea wall was that of John Marsh, Providence, at 23½c. per cu. yd.

★**Albany, N. Y.**—Following are bids opened by W. W. Wotherspoon, supt. pub. wks., Albany, Nov. 21, for improving New York State Canals as follows: Contract No. 30A, Erie Canal, Sec. 4, awarded to E. Brown Baker, Herkimer, at $128,182; Contract No. 98, Erie Canal, Sec. 10, low bidder Tifft Constr. Co., Inc., Buffalo, at $82,276 (not yet awarded) and Terminal Contr. No. 101, low bidder, E. Brown Baker, Herkimer, at $31,791 (contract not yet awarded).

Trenton, N. J.—Following bids opened Nov. 20, by Chmn. Bd. & Navigation, State House, Trenton, for dredging the second section of the inland waterway connecting head of Barnegat Bay with the Manasquan River was that of Hill Dredg. Co., Atlantic City, N. J., at 37c., and Rickards Dredg. Co., Real Estate Trust Bldg., Philadelphia, Pa., at 39c. per cu. yd. Rejected as being too high.

★**Philadelphia, Pa.**—Contract awarded Nov. 2, by Maj. J. C. Oakes, corps engrs., U. S. A., Philadelphia, to Rickards Dredging Co., 706 Real Estate Trust Bldg., Philadelphia, at 32 cts. per cu. yd. for Sect. A and 28½ cts. for Sect. B, making total of $16,853, for dredging in Delaware River above Philadelphia, involving about 25,500 cu. yd., and for Sect. B, Mud Island Range, about 30,500 cu. yd.

Contract awarded Nov. 9, by Maj. J. C. Oakes, corps engrs., U. S. A., to Great Lakes Dredge & Dry Dock Co., 17 Battery Pl., New York City, for dredging and rock excavation in Delaware Harbor, Delaware River, involving about 520,000 cu. yd. place measurement, 40 cts. per cu. yd., and 65,000 cu. yd. rock removal at $6.50 per cu. yd.

★**Watkinsville, Ga.**—Contract awarded Thompson & Moseley, Banner Bldg., Greensboro, N. C., at $12,184 for constructing Rose Creek Drainage Dist.

★**Sledge, Miss.**—Contract awarded Nov. 15 by Indian Creek Drainage Dist. to the National Contr. Co., Alexandria, Minn., at $235,000 for constructing 737,000 cu. yd. levee and 1,665,000 cu. yd. ditch. Morgan Eng. Co., Goodwyn Institute Bldg., Memphis, Tenn., engrs. for dist.

★**Grant, Mich.**—Contract awarded Hugh Woolman & Co., Sandusky, Mich., at $21,900, for removal of about 300,000 cu. yd. dirt for drainage of Rice Lake region.

★**Quincy, Ill.**—Contract awarded Nov. 11, by Comrs. Indian Grave Drainage Dist., to R. H. & G. A. McWilliams, 332 S. Michigan Ave., Chicago, at $135,628, for removal of earth and constructing open ditches, canals, interior levees, diversion channels, 28 miles of lateral parallel ditches, etc.

★**Nevada, Ia.**—Contract awarded Nov. 10 by Co. Bd. Supervs. for constructing ditch in Nevada Township Drainage Dist. No. 71, labor to Anton Hanson, Collins, Ia., and tile to Iowa Pipe & Tile Co., Des Moines, Ia., at total of $11,000.

★**Bolivia, Minn.**—Contract awarded Wm. B. Bosworth, Ada, Minn., at $27,000 for constructing Ditch No. 70, and to C. Sorenson, Slayton, at $18,250 for Judicial Ditch No. 14.

★**Gaylord, Minn.**—Contract awarded Clyde A. Walb, La Grange, Ind., at $14,993, for constructing ditch about 7 miles long requiring 175,505 cu. yd. excavation.

★**Virginia, Minn.**—Contract awarded by Oliver Mining Co. to Lawrence McCann Co., Grand Rapids, Mich., at $125,000 for constructing drainage ditch.

★**Windon, Minn.**—Following are bids opened by S. A. Brown, co. aud., for constructing (a) Judicial Ditch No. 32 and (b) Judicial Ditch No. 28: D. A. Lahart, Mountain Lake, Minn., (a) $17,300 (awarded contract); Nels Dansgard, Calender, Ia., (b) $25,500 (awarded contract). Other bidders: W. C. Markland & Co., Fairmont, Minn., (a) $17,689, (b) $26,360; Rude & Wold, Pomeroy, Ia., (a) $17,780, (b) $26,700; Redding & Smaage, Windom, (a) $17,860, (b) $32,418.

★**Auburn, Neb.**—Contract awarded by Bd. Comrs. Drainage Dist No. 3, to Munn & Reese, Blencoe, Ia., at $6.95 per cu. yd., for improvements in Drainage Dist. No. 3, involving 325,186 cu. yd. excav. of main canal, average depth 15 ft., and 8640 cu. yd. farm canal.

★**St. Ignatius, Mont.**—Contract awarded by U. S. Reclamation Service, St. Ignatius (bids open Oct. 10) to Mendenhall, Bird & Co., Springville, Utah, at $44,541 for constructing Schs. 1, 2, and 3 earthwork, laterals, and sublaterals, Flathead irrigation project, involving 160,000 cu. yd. excavation.

★**Seattle, Wash.**—Contract awarded by Col. J. B. Cavanaugh, U. S. Engr., Burke Bldg., to Erickson Constr. Co., Downs Blk., at $110,780, for dredging 580,000 cu. yd. of material from Lake Washington Canal below the locks.

★**Long Beach, Cal.**—Contract awarded by Bd. Co. Supervs. (A. M. McPherrin, clk., Los Angeles) (bids opened Oct. 16), to Jas. Kennedy, 901 Washington Bldg., Los Angeles, at $84,936 for constructing ditch 11,266 ft. long requiring 31,000 cu. yd. earthwork.

★**Porterville, Cal.**—Contract awarded W. A. Kraner, San Francisco, at $376,000 for constructing first unit of the Terra Bella Irrigation Dist.

TUNNELS AND SUBWAYS

BIDS DESIRED.

Philadelphia, Pa.—Until Dec. 7 by Dept. City Transit (Wm. S. Twining, dir.), Bourse Bldg., for constructing four track section of Broad St. Subway, including two station platforms, under pinning Market St. subway and part of City Hall.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Cumberland, Md.**—Contract awarded by B. & O. RR. (R. N. Begeiu, ch. engr., Baltimore) to Vang Constr. Co., Cumberland, for constructing Green St. subway, at about $40,000.

MISCELLANEOUS

PROPOSED WORK.

Transmission Line—Pittsfield, Mass.—Albany Southern Co., Hudson, N. Y., contemplates extending its transmission line from Hudson to Pittsfield.

Transmission Line—Naugatuck, Conn.—Plans have been prepared by United Electric Light & Water Co., Waterbury (W. T. Pratt, supt., Naugatuck), for the erection of another high-tension transmission line to Naugatuck and Seymour.

Park Improvements—Buffalo, N. Y.—Bonds for $1,223,000 for improvements in parks, on viaducts, sewers and in the Buffalo River; also $300,000 bonds for buildings for horses and equipment of the Dept. Pub. Wks. will be sold Dec. 5 by City Comptroller.

Incinerator—Newark, N. J.—City has requested Jas. C. Hallock, deputy ch. engr., dept. pub. wks., to proceed with plans for constructing incinerator.

Freight Improvements—New Brunswick, N. J.—"See Buildings."

Transmission Lines—Burlington, N. C.—Piedmont Ry. & Light Co., Burlington, contemplates constructing transmission lines to Elon College and Gibsonville, a distance of 8 miles.

Garbage Incinerator—Newport, Ky.—Proposition to issue $40,000 bonds for garbage incinerator was defeated. Arthur Roth, city recorder.

Park Work—Lakewood, O.—Election held Nov. 17 voted in favor of issuing $75,000 bonds for park purposes. B. M. Cook, city aud.

Transmission Line—Constantine, Mich.—Township Bd. has granted Indiana & Michigan Electric Co., South Bend, Ind., 15-year franchise, subject to approval of voters, to erect transmission line along the south river road from Mottville Township to Constantine.

Transmission Line—Windsor, Wis.—Wisconsin Power Co. reported to have been granted franchise to erect electric transmission line through township of Windsor and will probably be extended from Dane or Portage to furnish electricity in Windsor, De Forest, Morrisonville, Arlington, and Poynette.

Transmission Line—Anamosa, Ia.—State Bd. of RR. Comn. granted Iowa Electric Co., Cedar Rapids, permission to erect electric transmission line from Anamosa to Maquoketa for furnishing electricity for lamps and motors to cities, towns and rural communities along proposed line.

Transmission Line—Delhi, Ia.—Iowa Electric Co., Marengo, has been granted franchise by Bd. RR. Comrs. for erecting transmission line from Delhi to Oneida and Worthington for electrical purposes in towns and cities along line.

Transmission Line—Garner, Ia.—Iowa Falls Electric Co. (B. S. Wright, engr.), Cedar Rapids, has been granted a franchise by Bd. RR. Comrs., to erect electric transmission line from Garner to Belmond for supplying electricity to towns, cities and rural communities along proposed line.

Piling—Indianola, Ia.—See "Structural Steel."

Transmission Lines—Little Rock, Ark.—Prairie Light & Development Co., incorporated with a capital of $500,000 for purposes of constructing transmission lines, from Little Rock to Lonoke, Carlisle, Hazen and other towns, also for lighting and other power purposes. S. R. Morgan, Little Rock, among incorporators.

Transmission Line—San Luis Obispo, Cal.—Plans being prepared by Midland Co. Pub. Serv. Corp., controlled by San Joaquin Light & Power Co., Fresno, for extension of its transmission lines in various parts of San Luis Obispo and Santa Barbara Counties. Arrangements have been made for erecting branch line to Avila and later energy will be supplied to Morro, Caucos and Cambria. San Joaquin Co. reported to have appropriated $300,000 for additions to the service.

Transmission Line—Mackay, Idaho.—Mackay Light & Power Co. contemplates extending its transmission line to Pioneer.

BIDS DESIRED.

Riprap — Philadelphia, Pa.—Reported desired until Nov. 28 by Maj. J. C. Oakes, U. S. Engr., for riprap for artificial lake in Delaware River; cost, $100,000.

Lockhart, Tex.—See "Waterworks and Sewerage Systems."

Portland, Ore.—By City Purchasing Agent, for supplying sand, gravel, and crushed rock for a period of one year.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Transmission Line—Milford, N. H.—Milford Light & Power Co. closed contract with Smalley Granite Co. to supply electricity to operate Souhegan Quarry. The Milford Co. will erect electric transmission line to furnish the service.

Wooden Scows—Philadelphia, Pa.—Following are bids opened Nov. 21, at U. S. Engrs. Office, Philadelphia, 815 Witherspoon Bldg., for constructing two wooden scows, 60 ft. long, 22 ft. wide and 5 ft. 11 in. deep of creosoted yellow pine timber: Valk & Murdoch Co., Charleston, S. C., $10,300 (delivery at Charleston); John H. Mathis Co., Camden, N. J., $10,980 (delivery at Camden, N. J.).

★**Mail-Handling Devices—Detroit, Mich.**—Contract awarded by Jas. A. Wetmore, act. superv. archt., Treas. Dept., Washington, D. C., to Lamson Co., 100 Boylston St., Boston, Mass., at $22,753, for installing mail-handling equipment in the U. S. post postoffice at Detroit.

★**Incinerator — Abilene, Tex.**— Contract awarded J. W. Stokes, Abilene, for constructing incinerator plant here.

Tide Gate—Newport Beach, Cal.—Contract awarded to Mercereau Bridge & Constr. Co., 471 Pacific Electric Bldg., Los Angeles, at about $10,000 for constructing concrete tide gate for Bolsa-Chica Gun Club. Sam'l Storrow, engr., Black Bldg., Los Angeles.

Proposals

For Proposals Advertised See Pages 44, 45 and 46.

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.		See Eng. Record.
Nov. 27.	Boston, Mass.	Nov. 25
Nov. 28.	Lockhart, Tex.	Nov. 25
Nov. 28.	Winton, Pa.	Nov. 18
Nov. 28.	Michigan City, Ind. Adv. Nov. 4 to 18.	Nov. 4
Nov. 28.	Palisades Park, N. J.	Nov. 25
Nov. 28.	Washington, D. C. Adv. Nov. 4 to 18.	Nov. 4
Nov. 28.	Pittsburgh, Pa.	Nov. 25
Nov. 28.	Fayette, Ia.	Nov. 25
Nov. 29.	New Orleans, La.	Nov. 18
Dec. 1.	St. Cloud, Fla. Adv. Oct. 21, Nov. 4 and 18.	Oct. 21
Dec. 1.	Troy, O.	Nov. 4
Dec. 1.	Long Island City, L. I., N. Y.	Nov. 25
Dec. 1.	San Diego, Cal.	Nov. 25
Dec. 2.	Franklin, Pa. Adv. Nov. 25.	Nov. 25
Dec. 4.	Marlow, Okla.	Nov. 25
Dec. 5.	Bridgeton, N. J Adv. Nov. 25.	Nov. 25
Dec. 5.	Oklahoma, Okla.	Nov. 25
Dec. 6.	Erie, Pa.	Nov. 18
Dec. 6.	Cleveland, O. Adv. Nov. 18.	Nov. 18
Dec. 7.	Ironton, Minn.	Nov. 25
Dec. 8.	San Francisco, Cal.	Nov. 25
Dec. 9.	Shreveport, La.	Nov. 25
Dec. 12.	Detroit, Mich. Adv. Nov. 11.	Nov. 11
Dec. 14.	Lima, O. Adv. Nov. 25.	Nov. 25
Dec. 18.	Winnipeg, Man. Adv. Nov. 18, 25.	Nov. 18
Dec. 21.	New Orleans, La.	Nov. 4

STRUCTURAL STEEL WORK

Nov. 29.	Des Moines, Ia.	Nov. 11
Nov. 29.	Des Moines, Ia Adv. Nov. 25.	Nov. 25
Dec. 1.	Flint, Mich.	Nov. 18
Dec. 1.	Seattle, Wash.	Nov. 25
Dec. 2.	Weir, Que.	Nov. 11
Dec. 4.	Dothan, Ala.	Oct. 28
Dec. 4.	Des Allemands, La. Adv. Nov. 11 to 25.	Nov. 11
Dec. 4.	Shoals, Ind.	Nov. 25
Dec. 5.	Fort Hancock, N. J. Adv. Nov. 18, 25.	Nov. 18
Dec. 5.	Cape May, N. J.	Nov. 11
Dec. 7.	Seale, Ala.	Nov. 25
Dec. 7.	Flemington, N. J.	Nov. 25
Dec. 10.	Florence, Ala.	Nov. 25
Dec. 11.	Americus, Ga.	Nov. 11
Dec. 14.	Miami, Fla. Adv. Nov. 25.	Nov. 25
Jan. 1.	Newton, Ia.	Nov. 18
Jan. 1.	New Castle, Pa.	Nov. 18
Jan. 1.	Mitchell, S. D.	Oct. 7

REINFORCED CONCRETE.

Nov. 27.	Stamford, Conn.	Nov. 25
Dec. 1.	Knoxville, Tenn. Adv. Oct. 14.	Oct. 14
Dec. 4.	Pinehurst, Tex.	Nov. 25
Dec. 4.	Pawhuska, Okla.	Nov. 25
Dec. 5.	Earlimart, Cal.	Nov. 25
Dec. 14.	Lake Charles, La.	Nov. 25
Dec. 15.	Potter, Wis.	Nov. 18
Jan. 1.	Manhattan Beach, Cal.	Nov. 25

ROADS AND PAVING.

Nov. 28.	Camas, Wash.	Nov. 18
Nov. 29.	Irvington, N. J.	Nov. 25
Dec. 1.	Fillmore, Cal.	Oct. 28
Dec. 1.	De Land, Fla.	Nov. 25
Dec. 1.	Memphis, Tenn.	Nov. 18
Dec. 2.	Norwalk, O.	Nov. 25
Jan. 3.	Keyport, N. J.	Nov. 18
Dec. 4.	Eutaw, Ala.	Nov. 11
Dec. 4.	Indiana.	Nov. 25
Dec. 5.	Sanford, Fla.	Nov. 25
Dec. 5.	Ventura, Cal.	Nov. 25
Dec. 5.	Bay Minnette, Ala.	Nov. 25
Dec. 5.	Indiana	Nov. 25
Nov. 6.	Santa Ana, Cal.	Nov. 25
Dec. 6.	Perry, Fla.	Nov. 25
Dec. 6.	Mt. Vernon, Wash.	Nov. 25
Dec. 6.	Bakersfield, Cal.	Nov. 25
Dec. 6.	Huntington Beach, Cal.	Nov. 25
Dec. 7.	Elizabeth, N. J.	Nov. 25
Dec. 12.	Pasadena, Cal.	Nov. 25
Dec. 13.	Somersville, N. J.	Nov. 25
Dec. 15.	Greenville, S. C.	Nov. 4
Dec. 15.	Grove Hill, Ala.	Oct. 28
Dec. 16.	Luverne, Ala.	Nov. 25
Dec. 18.	Cleveland Heights (P. O. Cleveland, O.)	Nov. 18
Dec. 18.	Monroe, La.	Nov. 25
Dec. 19.	Amboy, Ill.	Nov. 25
Jan. 1.	Sidney, O.	Nov. 4
Jan. 10.	Independence, Ia.	Nov. 18
Feb. 1.	Cedar Rapids, Ia.	Nov. 18

RAILWAYS

Nov. 27.	Washington, D. C. Adv. Nov. 25.	Nov. 25
Nov. 29.	Brooklyn, N. Y.	Nov. 18
Dec. 1.	Newport News, Va.	Nov. 25
Dec. 5.	Atlanta, Ga.	Nov. 11
Dec. 6.	Portland, Ore. Adv. Sep. 30 to Oct. 14.	Sep. 23
Dec. 6.	Portland, Ore.	Oct. 28

BUILDINGS.
Public and Private.

Nov. 27.	Verona, N. J.	Nov. 25
Nov. 28.	Washington, D. C. Adv. Oct. 28.	Oct. 28
Nov. 28.	Beaver Falls, Pa.	Nov. 4
Nov. 28.	Wheeling, W. Va. Adv. Nov. 4 to 18.	Nov. 4
Nov. 28.	Dumas, Ark. Adv. Nov. 4 to 25.	Nov. 4
Nov. 28.	St. Louis, Mo.	Nov. 18
Nov. 28.	Charleston, W. Va.	Nov. 25
Nov. 30.	Lorain, O.	Nov. 25
Nov. 30.	Trenton, N. J.	Nov. 25
Dec. 1.	Pueblo, Col.	Oct. 28
Dec. 1.	Chillicothe, O.	Nov. 11
Dec. 1.	Newton, Kan.	Nov. 11
Dec. 1.	Marlin, Tex.	Nov. 18
Dec. 1.	Portsmouth, O.	Nov. 18
Dec. 1.	Waconia, Minn.	Nov. 18
Dec. 4.	Woodward, Okla.	Nov. 25
Dec. 4.	Washington, D. C. Adv. Oct. 28, Nov. 4.	Oct. 28
Dec. 4.	New York, N. Y.	Nov. 18
Dec. 4.	Ashland, Ky.	Nov. 25
Dec. 4.	New York, N. Y.	Nov. 25
Dec. 4.	Bridgewater, Mass.	Nov. 25
Dec. 4.	Reinerton, Pa.	Nov. 25
Dec. 5.	Des Moines, Ia.	Nov. 25
Dec. 5.	Pittsburgh, Pa.	Nov. 18
Dec. 5.	Oak Park, Ill.	Nov. 25
Dec. 5.	Astoria, Ore.	Nov. 25
Dec. 6.	Twin Falls, Idaho	Oct. 21
Dec. 6.	Wellsville, O.	Nov. 18
Dec. 6.	Wellsville, O.	Nov. 25
Dec. 7.	Omaha, Neb.	Nov. 18
Dec. 7.	Chadron, Neb.	Oct. 28
Dec. 7.	Columbus, Miss.	Nov. 4
Dec. 7.	Bangor, Wis.	Nov. 18
Dec. 7.	Clear Lake, Ia.	Nov. 25
Dec. 7.	Omaha, Neb.	Nov. 25
Dec. 7.	Iowa City, Ia.	Nov. 25
Dec. 8.	Haverlock, Neb.	Nov. 25
Dec. 11.	Eureka Springs, Ark.	Nov. 4
Dec. 11.	Wichita, Kan.	Nov. 25
Dec. 11.	Cincinnati, O.	Nov. 25
Dec. 14.	Cape Charles, Va.	Nov. 18
Dec. 15.	Tucson, Ariz.	Oct. 14
Dec. 15.	Danville, Ill.	Nov. 11
Dec. 15.	Leighton, Ala. Adv. Nov. 25.	Nov. 25
Dec. 15.	Hendricks, Minn.	Nov. 25
Dec. 19.	Farrell, Pa.	Nov. 25
Dec. 20.	Jersey City, N. J.	Nov. 25
Dec. 21.	Bonne Terre, Mo.	Nov. 4
Dec. 21.	Nacogdoches, Tex. Adv. Nov. 25.	Nov. 25
Dec. 22.	East St. Louis, Mo.	Oct. 28
Dec. 26.	Frederick, Md. Adv. Nov. 25.	Nov. 25
Dec. 30.	Sullivan, Ind.	Nov. 18
Jan. 1.	Webster, S. D.	Sep. 16
Jan. 18.	Marion, S. C. Adv. Nov. 25.	Nov. 25
May 1.	Minneapolis, Minn.	Nov. 25

FOUNDATIONS, PIERS AND DAMS.

Nov. 27.	Annapolis, Md.	Oct. 28
Dec. 1.	Port Arthur, Tex.	Nov. 25
Dec. 1.	New York, N. Y. Adv. Nov. 25.	Nov. 25
Dec. 1.	Bay St. Louis, Miss.	Nov. 25
Dec. 1.	Cincinnati, O.	Nov. 25
Dec. 8.	Cincinnati, O. Adv. Nov. 11 to 25.	Nov. 11
Dec. 5.	Wheeling, W. Va. Adv. Nov. 25.	Nov. 25
Dec. 11.	Zanesville, O.	Nov. 11
Dec. 11.	Ludington, Mich.	Nov. 25
Dec. 14.	Wheeling, W. Va. Adv. Nov. 18, 25.	Nov. 18
Dec. 15.	Indiana Harbor, Ind. Adv. Nov. 25.	Nov. 25
Dec. 15.	Yuma, Ariz.	Nov. 25
Dec. 19.	Cincinnati, O. Adv. Nov. 25.	Nov. 25
Jan. 1.	San Dimas, Cal.	Nov. 18
Jan. 2.	Santa Fe, N. M. Adv. Nov. 18.	Nov. 18

EXCAVATION, DREDGING AND DRAINAGE.

Nov. 28.	St. Ignatius, Mont.	Oct. 28
Nov. 28.	Dyersburg, Tenn.	Nov. 4
Nov. 28.	Brooklyn, N. Y. Adv. Nov. 4 to 18.	Nov. 4
Nov. 30.	Alexander, La.	Nov. 25
Dec. 2.	Ortonville, Minn.	Nov. 25
Dec. 4.	St. Louis, Mo. Adv. Nov. 4 to 25.	Nov. 4
Dec. 4.	Brooklyn, N. Y.	Nov. 25
Dec. 5.	Bridgeton, N. J. Adv. Nov. 25.	Nov. 25
Dec. 8.	New York, N. Y. Adv. Nov. 11 to 25.	Nov. 11
Dec. 9.	Duluth, Minn.	Nov. 25
Dec. 7.	Lima, O. Adv. Nov. 25.	Nov. 25
Dec. 11.	New Orleans, La. Adv. Nov. 18.	Nov. 18
Dec. 19.	Erie, Pa. Adv. Nov. 18, 25.	Nov. 18
Dec. 12.	Tracy, Cal.	Nov. 25
Dec. 15.	Tracy, Cal.	Nov. 25
Dec. 20.	Duluth, Minn.	Nov. 25
Dec. 20.	Oakland, Cal.	Nov. 25
Dec. 22.	Glencoe, Minn.	Nov. 25

TUNNELS AND SUBWAYS.

Dec. 7.	Philadelphia, Pa. Adv. Oct. 14, 21.	Oct. 14
Dec. 7.	Philadelphia, Pa.	Nov. 25
———	New York, N. Y. Adv. Nov. 11, 18.	Nov. 11

MISCELLANEOUS.

Nov. 22.	Garbage, Reading, Pa. Adv. Nov. 11, 18.	Nov. 11
Nov. 22.	Ry. Ties, Quebec City, Que.	Nov. 18
Nov. 25.	Cement, Philadelphia, Pa.	Nov. 18
Nov. 27.	Crane, Pearl Harbor, T. H.	Nov. 4
Nov. 27.	Cement, Winnipeg, Man. Adv. Nov. 4, 11.	Nov. 4
Nov. 28.	Riprap, Philadelphia, Pa.	Nov. 25
Dec. 1.	Garbage, Wilkes-Barre, Pa. Adv. Oct. 28 to Nov. 18.	Oct. 28
Dec. 6.	Grade Crossings, Portland, Ore. Adv. Sep. 30 to Oct. 28.	Sep. 30
Dec. 11.	Crane, Washington, D. C.	Nov. 18
Dec. 12.	Needle Valves, Washington, D. C. Adv. Nov. 4.	Nov. 4
Dec. 20.	Gates-Washington, D. C. Adv. Nov. 25.	Nov. 25
Jan. 4.	Transmission line, Weeversville, Cal.	Oct. 21

Cement, One of Most Important Materials, Scores General Advance as Steel Rises Continue

Hope for Correction of Unbalanced Condition of Past Year in Construction Field, with Few Classes of Work Active and Rest Slack, Lies in Legislation Pending Before Next Session of Congress

CEMENT has joined, with a sharp and nearly general advance, the list of important construction materials whose cost is going up and with the limit not yet indicated. The value of the cement used monthly, on the basis of average production and 1915 prices, is triple that of structural steel or of crushed stone and is probably approached only by that of lumber. The labor shortage, the coal and the freight situations, are having their effect on this industry, and prices have been kept down so far only by the lack of heavy demand.

Contractors and Legislation

In the face of rising costs, competition among contractors in many lines has not diminished. Though industrial building has doubled in activity, the field has been invaded by firm after firm—all well organized, well backed and forceful competitors of the specialists already in this sort of work—who would not have looked at a plain building contract in the days when railroad, terminal and power-development construction was active. The same was true earlier in the year of highway work, though such a great volume of it has come out that more recently the smaller contractors in some sections have been glutted. Thus, we hear a persistent complaint from established firms that with prices soaring and with labor most difficult to secure competition is holding down bids for construction work to unprofitable levels.

If these conditions are to mend in 1917 certain legislation to be taken up at the coming session of Congress must pass. The startling statement has been made to the Newlands congressional commission that the railroads are billions of dollars behind the industrial development of the country with their transportation facilities. If the construction required to develop new territory and to bring the railroads up to the proper point of efficiency were put under way next year a great difference in the contracting field would at once be apparent. Before this can happen, however, the railroads must be put, by legislation, in a position where they can command the necessary funds. While the railroads are subject to divided control that limits earnings and permits costs to grow unchecked, while surplus funds that are badly needed to make improvements can be diverted by legislation to the pockets of employees, the public will remain shy of investing in railroad securities. It is believed that the present administration is honestly seeking a solution of these questions, and if the real facts are put before it by those interested with sufficient force, beneficial action will be taken. Everyone in the country is vitally interested—few more so than the readers of this journal.

Construction Work and Foreign Trade

Not only is the general prosperity and economic development of the country destined to be largely shaped by the coming railway legislation, but the influence on the country of foreign-trade measures now before Congress will scarcely be of less importance. Readers of this journal know that we have become a factor in world trade and that we cannot lose our foreign commerce without a serious and depressing readjustment of our domestic business. At present, we present in the competition for world trade a divided front of many individual firms in every line without central control or even co-operation. We are attempting to sell our products in markets where buying is highly organized and in the hands of central agencies. We are meeting competition from sellers who are similarly organized. The Webb bill to come before Congress would permit our merchants and manufacturers to perfect combinations for foreign selling which could cope with these conditions.

The Bureau of Foreign and Domestic Commerce, a recently-organized branch of the Department of Commerce, is investigating foreign markets and distributing information about them to American manufacturers. It only asks for one million dollars a year to carry on this work, about the cost of a new dam on the Ohio River. It received last year about half this sum, and was able to keep in the field only ten attachés. To the efforts of these ten agents have been directly traced recent sales amounting to more than $8,000,000. Many manufacturing interests, who could afford to undertake construction work if they were assured of foreign markets for their increased production, are dependent on the work of this bureau for establishing foreign trade relations. The direct benefit to contractors from this source is not greater than the indirect benefit from the steady increase in general business activity which it would mean. If this bureau is again handicapped by an insufficient appropriation the result for American business may be a serious one.

Iron and Steel

The general advance in pig iron and in finished steel products has continued during the month in all lines. In spite of high prices, however, steel building construction appears to be gaining, the Bridge Builders and Structural Society having reported bookings at 77 per cent of capacity for October, the best month since last May. Lake Superior iron ore has recorded an advance of $1.30 per ton, 50 cents of which represents the increased cost of lake transportation and 80 cents of which is chargeable to the increased cost of mining.

Pig Iron—The general rise in the price of pig iron begun last month has continued steadily, based on the apparent fear of steel makers that there will be a scarcity of iron next year. It was said that mills with large contracts for finished steel on hand are not yet assured of their supply of pig iron. Prices per ton recently quoted are as follows:

No. 2 x, Philadelphia	$25.50
No. 2, Birmingham	21.00
No. 2, Furnace, Chicago	27.00
Basic Valley Furnace	25.50

Steel Products—Prices of various steel products, per 100 lb. at the mill or warehouse, quoted below show a large general advance over last month:

	Immediate Delivery	Future Delivery	Warehouse
Pittsburgh:			
Structural material	...	$3.00	$3.50
Plates	$5.00	4.00	...
Steel bars	...	3.00	...
Iron bars	...	2.90	...
Rivets	...	4.15	...
New York:			
Structural material	...	3.02	3.50
Plates	3.92	3.67	4.50
Steel bars	...	3.07	3.50
Iron bars	...	2.67	3.40
Chicago:			
Structural material	...	3.09	...
Plates	3.94	3.54	4.00
Steel bars	...	2.99	3.35
Iron bars	...	2.65	3.35
Rivets	...	4.15	4.25

Sheets—The rapid advance begun during last month in the price of sheets has continued. Black sheets, No. 28 gage, have recently been quoted at Pittsburgh and Chicago at the following prices per 100 lb.:

	Black	Galvanized
Pittsburgh	$3.60	$5.25
Chicago	4.00	5.69

Rails—Western railroads are reported to be covering their requirements for next year at the new prices recently set for standard sections. Of 165,000 tons under negotiation, 50,000 tons have so far been placed at the new figures. Prices per ton at the points named are now as follows:

	Open Hearth	Bessemer
Pittsburgh	$40.00	$38.00
Chicago	40.00	38.00

Cast-Iron Pipe—A steady advance in the price of cast-iron pipe at all three of the points quoted has continued throughout the month. The largest advance has been made within the past ten days. Prices are now quoted as follows:

	Class A and Gas Pipe	Class B and Heavier
New York	$38.50	$37.50
Chicago	38.50	37.50
Birmingham	32.00	31.00

Wrought Pipe—Both black and galvanized pipe have advanced again. Prices in carload lots on lap-welded steel and iron pipe, plain ends, Pittsburgh, are now quoted as follows:

	Black	Galvanized
Steel pipe, 2½ to 6 in.	$72.00	$97.00
Iron pipe, 2½ to 6 in.	94.00	120.00

Concrete Materials

Cement—The general nature of the advance in cement may be gathered from the distribution of the points at which price changes have occured shown below. Prices are per barrel, f.o.b. the points named, to contractors without sacks:

New York	$1.52	Duluth	$1.81
Pittsburgh	1.56	St. Paul	1.83
Cleveland	1.69	Cedar Rapids	1.79
Cincinnati	1.70	Kansas City	1.54
Detroit	1.65	Denver	2.00
Chicago	1.56	Houston	1.65
Atlanta	1.62	Salt Lake City	2.37
Jacksonville	1.70	Phoenix	2.85
New Orleans	1.90	Seattle	2.00
Memphis	1.79	Los Angeles	2.00

Sand—Prices quoted below are in large lots to contractors, f.o.b. the points named:

New York	$0.50	Houston	$1.00
*Cincinnati	.75	Denver	.95
Chicago	1.15	Salt Lake City	.70
New Orleans	1.20	Phoenix	1.00
St. Paul	.80	Seattle	.10
Kansas City	.60	Los Angeles	.35

*Price per ton.

Gravel and Crushed Rock—A number of further advances in price are recorded this month. Gravel is difficult to obtain in the vicinity of New York, the labor shortage having caused most producers to withdraw from the market. It is understood that no deliveries of crushed rock can be had at that city before 1917 except on existing contracts. Prices below are per cu. yd. to contractors in large lots, f.o.b. the points named:

	Gravel ¾ in.	Gravel 1½ in.	Crushed Rock ¾ in.	Crushed Rock 1½ in.
New York	....	$1.10	....	....
*Cincinnati	$ .75	.75	$ .90	$ .90
Chicago	1.15	1.15	1.00	1.00
New Orleans	1.55	1.55	2.00	2.00
St. Paul	1.60	.90	1.55	1.45
Kansas City	2.25	2.00	1.35	1.25
Houston	1.85	1.75	1.85	1.75
Denver	1.35	1.35	1.35	1.35
Salt Lake City	.70	.70	.70	.70
Phoenix	2.00	1.50	1.75	1.75
Seattle	.75	.40	1.50	1.50
Los Angeles	.85	.85	1.00	.95

*Price per ton.

Price advances are indicated by **heavy type**; declines by *italics*.

Brick and Paving Material

Brick—Several further advances in the price of common brick are recorded. Prices quoted below are per 1000, wholesale, f.o.b. the points named:

	Common	Paving
New York	**$8.75**	....
Cincinnati	3.50	$21.00
Chicago	6.00	25.00
New Orleans	7.40	30.00
St. Paul	**11.00**	*1.06
Kansas City	**8.00**	20.00
Houston	10.00	26.00
Denver	6.50	14.00
Salt Lake City	**10.00**	....
Phoenix	8.50	....
Seattle	7.50	28.75
Los Angeles	5.50	23.50

*Price per square yard.

Stone and Wood Paving Blocks—Prices below are per square yard to contractors f.o.b. the points named:

	Standard Stone Block	4-in. Wood Block
New York	**$2.20**	$2.00
*Cincinnati	70.00	32.00
New Orleans	1.35	1.41
St. Paul	1.75	1.48
Kansas City	2.00	1.58
Denver	....	1.86
Seattle	....	1.35

*Price per 1000.

Asphalt—Prices per ton, wholesale, recently quoted f.o.b. the points named, are as follows:

	Kind	Price per Ton
Cincinnati	Trinidad	$20.50
New Orleans	Texaco	20.00
Chicago	Trinidad	25.00
St. Paul	Sheet	*19.00*
Kansas City	Trinidad	**22.00**
Denver	Trinidad	40.00
Salt Lake City	Sheet	18.00
Phoenix	"B" Grade	25.00
Seattle	"B" Grade	**15.00**
Los Angeles		9.00

Lumber

The severe car shortage continues to be a serious factor in the lumber situation. Statistics on the first of November indicated a net shortage of more than 100,000 cars, the worst condition in which the railroads have ever found themselves. Orders considerably in excess of production as well as of deliveries continue to pile up at the mills.

Yellow Pine—Wholesale prices per 1000 ft. b.m., f.o.b. the points named, have recently been quoted as follows:

	1x10 Rough	2x10 D & M	8x8 20	12x12 20
New York	**$23.50**	**$24.50**	**$29.00**	**$37.00**
Cincinnati	32.00	29.00	26.00	29.75
Chicago	**25.00**	**22.00**	**25.50**	**29.00**
New Orleans	26.00	25.00	28.00	28.00
St. Paul	**26.00**	**26.25**	**31.00**	**38.00**
Kansas City	35.50	24.50	32.50	34.00
Houston	20.00	22.50	22.50	25.00

Fir—Wholesale prices per 1000 ft. b.m., f.o.b. the points named, are as follows:

	1x10 Rough	2x10 D & M	8x8 20	12x12 20
Chicago	....	....	**$32.25**	**$32.25**
St. Paul	**$25.00**	**$22.25**	**33.50**	**35.00**
Kansas City	27.00	....	27.00	28.00
Denver	20.00	21.00	*22.50*	*23.00*
Salt Lake City	22.00	....	22.50	22.00
Phoenix	....	*37.50*	*37.50*	....
*Seattle	**15.00**	**15.50**	**15.50**	**15.50**
*Los Angeles	21.00	21.00	21.00	21.00

*Base price.

Spruce and Hemlock—Recent prices, wholesale, per 1000 ft. b.m., f.o.b. the points named are as follows:

	Hemlock 1x10 Rough	Hemlock 8x8 20	Spruce, 8x8 20
Chicago	**$21.00**	**$23.00**	....
St. Paul	**22.00**	**29.00**	....
Kansas City	27.00	27.00	....
Denver	20.00	....	....
Salt Lake City	21.00	21.50	....
*Seattle	**15.50**	**15.50**	**15.50**
*Los Angeles	*20.00*	*20.00*	....

*Base price.

Sewer Pipe and Tile

Sewer Pipe—Prices per lineal foot in large lots to contractors have recently been quoted, f.o.b. the points named, as follows:

	3 in.	5 in.	8 in.	12 in.	24 in.	36 in.
New York	7.25	11.6	16	29	94.5	294
Cincinnati	**7.2**	10.8	16.8	32.4	130.5	338.25
Chicago	6.25	10	13.75	30	113.75	350
New Orleans	4	6.25	15.6	22.1	84.5	350
St. Paul	6.6	9.9	13.75	27.5	104.5	300
Kansas City	**7.3**	**11**	**15.25**	**27.5**	**99**	*240*
Houston	5.7	9.4	18.5	35.7	130	370
Denver	*3*	....	20.25	40	**137.5**	....
Salt Lake City	8	13.5	20.25	33.75	112.5	....
Phoenix	7.5	12.5	22.5	37.5	125	300
Seattle	7.5	....	22.5	41.25	175	....
Los Angeles	5.5	9	16	26.5	100	....

Hollow Building Tile—The difficulty in securing coal continues to embarrass the makers of tile in the New York district. As long as open weather continues, sufficient coal is likely to arrive to permit manufacture at a normal rate. The first interruptions to traffic from bad weather, however, are bound to be felt in this industry as well as in others. Prices for exterior tile per 1000, f.o.b. the points named, in large lots to contractors, follow:

	4x12x12	8x12x12	12x12x12
Perth Amboy	**$82.50**	**$140.00**	**$206.00**
Cincinnati	65.00	85.00	110.00
Chicago	54.00	101.25	140.00
New Orleans	77.50	137.50	170.00
St. Paul	**52.00**	**92.00**	**132.00**
Kansas City	46.75	90.00	126.00
Houston	70.00	115.00	.....
Denver	100.00	175.00	.....
Salt Lake City	60.00	95.00	135.00
Phoenix	100.00	175.00	.....
Seattle	54.50	100.00	170.00
Los Angeles	40.00	75.00	.....

Miscellaneous

Oil—Prices in the dark oils have advanced at a number of points, and the decline in gasoline appears to have been halted. Prices to contractors per barrel of 50 gal. at the points named have recently been quoted as follows:

	Fuel	Black	Red Engine	Steam Cylinder	Gasoline
New York	....	$7.50	**$14.00**	$17.50	$11.00
Cincinnati	$2.75	5.00	8.00	15.00	10.00
Chicago	1.61	4.50	9.00	16.50	7.75
New Orleans	3.50	5.50	10.50	16.50	9.25
St. Paul	4.25	3.75	*9.00*	16.00	*8.17*
Kansas City	5.85	3.55	8.85	16.35	7.40
Houston	1.30	4.50	9.00	18.00	9.00
Denver	5.25	8.25	15.00	*22.00*	10.00
Salt Lake City	....	8.00	17.00	25.00	12.50
Phoenix	1.75	**10.00**	**13.00**	**23.50**	12.25
Seattle	**3.69**	**6.25**	**10.50**	**20.00**	9.75
Los Angeles	**1.50**	**7.25**	**10.25**	**20.00**	9.00

Manila Rope—Prices per pound in full coils to contractors for ¾-in., 1-in. and 1½-in. rope local delivery at the points named are as follows:

New York	$0.20	Houston	$0.195
Cincinnati	.25	Denver	.23
Chicago	.195	Salt Lake City	.23
New Orleans	.20	Phoenix	.30
St. Paul	.22	Seattle	*.18*
Kansas City	.1975	Los Angeles	.175

Dynamite—Prices remain practically unchanged throughout the country. Those quoted below are per 100 lb. for the grades named to contractors, at the points indicated:

	20% Low Freezing	40% Gelatine	60% Gelatine	80% Gelatine
New York	....	$22.00	$27.00	....
Cincinnati	$14.75	16.75	19.25	29.50
Chicago	13.50	18.75	22.75	28.25
New Orleans	16.25	18.25	20.75	....
St. Paul	17.00	20.78	25.75	29.50
Kansas City	15.00	20.75	25.75	29.75
Houston	....	19.00	21.50	....
Denver	14.00	19.25	*23.25*	28.75
Salt Lake City	12.25	17.50	21.50	27.00
Phoenix	....	25.00	....	....
Seattle	10.00	**16.75**	**20.75**	....
Los Angeles	17.00	25.00	30.00	....

Copper—Copper has advanced considerably during the month, the market recently having been quiet with a strong undertone. Electrolytic at New York for nearby delivery has been quoted at 33½ cents per lb.

Lead—Prices have again gone up, and further increases seem to be expected. Transactions recently recorded at New York and at East St. Louis were at 7¼ and 7.15 cents per lb. respectively for early delivery.

Price advances are indicated by **heavy type**; declines by *italics*.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Reading, Mass.—Town voted $100,000 bonds for constructing sewerage system.

Buffalo, N. Y.—Geo. W. Fuller and Rudolph Hering, 170 Bway., New York, and H. P. Eddy, 14 Beacon St., Boston, Mass., engaged by City Council to report on proposed sewage disposal plants to alleviate pollution of Niagara River.

Yonkers, N. Y.—Ordinance authorizing installation of 3,000,000-gal. pump in the tube well station, eliminating high service station, reported approved. Edw. L. Peene, supt. waterworks.

Harrison, N. J.—Town Council has sold bonds for $232,000 to be used in connection with Passaic Valley sewerage work.

Union, N. J.—Town Council passed ordinance providing for issue of $200,000 sewer bonds. John E. Bowe, Jr., town engr.

Takoma Park, D. C.—Proposed to construct storage reservoir with a capacity of 5,500,000 gal., earthen bank, concrete lined; estimated cost, $25,000. Harry Stevens, engr., Union Trust Bldg., Washington, D. C.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Where name of official is not given inquiries should be addressed to City Clerk, County Clerk or corresponding official.

Penns Station, Pa.—Reported plans being prepared for sewage system to cost $25,000. Address Boro. Clk.

Franklin, Va.—Bonds (5 per cent) for $40,000 will be sold by Town Dec. 11 for filtering plant, water and sewerage extensions, Municipal Electric Light and Street Improvements. W. O. Bristow, finance com.

Franklin, Va.—Town voted $17,000 water and sewer bonds.

Charleston, W. Va.—Later reports state no waterworks improvements contemplated here.

New Iberia, La.—City voted $90,000 to construct sewer system.

Amherst, Ohio.—Village voted Nov. 21 to construct sanitary sewer system on W. Martin Ave. and West Side. E. E. Foster, mayor.

Dayton, Ohio.—Co. Comrs. approved plans for establishment of Mt. Auburn Sewer Dist. No. 1, providing a sewage disposal system for about 4 sq. miles.

Lima, O.—Later reports state election held recently for $500,000 bonds for constructing relief and storm sewers has been defeated.

★**Niles, O.**—Contract awarded Frank George, 1726 Mahoning Ave., Youngstown, for constructing sewers in Federal and West Sts., C. D. Calhoun, clk. bd. control.

Worthington, Ohio.—Jennings, Lawrence & Lindsay, Deshler Bldg., Columbus, engaged to report on feasibility of constructing sewer system, including necessary disposal plant and main trunk line sewer through village.

Ludington, Mich.—City Council approved plans for new sewer construction and improvements in Sewer Dist. No. 7. Geo. Clark, city engr.

Des Moines, Ia.—Plans being prepared by the City Eng. Dept. for constructing sewers in Highland Park Dist.; cost about $70,000.

Webster City, Iowa.—Proposed to improve municipal water and electric light plant, including installation of 500-kw. steam turbine, 250-hp. boiler and Taylor stoker.

Eveleth, Minn.—City contemplates laying about 3 miles 16-in. c. i. water mains, also installation of two electrically driven pumps, 1,000,000-gal. capacity.

Farmington, Minn.—Reported Village contemplates installation of sewer system to cost about $30,000. L. A. Whittier, village clk.

Winsted, Minn.—Reported Village considering installation of waterworks system. John Salmon, village clk.

Lawrence, Kan.—City has purchased private water plant for $75,000 and plans extensive improvements.

Benson, Neb.—City voted Nov. 7 to construct waterworks system. Bruno J. Viola, engr., Benson. C. H. Hollestelle, city clk.

Milbank, S. D.—Bonds for $25,000 have been voted for contructing filtration plant. F. L. Thompson, mayor.

El Dorado, Mo.—Reported City contemplates improving waterworks; cost about $20,000. C. P. Ryan, city clk.

Kansas City, Mo.—Bd. Pub. Wks. voted to construct sewers in Sewer Dist. No. 334 and in Sewer Div. No. 5. Curtis Hill, city engr.

Sedalia, Mo.—Steps being taken by City Council for constructing municipal waterworks plant; probable cost $300,000. L. P. Andrews, supt. waterworks.

Longmont, Colo.—City considering issue of $80,000 bonds for constructing waterworks.

Buffalo, Okla.—Town voted $15,000 waterworks bonds and $25,000 sewer bonds.

Monroe, Wash. — State Bd. Control, Olympia, has approved estimates for constructing water system at the State Reformatory; cost $88,000.

Seattle, Wash.—Plans submitted by A. H. Dimock, city engr., to Bd. Pub. Wks., for sewers in W. and N. 45th Sts.; cost $16,000.

Eugene, Ore.—See "Railroads."

Riddle, Ore.—Town voted $21,000 bonds for construction of water system and light plant.

Eagle Rock, Cal.—Citizens voted $75,000 bonds for purchasing and improving Eagle Rock Water Co.'s plant and distributing system. H. E. Carse, engr., 826 Washington Bldg., Los Angeles, Cal.

Midvale, Utah.—Town voted $35,000 bonds for constructing new municipal water system. Contract for construction soon to be let.

Orofino, Idaho.—Bd. Trustees have passed ordinance providing for the construction of a sewer system in Dist. No. 1. W. B. Kinne, village clk.

Hamilton, Ont.—Bids for sewers to cost $47,000 will be called for shortly by E. R. Gray, city engr.

St. Thomas, Ont.—City Council plans constructing septic tanks to cost $35,000. Mellis U. Fergusson, city engr.

Plans being prepared by Mellis U. Fergusson, city engr., for constructing storm sewer system to cost $75,000; election will be held in January.

BIDS DESIRED.

Larchmont, N. Y.—Until Dec. 4 by Bd. Village Trustees (Eugene D. Wakeman, clk.) for constructing a system of sewers. L. E. Van Etten, engr., 12-14 Lawton St., New Rochelle.

Lyndhurst, N. J.—Until Dec. 11 by Bd. of Township Comrs. (John F. Wood, twnp. clk.) 2505 Valley Brook Ave., for constructing sewage disposal plant for Union Township; advertised in this issue.

Plains, N. J.—See "Roads and Paving."

Union, N. J.—Until Dec. 11 by Bd. Township Comrs. (John F. Woods, clk.), 505 Valley Brook Ave., Lyndhurst, for furnishing material and constructing sewage disposal works. Thos. F. Bowe, engr., East Rutherford.

Washington, D. C.—By Bureau Supplies and Accounts, Navy Dept., Washington, D. C., for Sched. 400, Philadelphia, Pa., two 10,000-gal. storage tanks; Sched. 452, Mare Island, Cal., miscellaneous, galvanized iron pipe fittings; Sched. 457, Mare Island, Cal., miscellaneous, composition pipe fittings; Sched. 417, Mare Island Cal., and Puget Sound, Wash., miscellaneous, black steel pipe, and miscellaneous, galvanized steel pipe at various stations.

Clayton, N. C.—Until Dec. 15 by the Water and Light Dept. (T. Miller White, supt.), for laying 650 ft. of 6-in. and 2000 ft. of 8-in. c. i. water pipe, hydrants and valves.

Otsego, Mich.—Until Dec. 8 (readvertisement) by W. G. Conlan, village clk., for waterworks improvements, to consist of one well, 30 ft. diameter, resetting pumps, suction discharge and other piping for reset pumps, foundations for elevated tank and tower and addition 24 x 32 ft. to present pumping.

Berwyn, Ill.—Reported desired until Dec. 16 by Bd. Local Improvements for laying 3 miles of 6-in. c.-i. water mains.

Chilton, Wis.—Until March 6, by A. J. Pfiffert, city clk., for constructing waterworks at $45,000 and constructing sewers at $22,000. Jerry Donahue, engr., Sheboygan, Wis.

Stuart, Ia.—Until Dec. 12 by City Clk. for installation of about 39,000 ft. of cast-iron pipe, valves, etc., for extension to waterworks system. Theo. S. De Lay, engr., Creston.

Eveleth, Minn.—Until Dec. 5 by C. H. Williams, city clk., for 14,000 lin. ft. 16-in. c.-i. water main from pumping plant at St. Mary's Lake to Hayes St.

Fargo, N. D.—Until Dec. 13 by A. R. Watkins, city aud., for constructing sewer in portions of 10th Ave. S., 14th St., 1st Ave. and 5th Ave.; advertised in this issue.

Everett, Wash.—Until Dec. 11, by County Auditor, for installing waterworks system and pumping plant on site of the proposed Tuberculosis Sanitarium.

Ogden, Utah.—Until Dec. 5 by the city for constructing storm sewer; cost $30,000. Jos. M. Tracy, city engr.

Panama.—Until Dec. 8 by Maj. Earl I Brown, Corps Engrs., U. S., gen. puch. officer Panama Canal, Washington, D. C., for Cir. 1102, including pipe fittings, pipe straps, lead pipe, steel and steel castings, etc.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Newton, Mass.**—Contract for constructing two reservoirs on Waban Hill awarded by City to Old Colony Constr. Co., 6 Beacon St., Boston; total cost about $75,000.

★**Kenmore, N. Y.**—Contract for constructing storm water sewers in Myron Ave., reported awarded by Village to F. J. Mumm & Co., Buffalo; cost about $17,000.

★**Norfolk, Va.** — Contract reported awarded by City to Louis Lawson, Norfolk, at $20,328, to install water mains, valves and hydrants on Church, Plume, 16½ and 28th Sts., Loyall's Lane and Llewellyn Ave.

★**Havana, Fla.**—Contract awarded by Town to J. B. McCrary Co., 3d Natl. Bank Bldg., Atlanta, Ga., for constructing waterworks and electric light plant; cost $20,000.

★**Youngstown, Ohio.**—Contract reported awarded by City to Clyde C. Harris, La Clede and Oak Hill Ave., for constructing sewers, at $10,259.

★**Aurora, Ill.**—Contract for constructing reinforced concrete covered reservoir with appurtenances awarded by Bd. Pub. Wks. (bids opened Nov. 15) to Leyden-Ortseifen & Co., 53 W. Jackson St., Chicago, at $15,490.

Rock Island, Ill.—See "Structural Steel Work."

★**Madison, Wis.**—Contract for constructing sewers in Fair Oaks sewer dist. reported awarded by City to John F. Icke, Madison, at $12,500.

★**Corning, Iowa.**—Contract for constructing water system awarded by City to Maley & Keely Constr. Co., 503 Massachusetts Bldg., Kansas City, Mo., at $23,455.

★**Eveleth, Minn.**—Contract for installing storm sewers awarded by City to Lawrence-McCann Co., Pierce St., at $25,285, and for furnishing pipe to T. F. Lynch, Eveleth, at $4,290.

★**Red Cloud, Neb.**—Contract awarded to Elk Loon Construction Co., Fremont, for constructing sewer system, at $20,884; O. C. Teel, city clk.

★**Coolidge, Tex.**—Contract awarded for waterworks, estimated cost $18,880, as follows: Tower and tank, 50,000 gal. capacity, to Pittsburg-Des Moines Co., 1217-18 Praetorian Bldg., $4,850; distribution system, Dalton-Campell, $11,280; pump and oil engine, Texas Machinery Supply Co., North Market and Collins Sts.; bidders all of Dallas. Clyde Rhodes, city secy.

Sherman, Tex.—Following bids opened by W. G. Banks, city clk., Nov. 6 for constructing reinforced concrete reservoir, 120 ft. in diameter and 16 ft. high, at the Fairview Waterworks Stations, (A) complete, (B) complete except excavation and back fill: R. B. Sparks, Sherman, (A) $11,506, (B) $9,520; McCall Moore Engineering Co., Waco, (A) $14,534, (B) $12,534; U. S. Engineering Co., Ft. Worth, (B) $18,538; R. L. Cabell, Dallas, (B) $13,666.75. All bids were rejected; city may do own work.

Long Beach, Cal.—Following are four bids recently opened by City for pumps for sewer dist.: Tomich & Jaeger, 553 Pacific St., $37,000; S. M. Kerns, 322 Temple St., $39,000; John Ukropina, 705 Bernardo St., Los Angeles, $41,000; B. Z. Winebich, 1134 E. 10th St., $46,500. A. de Ring, city engr.

Long Beach, Cal.—Following bids opened by Bd. Pub. Wks., for constructing sewerage system for Santa Cruz Ave., Rose Way and other streets, involving 13,840 lin. ft. 8-in., 2932 ft. 10-in., 320 ft. 12-in., 145 ft. 14-in. vitri. pipe, 55 manholes, 15 flush tanks, pumping station with motor and centrifugal pump, etc.: Peter S. Tomich & S. W. Jaeger, Long Beach, $37,000; S. M. Kerns, Long Beach, $39,000; John Ukropina, Los Angeles, $41,000, and B. Z. Wucetich, Los Angeles, $46,500.

★**San Francisco, Cal.**—Contract for constructing sewers in La Playo Ave. and Great Highway reported awarded by City to Clinton Constr. Co., San Francisco, at $35,193.

★**Montreal, Que.**—Contract for installing "Helix" water meters reported awarded by City to Francis Hankin & Co., Montreal, at $25,092.

STRUCTURAL STEEL WORK

PROPOSED WORK.

Providence, R. I.—City approved $300,000 bridge bond issue at Nov. 7 election.

New York, N. Y.—City has appropriated $180,000 to construct steel bridge on concrete and rock foundations, with two spans of 39 ft. and 107 ft. each, 70 ft. wide, and with 170 lb. per sq. ft. capacity, over Eastchester Creek on Boston Road; undetermined when bids will be asked. F. W. Kracke, comr., Dept. Plant & Structures, Municipal Bldg, New York City.

Camden, N. J.—Plans are being considered by Major J. C. Oakes, U. S. engr., 1319 Walnut St., Philadelphia, for construction of proposed bridge between here and Petty's Island; plans provide for embankment 1100 ft. in river; trestle 1170 ft.; lifting span 70 ft. long, with vertical clearance 12 ft.

Baden, Pa.—County intends constructing bridge over Ohio River between here and Woodlawn. Address Co. Clk., Beaver.

Harrisburg, Pa.—Co. Comrs. of Dauphin County will repair all seven bridges over Mahantongo Creek connecting Northcumberland and this county.

Lebanon, Pa.—City has under consideration constructing of 8 bridges. P. A. Volcker, city engr.

Oil City, Pa.—Pennsylvania RR. (A. C. Shand, ch. engr., Broad St., Philadelphia) intends constructing double-track steel bridge here for Pittsburgh-Buffalo Division; estimated cost $2,000,000.

Reading, Pa.—Pub. Serv. Comn., Harrisburg, considering plans submitted by city and county officials for new steel bridge over Schuylkill River; estimated cost, $350,000.

Washington, D. C.—Preliminary estimates of proposed bridging of Potomac, York and Rappahannock Rivers by Washington Short Line RR. with spans not less than 500 ft. and clearance of 135 ft., placed at $8,000,000 for Potomac span and $3,000,000 for each of other two; permission for bridging Potomac requires sanction of Congress; constructing York and Rappahannock spans can be granted by Virginia State Legislature.

Plans being prepared by Dist. Comrs. for constructing viaduct over Military Road at 16th St. (estimated cost $90,000); also grading 16th St. extension to Alaska Ave. (estimated cost $60,000).

Jesup, Ga.—Preliminary plans for constructing causeway through swamps and bridging Altamaha River being considered by Counties of Wayne (Jesup, co. seat), Pierce (Blackshear, co. seat) and Liberty (Hinesville, co. seat); address J. F. Breen, chmn. co. bridge com., Jesup.

Gulf City, Fla.—Bayshore Dist. voted $30,000 to construct bridge over Little Manatee and another over Alafai River.

St. Petersburg, Fla.—Co. Comrs. considering petition of Dist. No. 2 for election to vote on $70,000 bonds to construct bridge over Boca Ceigs Bay between Pass-a-Grille and here. Plans have been completed by H. Walter Fuller, mgr., St. Petersburg Inv. Co., to bridge bay with private capital.

Vero, Fla.—Burrows Dev. Co. (Geo. H. Burrows, pres., Cleveland, O.) intends constructing $15,000 bridge between here and beach, also hard-surfaced road 1 mile long.

Clayton, Ala.—County Comrs. of Barbour (Clayton, co. seat), and Pike (Troy co. seat), conferring over plans for constructing two bridges across Pea River; construction expense to be borne equally.

Columbus, O.—City approved Nov. 7 $1,500,000 bond issue, its proportionate share for reconstructing bridges over Scioto River swept away by 1913 flood. County will vote in spring on $2,000,000 bonds for improving channel.

New Philadelphia, O.—Co. Comrs. intend constructing new bridge at E. Center St. and repairing bridge over Beaver Dam Creek in Beaver Ave. and one over Sugarcreek on inter-county road No. 414, south of Strasburg.

Youngstown, O.—County voted bonds to construct bridge here and Coitsville Township voted to construct bridge and fill over Dry Run.

Washington, Ind.—Permission has been granted Evansville & Indianapolis RR. (W. P. Kappes, receiver, Lemcke Bldg., Indianapolis), to borrow $75,000 with which to reconstruct bridge at Rogers, near here, and construct terminal facilities in Greenwood yard at Terre Haute.

Chicago, Ill.—Plans about completed for $600,000 bridge from Orleans to Franlin St. John Ericson, city engr.

Clinton, Ill.—County considering construction of 128-ft. bridge in spring.

Geneva, Ill.—Contract will shortly be awarded for bridge at Main St.; estimated cost $40,000. George N. Lamb, co. supt. highways.

Wilmington, Ill.—City has under consideration constructing bridge over Kankakee River.

Readstown, Wis.—Plans are under consideration for constructing bridge over Kickapoo River. Address City Clk.

Sheybogan, Wis.—Contracts will be awarded in spring for $50,000 bridge at S. 14th St.

Ames, Ia.—Plans being prepared for constructing 3 bridges over Skunk River. D. L. Teal, co. engr.

Centerville, Ia.—Plans are being prepared by A. H. Withington, co. engr., for 3 bridges to be constructed in county.

Sibley, Iowa.—Bridge bonds for $13,000 have been sold. Address Co. Clerk.

Sioux City, Iowa.—Bridges and culverts will shortly be constructed in Arlington, Banner, Concord, Floyd, Moville and Woodbury Twps. E. E. Hosmer, co. aud.

Albany, Minn.—Great Northern & Soo RR. (A. H. Hogeland, ch. engr., St. Paul, Minn.) will construct $80,000 steel bridge with concrete abutments.

★**Sedalia, Mo.**—Following are unit figures of three bids received Nov. 6 by city for sewage disposal plant and sewer improvements: (a) J. W. Menefee, Sedalia, $58,824 (awarded contract); (b) T. H. Johnson, Sedalia, $59,494; (c) Koehler Const. Co., Kansas City, Mo., $60,500; engrs. Burns & McDonnell, Interstate Bldg., Kansas City, Mo.:

	★(a)		(b)		(c)	
Construction, lump sum	....	$50,000.00	....	$50,727.00	....	$51,638.20
Engineering	....	2,500.00	....	2,536.35	....	2,717.80
Disposal plant, total	....	52,500.00	....	53.263.35	....	54,356.00
5,810 cu. yd. earth excav.	$0.40	For more or less quantities.	$0.55	For more or less quantities.	$0.60	For more or less quantities.
540 cu. yd. rock excav.	3.50		3.30		3.50	
1,480 cu. yd. concrete	10.00		6.40		12.00	
4,265 cu. yd. filter stone	2.50		2.25		3.25	
42 cu. yd. filter gravel	2.50		2.25		3.25	
56 cu. yd. filter sand	2.50		1.90		2.00	
84,000 lb. reinforcing steel	.05		.03¾		.049	
1,750 lb. miscellaneous steel	.15		.08		.06	
35,600 lin. ft. 6" split tile	.05		.05½		.06	
390 lin. ft. 6" drain tile	.05		.11		.12	
72 lin. ft. 6" vit. sewer pipe	.11		.12		.17	
3,180 lin. ft. 8" vit. sewer pipe	.17		.22		.23	
16 lin. ft. 12" vit. sewer pipe	.28		.33		.69	
380 lin. ft. 15" split sewer pipe	.28		.41		.51	
80 lin. ft. 15" vit. sewer pipe	.45		.48		1.25	
762 lin. ft. 18" vit. sewer pipe	.65		.70		1.50	
215 lin. ft. 24" vit. sewer pipe	1.20		1.30		1.70	
408 lin. ft. 8" cast iron pipe	1.50		1.40		1.40	
1,008 lin. ft. 3" galv. w.i. pipe	.55		.55		.60	
8,650 lb. special c.i. fittings	.05½		.05		.05	
46 gate valves	21.00		22.00		23.00	
252 nozzles	2.50		2.50		2.00	
2 manholes	40.00		35.00		40.00	
10 valve boxes	5.00		5.50		5.00	
Sewer construction:						
2,442 lin. ft. 24-in. vitr. pipe laid	2.00	4,884.00	1.97	4,410.74	2.00	4,884.00
4 manholes	35.00	140.00	35.00	140.00	40.00	160.00
2,000 lin. ft. loose rock, 1-in. deep	0.25	500.00	0.24	480.00	0.20	400.00
2,000 lin. ft. solid rock, 1-in. deep	0.40	800.00	0.40	800.00	0.35	700.00
Total	....	6,324.00	....	5,830.74	....	6,144.00
Grand total	....	58,824.00	....	59,494.09	....	60,500.00

Note—Bid of T. H. Johnson on items 11 to 17 inclusive does not include trenching.

Duluth, Minn.—Co. Comrs. considering petition for constructing bridge over St. Louis River. E. K. Coe, co. engr.

Owatonna, Minn.—City voted $20,000 for bridge (either steel or concrete) over Straight River at Bridge St., to replace present steel bridge.

Leavenworth, Kan.—Estimated cost to repair Eudora bridge span placed at $25,000; address Co. Clk.

Paola, Kan.—Estimated cost of constructing proposed bridges in county placed at $20,000. C. H. Helman, co. clk.

Chamberlain, S. D.—Plans are being prepared by Chicago, Milwaukee & St. Paul RR. (C. F. Loweth, ch. engr., 80 E. Jackson Boule., Chicago, Ill.) for constructing bridge over Missouri River.

Joplin, Mo.—Plans for constructing viaduct over Frisco RR. (F. G. Jonah, ch. engr., St. Louis, Mo.) tracks being considered by City Comn. Hugh McIndoe, mayor.

Unionville, Mo.—County voted $100,000 bridge bonds.

Little Rock, Ark.—Co. Comrs. intend constructing one 120 ft., another 60 ft. and number of smaller bridges as part of improvement of 6 miles of Little Rock-Pine Bluff highway providing Perkins Township will bear half of cost, estimated at $80,000. Joe Asher, co. judge.

Mt. Ida, Ark.—Quorum Court appropriated funds to make preliminary surveys for proposed bridges and County federal aid highways. Address Co. Judge.

Cleburne, Tex.—Plans are being prepared by J. Buckner, city engr., for bridge over W. Buffalo Creek.

Minco, Okla.—Citizens have raised $60,000 with which to construct toll bridge over South Canadian River.

Pryor, Okla.—County Comrs., Mayes Co., intend constructing two approaches to Free Bridge over Grand River.

Barstow, Cal.—County will construct bridge over Mojave River; estimated cost $12,000. L. R. Lothrop, co. highway comr.

Rio Vista, Cal.—Plans being prepared by F. A. Steiger, engr., Vallejo, Cal., for constructing bridge over Sacramento River between Solano and Sacramento Counties; estimated cost $200,000.

St. Thomas, Ont.—Michigan Central Ry. (M. Fenwic, supt.), St. Thomas, Ont., intends constructing steel and concrete bridges at Muncey and Alvinston; total estimated cost, $65,000.

Toronto, Ont.—City intends issuing $74,000 additional bonds for Cherry St. bridge work. Plans for constructing 3 bridges over RR. tracks have been rejected by City as presented by Canadian Pacific RR. (J. G. Sullivan, ch. engr., Winnipeg, Man.) to Bd. Control and Harbor Comrs.; instead, one bridge will be constructed, main sect. of which will be constructed simultaneously with the new Union Station.

York Township, Ont.—Plans are being prepared by Frank Braber, engr., 57 Adelaide St., Toronto, for steel and concrete bridge; estimated cost $22,000.

BIDS DESIRED.

Rogers, Ga.—By County Comrs. (J. D. Newton, Chmn., Millen) for constructing and completing 8 forty-foot span bridges each 12 ft. wide across Ogeechee River, near here; certified check of $250 to accompany bid.

Molino, Fla.—Until Dec. 12 by Escambia Co. Comrs. (W. C. Barrineau, chmn., Pensacola, Fla.), for constructing steel bridge across Escambia River, also approaches thereto with all necessary appurtenances. Geo. Rommel, jr., engr., Pensacola.

New Hampton, Ia.—Bridge bonds for $50,000 will be sold Dec. 18 by Co. Bd. Supers.

Moorhead, Minn.—See "Excavation, Drainage & Dredging."

Malta, Mont.—Until Dec. 20 by the U. S. Reclamation Service, Washington, D. C., for furnishing and erecting one steel highway bridge, consisting of four 41-ft. 6-in. pony truss spans over the spillway at the Sherburne Lakes Dam, Milk River Project.

Chillicothe, Mo.—Reported desired until Dec. 9 by Livingston Co. for constructing 7 bridges. J. Broaddus, bridge comr.

South Bend, Wash.—Until Dec. 12, by Co. Comrs., Byron Phelps, co. aud., Seattle, for constructing Brisack bridge (102 ft. Howe truss, 20 ft. wide) over Snoqualmie river; certified check for 5 per cent.; estimated cost $9,000; A. P. Denton, co. engr.

PRICES AND LETTINGS.

★Indicates award of contract.

★Merritt, Fla.—Contract awarded by Co. Comrs., Titusille, to C. T. Dawkins, Jacksonville, at $60,000 for constructing Cocoa-Merritt bridge.

★Dayton, Ohio.—Contract awarded by Co. Comrs. Nov. 4 to Central States Bridge Co., Indianapolis, Ind., at $26,880 for constructing superstructure of Upper Union bridge over Stillwater River.

★Youngstown, Ohio.—Contract awarded by City (Frank M. Lillie, city engr.) and New York Central RR. (H. B. Reinsagen, ch. asst. engr.) to American Bridge Co., Ambridge, Pa., for steel for East Federal St. viaduct. Carmichael-Cryder Co., St. Louis, Mo., will probably be awarded contract for construction at $124,384.

★Rock Island, Ill.—Contract for constructing 300,000-gal. capacity steel tank at Rock Island Arsenal reported awarded Rock Island Bridge & Iron Wks., Rock Island; cost about $19,000.

★Fairfield, Ia.—Contract awarded Nov. 18 by Co. Bd. Supervs. to Ottumwa Supply & Constr. Co., Ottumwa, Ia., at $19,999, for constructing Merrimac bridge, consisting of 3 124-ft. steel truss spans, 18-ft. roadway, concrete floor.

Seattle, Wash.—Following bids were received by Bd. Pub. Wks. (G. B. Bagley, secy.) for constructing steel and concrete approach to Freeman Ave. bridge over Lake Union: Graff & Sheldon, Tacoma, $19,305; Pacific States Construction Co., Seattle, $29,816. F. A. Rapp, bridge eng.

REINFORCED CONCRETE

PROPOSED WORK.

Newcastle, Pa.—Contract will probably be awarded in January for $35,000 concrete bridge over Meshannock Creek. T. A. Gilkey, engr

Richmond, Va.—Atlantic Coast Line Ry. (J. E. Willoughby, ch. engr., Wilmington, N. C., intends constructing concrete arch bridge, 30 ft. wide, as part of $500,000 freight terminal improvement here.

Sussex, Va.—County intends constructing 18-ft. concrete bridge over Belcher's Mill creek.

North Wilkesboro, N. C.—City contemplates constructing concrete dam across Reddies River; estimated cost about $25,000. J. N. Ambler, Winston-Salem, engr. J. R. Marlow, chmn. water & lt. comn.

Augusta, Ga.—Co. Comrs. intend replacing all wooden bridges in county with concrete ones.

Bainbridge, Ga.—Plans being prepared by Good Roads Dept. of University of Georgia for $40,000 concrete bridge over Flint River; address Co. Clk.

Tampa, Fla.—Plans for $1,000,000 concrete railway and toll bridge with 2 1000-ft. archways, over Old Tampa Bay for Tampa & St. Petersburg Ry. (Alfred Gandy, secy., St. Petersburg), have been approved by Maj. W. B. Ladue of War Dept., Jacksonville. Atlantic Coast Line RR. (J. E. Willoughby, Wilmington, N. C.), considering leasing right-of-way over this bridge.

Marietta, Ohio.—Waterworks improvements, including construction of concrete storage tank with capacity of about 4,000,000 gal. contemplated. Harry J. McClure, supt. waterworks.

Momence, Ill.—Plans will shortly be prepared for concrete bridge over north branch of river here. F. M. Enos, supt. of highways, Kankakee.

Beloit, Wis.—Plans are being prepared by G. E. Heebink, city engr., for reinforced concrete bridge over Rock River at E. Grand Ave.

Junction City, Kan. — Contracts will shortly be awarded for concrete bridge between here and Ft. Riley, over Republican River; estimated cost $30,000. Brig. Gen. Wm. M. Black, ch. engr., Washington, D. C.

Parsons, Kan.—Contracts will shortly be awarded for constructing $7,000 concrete bridge on Main St. Address Co. Clk., Oswego.

Hanford, Cal.—Bd. Supervs. intend constructing concrete bridge over Last Chance Canal, 4½ miles west of here.

San Diego, Cal.—Plans being prepared by Geo. Cromwell, city engr., for constructing concrete wall 5 ft. high on top of Morena dam to prevent overflow; estimated cost $15,000.

Ft. William, Ont.—Canadian Northern Ry. (A. F. Stewart, ch. engr., Toronto) contemplates constructing docks of reinforced concrete; cost $100,000.

BIDS DESIRED.

Rockford, Ala.—Until Dec. 11, by Co. Comrs., for constructing two concrete bridges with 40 ft. span, one with 20 ft. span. Lofton Thomas, judge of probate.

Ellsworth, Kan.—Reported desired until Dec. 20 by A. J. Klirgersmith, co. clk., for constructing a concrete bridge across Smoky Hill River; cost about $30,000.

PRICES AND LETTINGS.

★Indicates award of contract.

★Albany, N. Y.—Contract awarded by W. W. Wotherspoon, supt. pub. wks. Nov. 24 to Browne & Lowe Co., 111 Foster Ave., Schenectady, N. Y., at $21,780 for constructing concrete apron below the head gates of the Visher Ferry Dam.

★Elkton, Md.—Contracts awarded by State Highway Dept., Baltimore, to L. G. Denterman & Son, Walkersville, Md., at $17,545, for concrete bridge over Little Elk Creek.

★Kansas City, Mo.—Contract awarded by Park Comrs., T. C. Harrington, secy. (bids opened Nov. 22), to Horton Concrete Constr. Co., 520 Reliance Bldg., Kansas City, Mo., at $144,943, for constructing concrete bridge at 71st St. over Blue River in Swope Park.

ROADS AND PAVING

PROPOSED WORK.

Fitchburg, Mass.—Preliminary estimates for widening Main St. run from $100,000 to $250,000. Address City Clk.

Camden, N. J.—Plans being prepared by I. E. Farnham, city eng., for paving South 8th and Chase Sts. and Ephraim Ave. with asphalt and concrete foundation; also resurfacing Market St. with asphalt. William D. Brown, clerk.

Clifton, N. J.—Bd. Freeholders, Paterson, intend improving Main St. through Acquackanonck township; part of expense to be borne by Public Service Corp., Newark, N. J.

Keyport, N. J.—Plans are being prepared by Geo. D. Cooper, co. engr., 60 Broad St., Red Bank, N. J., for improving 5 miles Keyport-Red Bank road with concrete base, earth fill; estimated cost $150,000.

Newark, N. J.—Paving and sewer bonds amounting to $1,600,000 have been sold by city.

Bd. Freeholders contemplate paving following streets: Fairview Ave., estimated cost $20,000; Grove, $10,000; So. Orange, $15,000; Hobart Gap, $10,000; Roseland, $10,000. Fred. A. Reimer, co. engr.

Paterson, N. J.—Bd. Pub. Wks. intends grading, curbing and guttering 8 streets. Arthur Livingston, acting city clk.

Salem, N. J.—Estimated cost of new state road to be constructed between here and Penn's Grove and Woodstown placed at $160,000. H. B. Keasby, co. engr.

Toms River, N. J.—Bd. of Freeholders contemplates constructing 91 miles of road at estimated cost of $203,000.

West Orange, N. J.—Improvement of Valley Road, Main St. and Ashland Ave. contemplated by town. George W. Foster, clk.

Carnegie, Pa.—Borough voted $100,000 street improvement bonds.

Clifton Heights, Pa.—Borough approved at Nov. 7 election issuing $70,000 bonds, part of which will be used for proposed paving work.

Germantown, Pa.—City considering paving portions of Germantown and Chelton Aves. with granite block.

Monessen, Pa.—City voted $110,000 street improvement bonds. A. W. Johns, city engr.

Pennsylvania—State Highway Dept., Harrisburg, preparing plans to pave with brick Johnstown and Ebensburg roads.

Pittsburgh, Pa.—City intends grading, paving and curbing Eureka St. (estimated cost $12,500) and Smith Way ($13,000). Jos. G. Armstrong, mayor.

Baltimore, Md.—City approved bond issue of $3,000,000 for improving streets in old part of city and annexed part. R. M. Cooksey, city engr.

Washington, D. C.—See "Structural Steel."

Charlotteville, Va.—Bd. Supervs. have under consideration construction of highway from Nortonsville to here, bridging Lynch River enroute. Address J. M. Fry, superv.

Norfolk, Va.—Bd. Aldermen appropriated $125,000 to repave Church St. between Norfolk & Western RR. tracks and Lafayette Park.

Newland, N. C.—County appropriated $12,000 to construct road from Edgemont to Carolina and Northwestern RR. through Gragg settlement.

Taylorsville, N. C.—Road improvement bonds, $[illegible]0,000 will be sold Dec. 5 by W. A. Barnett, clk. bd. comrs.

Jacksonville, Fla.—City intends paving portions of Laura, Forsyth, Hogan and other streets with asphalt on 6-in. concrete base.

Perry, Fla.—County sold $600,000 good road bonds.

Gadsden, Ala.—City sold $35,000 paving bonds; contracts for road work will shortly be let.

Thibodaux, La.—Lafourche Parish sold $80,000 improvement bonds.

Clarksville, Tenn.—County Court, G. W. Tyler, judge, sold $50,000 good road bonds.

Fayetteville, Tenn.—Co. Comrs. intend hard-surfacing Jackson Highway from Wells' Hill to Alabama line, at $1,000 per mile.

Jonesboro, Tenn.—Meeting Dec. 4 of Good Roads Com. (Maj. Paul E. Devine, chmn.) at courthouse to report on proposed county road work.

Knoxville, Tenn.—City intends grading, paving and guttering numerous streets in four new improvement districts. Robert P. Williams, city recorder.

Manchester, Tenn.—County approved at Nov. 7 election issuing $250,000 road improvement bonds.

Maryville, Tenn.—County sold $100,000 road bonds.

Morristown, Tenn.—County Road Comrs. sold $150,000 road improvement bonds.

Frankfort, Ky.—Estimated cost to reconstruct county pike placed at $30,000; address Co. Clk.

Georgetown, Ky.—County sold $100,000 good road bonds.

Greenup, Ky.—Until Dec. 5 by C. S. Bennett, highway engr., for constructing roads 45, F1, 45, G3, 45, and E4.

Paducah, Ky.—Road and bridge bonds for $200,000 will be sold Dec. 14 at the Fiscal court of McCracken Co. (Jas. M. Lang, co. judge).

Wickliffe, Ky.—County sold $300,000 good road bonds.

Cincinnati, Ohio.—Estimate of $197,139 for improving Eastern Ave. from Ferry to Lumber St. with granite and laying 12-in. water mains and cement walks, by Frank S. Krug, city eng., approved by council; bids will shortly be asked.

Bids will shortly be received for improving Springfield and Hamilton pikes; total estimated cost $250,000; address Co. Clk.

Estimated cost of improving Salem Pike placed at $24,561 by Wm. Boeh, co. surv.

Cleveland, O.—Citizens approved at Nov. 7 election issuing $3,000,000 paving bonds; bids will shortly be asked for improving with stone or wood block Cedar Ave.; estimated cost $127,000. R. Hoffman, city engr.

Columbus, O.—City intends improving 3d, 4th and Front Sts. and has requested Columbus Ry., Power & Light Co. to double-track its lines on 3d St. with standard gage. Henry Maetzel, city engr.

Greenville, O.—City has under consideration paving Union and West Sts. R. H. Horn, city engr.

Maple Heights (P. O. Bedford), O.—Street improvements bonds for $18,000 will be sold Dec. 23, by Chas. Holtz, village clk., Bedford.

Marion, O.—Estimated cost for constructing new roads in 1917 placed at $140,000 by Wm. E. Weston, co. surv.

Marion, Ohio.—Street improvement bonds in two separate issues will be sold Dec. 20 by Frank J. Weber, city aud., first issue $39,300 and second issue $52,500 for street pavement and sewer improvements.

Mt. Vernon, O.—Comrs. intend improving road between here and Howard.

St. Clausville, O.—York Township voted $30,000 road improvement bonds Nov. 7. Address, Co. Clk.

Youngstown, O.—Estimated cost of widening and improving W. Federal St. placed at $225,000. Frank M. Lillie, city engr.

Xenia, Ohio.—City sold $91,000 paving bonds. J. P. Shumaker, city engr.

Balbec, Ind.—Co. Comrs., Portland, intend paving road from here to line between Jay and Wells Counties and road between Union St. in Pennville and Balbec with brick.

Goshen, Ind.—County considering improving with brick 2 miles Middlebury Road. W. Gillette, co. surv.

Topeka, Ind.—Co. Comrs. intend constructing 5-mile gravel road between here and Emma.

Flint, Mich.—County Comrs. contemplate constructing gravel roads; estimated cost $1,000,000. Geo. McVannell Co., engrs.

Grand Rapids, Mich.—City intends issuing $324,000 bonds for improving streets and constructing sewers.

Ironwood, Mich.—Co. Comrs. Bessemer intend constructing 6-mile highway between here and Lake Superior, including construction of steel and concrete bridge; estimated cost of latter $24,000. C. F. Winkler, highway engr.

Marshall, Mich.—County voted at recent election $800,000 road bonds.

Ontonagon, Mich.—County voted $195,000 road bonds.

Sault Ste. Marie, Mich.—County sold $100,000 road improvement.

Benton, Ill.—Plans are being prepared by A. C. Powell, engr., Benton, Ill., for constructing hard roads in West Frankfort and Denning townships; total, 6 miles of brick.

Canton, Ill.—Estimated cost of contemplated 1½ miles of brick on concrete base pavement placed at $30,000; bids will probably be asked in February. E. F. Motsinger, co. supt. highways.

Cicero, Ill.—Contract will soon be let for paving portion of 16th St. with vitrified brick and laying concrete curb; estimated cost, $17,279. T. L. Mongrieg, engr.

Gillespie, Ill.—Plans are being prepared by A. S. Morse, engr., Carlinville, Ill., for paving with brick and laying concrete curbs and gutters in Main St.; estimated cost, $27,000. J. Eiles, clk.

Joliet, Ill.—City considering paving Marion St. with brick and asphalt; estimated cost, $28,000.

Winnetka, Ill.—Estimated cost of street improvement work in South East Dist. placed at $200,000.

Des Moines, Ia.—City intends widening and improving following streets next summer: 6th, Woodland and Court Aves., High and 5th Sts. and Keosauqua Way. John Budd, street supt.

St. Paul, Minn.—State Highway Comn., has recommended that $137,500 be allotted from federal aid fund for St. Paul-Duluth highway; Pine County has appropriated $25,000, and cities of Minneapolis, St. Paul and Duluth have each raised $45,000 for constructing road. Comn. has also recommended that following counties receive federal aid: Carver, $15,000, for Yellowstone trail; Crow Wing, $30,000; Mille Lacs, $50,000; Sherburn, $15,000 for scenic highway; Scott, $15,000 for Daniel Boone trail and Albert Lea Road. Applications under consideration from Freeborn County for $23,000 and Renville and McLeod counties for $40,000 each.

Topeka, Kan.—City Comrs. intend paving Park, Huntington, Euclid and other avenues with asphaltic concrete.

Wichita, Kan.—Paving, excavating, curbing and guttering contemplated on Broadway, Ellis, Wabash and other avenues. H. D. Lester, city clk.

Lincoln, Neb.—County approved at Nov. 7 election issuing $500,000 road improvement bonds. H. E. Wells, co. clk.

Madison, S. D.—City intends paving Egan Ave. from RR. tracks to city limits and portions of 7th and 11th Sts.

Montana.—State Highway Comn., Geo. R. Metlen, secy., Helena, intends improving Yellowstone trail with $30,000 federal aid; estimated cost $110,000. Mineral County (Superior, co. seat) will improve this trail from Alberton to Cryand which includes eliminating "Nigger Hill" and construction of steel and concrete bridges. Missoula County (Missoula, co. seat) intends constructing new road around Marshall hill; probably cost $10,0000. Beaverhead County (Dillon, co. seat) intends reconstructing from 10 to 20 miles of county highways.

Kansas City, Mo.—Estimated cost of widening and improving Oak St. placed at $700,000. Curtis Hill, city engr.

Maryville, Mo.—County Court has under consideration construction of public road in Jefferson, Lincoln & Atchison townships.

Augusta, Ark.—Contract will soon be let by State Highway Comn., Little Rock, for $53,000 highway between here and Fitzhugh 8½ miles of which will be constructed of macadam, 4 miles with gravel.

Austin, Tex.—Street improvement bonds for $50,000 approved by attorney general; address City Clk.

Beeville, Tex.—Funds being subscribed for 240 mile Eagle Pass highway through here from Eagle Pass to Rockport. Address Co. Clk.

Brownwood, Tex.—Co. Comrs. considering petition for $500,000 good road bond. Geo. D. Marshall, state highway engr., Austin.

Corpus Christi, Tex.—City has under consideration paving 24,000 sq. yd. paving on Leopard and Staples Sts. Texas Bitulithic Co., Dallas, submitted only bid for 15,650 lin. ft. of curbing and guttering for recent advertised work.

Corsicana, Tex.—County appropriated $150,000 road bonds in Dist. No. 9 at Nov. 4 election.

Dallas, Tex.—County election to be held Dec. 21 to appropriate $1,000,000 road bonds.

Denton, Tex.—City has under consideration construction of sidewalks, curbs and gutters on Sanger Ave.; estimated cost $20,000. Also paving Good St. with Uvalde asphalt. H. Mossley, city engr.

Ft. Worth, Tex.—Contract will soon be awarded by City Comn. for paving with bitulithic E. Terrell Ave.; estimated cost $46,000.

Houston, Tex.—Road bonds of Dist. No. 1, Harris County, for $20,000 approved by attorney general.

Palestine, Tex.—County has under consideration election to appropriate $400,000 road bonds; Frankston Precinct intends issuing $25,000 road bonds.

Saratoga, Tex.—Road Dist. No. 1 voted $100,000 road bonds. Address Co. Clk., Kountze.

Tyler, Tex.—County sold $100,000 road bonds.

Wheeler, Tex.—Road Dist. No. 1 voted $50,000 road bonds. Address Co. Clk.

Pueblo, Col.—City Council considering petition of South Side Paving Dist. to improve approximately 100 blocks with bitulithic. John H. Jackson, city clk.

Buffalo, Okla.—Yelton (James M. Smith, clk.), and Buffalo (J. H. Leith, clk.), appropriated funds for road and bridge purposes. E. L. Hubbard, co. clk.

Hollis, Okla.—County considering issuing $15,000 bonds for road and bridge work.

Okmulgee, Okla.—County voted at recent election $200,000 good road bonds. Road bonds for $800,000 will be sold Dec. 15; address C. Goree, co. clk.

Boulder, Colo.—Contract about to be awarded for paving 13 streets with reinforced concrete pavement. O. P. Clark, city clk.; incorrectly reported last month as Boulder, Ohio.

Kennewick, Wash.—Estimated cost of paving one mile of streets in spring placed at $13,000 to $18,000. Address City Clk.

Vancouver, Wash.—Grading, graveling and laying curbs and concrete walks on Washington, Columbia & W. 24th Sts., under consideration by city. R. E. Brady, clk.

Walla Walla, Wash.—Co. Comrs. intend asking State Highway Comn., Olympia, for $75,000 federal aid to improve Inland Empire highway. C. F. Demient, co. aud.

Enterprise, Ore.—Estimated cost of County road work in 1917 placed at $500,000 by R. L. Rudd, co. engr.

Berkeley, Cal.—All bids received Nov. 3 for paving University Ave. rejected; undetermined when bids will be readvertised. A. G. Briggs, city clk.

Los Angeles, Cal.—Cities of Los Angeles, Tropico and Glendale will bear proportionate share of expense to extend Brand Boule. southward into this city. County has appropriated $5,000 towards constructing proposed bridge at Ivanhoe over Los Angeles River on boule.; address Co. Clk. Contract will soon be awarded for grading and constructing 2¾ miles of Torrance Redondo Beach road; estimated cost $33,000. A. M. McPherrin, co. clk.

Sacramento, Cal.—Highway bonds for $1,750,000 will be sold Dec. 15 by Bd. Co. Supervs.

San Francisco, Cal.—Bd. Wks. intends improving and extending Market St. Boule. over Twin Peaks.

Lewiston, Idaho.—Comrs. Lapwai Valley Highway Dist. will vote Dec. 5 on $150,000 road construction bonds.

Twin Falls, Idaho.—City intends laying 8 miles of new sidewalks at estimated cost of $11,376. Address City Clk.

Woodland, Cal.—Considerable agitation in county to construct 110 mile new highway connecting every city, town and community; estimated cost $1,225,000. A. G. Proctor, co. surv.

Leamington, Ont.—City will let contracts in spring for concrete paving, estimated at $35,000.

Toronto, Ont.—City intends issuing $374,000 street and sewer bonds.

BIDS DESIRED.

St. George, S. I., N. Y.—Until Dec. 4, by Calvin D. Van Name, pres. Richmond Boro., for regulating, paving, as follows: 16-ft. roadway, 3600 sq. yd. bituminous concrete, 660 cu. yd. of concrete foundation and edging on portions of Elliott Ave., together with all work incidental thereto; security $3,900.

Elizabeth, N. J.—Until Dec. 7, by Wm. P. Neafsey, st. comr., for street improvement work; involves 6145 sq. yd. sheet asphalt, paving 3237 sq. yd. granite block pavement and about 7000 lin. ft. of bluestone curbs.

Plains, Pa.—Reported desired until Dec. 8 by Paxson & Morgan, engrs., Second National Bank Bldg., Wilkes-Barre, for grading, paving and laying sidewalks; also separate bids same date for constructing storm sewers on a number of streets.

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Lexington, Miss.—Reported desired until Dec. 8 by Holmes Co. Highway Comrs., for constructing about 50 miles of roads; Snowden & Hauser, engrs., Jaskson and Columbus.

Indiana.—By County Comrs. for constructing following roads:
Until Dec. 6:
Shelbyville, gravel road, about 13,962 ft. long, in Moral Township. F. W. Fagel, co. aud.
Until Dec. 14:
New Albany, for 6,691 ft. and 4850 ft. of roadway in New Albany Township, Emile Duquaquier, co. aud.

Algona, Ia.—Until Jan. 11 by city for constructing about 40,000 sq. yd. of pavements and 40,000 linear ft. of combined curb and gutter; bids will be desired on Portland cement concrete, asphaltic concrete, Topeka and brick or brick block. Theo. S. De Lay, engr., Creston.

Butte, Mont.—Until Dec. 20, by A. A. Dockstader, city clk., for paving, curbing, laying gutters and sewer in Montana St. within S. I. D. 211. 8640 cu. yd. excav.; 26,856 sq. yd. paving, 7066 lin. ft. plain gutter; 300 lin. ft. combination curb and gutter; 4165 lin. ft. 10-in. vitrified or cement sewer pipe; 12 manholes with covers; 18 catch basins with covers; certified check for 10 per cent.

Ventura, Cal.—Until Dec. 5, by Bd. Superv. (J. B. McCloskey, clk.), for constructing 6.01 miles of roadway on Div. 4, Piru to county line, in all about 36,300 cu. yd. excavating, including borrow, 464 cu. yd. concrete and 25,360 lb. reinforcing steel in bridges, etc.

PRICES AND LETTINGS.
★Indicates award of contract.

Methuen, Mass.—Following bids were opened by State Highway Comn., Boston, for constructing sect. state highway through here: Jos. Wagenbach & Son, Lawrence, Mass., $11,898; Middlesex Constr. Co., Medford, Mass., $14,067; Perini & Bianchi, Ashland, Mass., $14,942.

★Maryland.—Following contracts were awarded by State Roads Comn., Henry G. Shorley, ch. engr., Garrett Bldg., Baltimore, Md. (bids opened Nov. 14) to P. Flanigan & Son, 120 E. Lexington Ave., Baltimore, at $54,653 for roads BC-26 and BC-27; to American Paving Co., Montebello Ave. and Jenkins Lane, Baltimore, at $27,621 for road BC-28.

★Atlanta, Ga.—Contract awarded Oct. 29 by Co. Comrs. to T. J. Meader, Jr., 101 Wells St., at $47,000 for paving Virginia and E. 10th Sts. with asphaltic concrete.

★Corbin, Ky.—Contract awarded to Mason Constr. Co., Emanuel, Ky., at $36,510 for constructing 17 miles road from Bailey's Switch to Corbin.

★Youngstown, O.—Contract awarded by city (bids opened Nov. 8) to Victor Olson Co., 66 Elmwood Ave., at $26,458, for paving Erie and Commerce Sts. and Cassius Ave. Frank M. Lillie, city engr.

★Indianapolis, Ind.—Contract awarded by Bd. Park Comrs. to S. M. Timberlake, 1434 Broadway, Indianapolis, at $52,995, for constructing parkway along Pogues Run from Brookside to Jefferson Ave.

★Benton Harbor, Mich. — Contract awarded by city, Harry B. Smith, clk., to John Allmedinger, local, at $21,460, for constructing Britain Ave., steel arch viaduct, 340 ft. long with 20-ft. roadway and two 5-ft. sidewalks. (Michigan Contr. & Bldr., Page 15.)

★Texarkana, Ark.—Contract awarded Nov. 11 by City (B. F. Peterson, city engr.) to Burke Constr. Co., Ft. Smith, Ark., for 110,000 sq. yd. of asphaltic concrete paving and 12,000 sq. yd. of vertical fiber brick.

Everett, Wash.—Following bids were received by Co. Comrs., Mae Weatherbee, co. aud., for paving Road No. 30: Mark Odell, Seattle, $107,292; J. W. Hoover & Co., Everett, $109,439; Washington Paving Co., Seattle, $113,843; Bancroft & Morgan, Everett, $115,241.

★Seattle, Wash.—Contracts awarded by Bd. Pub. Wks., C. B. Bagley, secy., as follows, for paving: W. 65th St., to J. L. Smith, 143 21st Ave. N., Seattle, at $31,-555; Rainier Ave., to G. Argentieri & Co., Georgetown, Wash., at $15,343; 11th Ave. N. e., to Washington Paving Co., L. C. Smith Bldg., Seattle, at $27,991.

★Walla Walla, Wash.—Contract awarded by Co. Comrs., G. Cookerly, co. engr., to H. L. Wilson, Walla Walla, at $15,575, for constructing portion of highway from city to Prescott.

★Manhattan Beach, Cal. — Contract awarded by Bd. Trustees (bids opened Nov. 16) to California-Arizona Constr. Co., 1700 E. Washington St., Los Angeles, at $10,363, for paving ½ mile Blanche road with 5 in. concrete pavement.

★Santa Barbara, Cal.—Contract awarded by city to Municipal Improv. Co., Richmond, at $32,708, for paving with asphalt on concrete base Anacapa, Mission and other streets.

Santa Paula, Cal.—Contract awarded by city to Fairchild-Gilmore-Wilton Co., Pacific Elec. Bldg., Los Angeles, at $25,-000, for paving numerous streets with Warrenite on concrete base.

★Pocatello, Idaho.—Contract awarded (bids opened Oct. 26) by City to R. M. Bardsen & Co., local, at $41,601, for paving with bitulithic and excavation work in various streets.

RAILWAYS
Steam and Electric

PROPOSED WORK.

Lewiston, Me.—Reported that Lewiston, Augusta & Waterville St. Ry. plans extending road to Rumford.

Denver, Pa.—The Denver & Ephrata Street Ry. Co. (H. S. Dissler, pres.), has been organized to build a line from Denver to Ephrata, 4.7 miles.

Charleston, S. C.—Charleston Consolidated Ry. & Lighting Co. will double-track its line from Five-Mile House to Navy Yard, 1½ miles.

Grand Rapids, Mich.—Grand Rapids, Grand Haven & Muskegon Ry. Co. (W. K. Morley, genl. mgr., Grand Rapids), considering plans for double-tracking its line. It is proposed to construct about 10 miles during 1917 and add about 3 miles each year until the entire line is double-tracked.

Columbus, O.—See "Roads and Paving."

Kalamazoo, Mich.—Michigan Ry. Co. (H. D. Sanderson, ch. engr., Jackson), proposes to extend line from Flint to Owosso.

Chicago, Ill.—Illinois Public Utilities Co. has granted certificate of convenience and necessity to Chicago, Fox Lake & Northern Electric Ry. (L. K. Sherman, ch. engr., Chicago) for constructing electric ry. from Evanston to Palatine; reported work on proposed railway will begin early next year.

Cayuga, Wis.—Reported Minneapolis, St. Paul & Sault Ste. Marie Ry. Co. (C. N. Kalk, ch. engr., Minneapolis, Minn.) contemplates constructing $1,000,000 railroad cut-off from Cayuga to Reserve, distance 40 miles.

Troy, Mont.—Reported Snowstorm Mining Co. contemplates construction of a railroad, concentrator and hydro-electric plant; cost about $500,000.

Jefferson City, Mo.—Reported that preliminary surveys have been made by interests connected with Illinois Traction System for construction of interurban electric ry. from Jefferson City to Mexico, via Fulton, about 45 miles.

Albany, Ore.—Reported Oregon Electric Ry. (C. O. Jenks, genl. mgr., Pittock Blk., Portland) contemplates extending line from Albany to the timber belts near Cascadia.

Eugene, Ore.—Southern Pacific Ry. Co. (Wm. Hood, ch. engr., San Francisco) has approved plans for roundhouse, various smaller buildings, new side tracks, yards, 50,000-gal. water tank, 25,000-gal. fuel oil tank, etc., to be constructed by day labor.

Kalamath Falls, Ore.—Town voted in favor of amending city charter to authorize Council to purchase, construct, equip, maintain and operate railways, by issuing $300,000 bonds.

Stockton, Cal.—The Tidewater Southern Railway Co. (J. H. Wallace, ch. engr.) intends constructing a branch of the Stockton-Modesto line to Manteca.

Lewiston, Idaho. — Reported Chicago, Milwaukee & St. Paul RR. Co. (C. F. Loweth, ch. engr., Chicago), has secured route for extension into Clearwater Timber belt, from Elk River; surveyors engaged in cross-sectionining that portion of extension from Elk River down Elk Creek to the Clearwater.

Winnipeg, Man.—Reported that Winnipeg Elec. Ry. plans to construct direct electric line to Transcona.
Reported that Greater Winnipeg Water Dist. contemplates construction of electric railway from Provencher Bridge to Transcona, via St. Boniface, Notre Dame and Mission Road. W. G. Chace, ch. engr.

Edmonton, Alta.—Reported that A. W. Haddow, acting city engr., and J. H. Moir, traffic mgr. of Edmonton Radial Ry., are investigating advisability of forming belt line in center of city; estimated cost $40,000.

PRICES AND LETTINGS.
★Indicates award of contract.

★Seattle, Wash. — Contract awarded Grant, Smith & Co., Henry Bldg., Seattle, for constructing 35 miles of railroad in Montana for the Northern Pacific Railway Co. Route includes a branch line 12 miles west of Billings.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

New Castle, Pa.—American Sheet & Tinplate Co. has appropriated about $2,-000,000 for erecting additional mills at New Castle and Farrell.

Philadelphia, Pa.—Philadelphia Electric Co., 10th and Chestnut Sts., considering erecting new electric generating plant in Kensington section; cost about $4,000,000.

Pottsville, Pa.—Eastern Steel Co. will erect a large addition to plant; cost, about $50,000.

Richmond, Va.—See "Reinforced Concrete."

Cleveland, O. — Reported Cleveland Builders' Supply Co., Leader-News Bldg., will erect 3-story brick warehouse; cost, about $75,000, at 395 E. 131st St.
Reported Federal Knitting Mills Co., W. 29th St. and Detroit Ave., will erect $100,000 factory.

Toledo, O.—Cincinnati, Hamilton & Dayton RR. Co. (A. M. Kinsman, engr. constr., Cincinnati) and Baltimore RR. Co. plan erecting refrigerating plant in Toledo; cost about $250,000.

Chicago, Ill.—Plans being prepared by R. G. Pierce, 7136 Yates Ave., for erecting 4-story factory and 1-story power house at Belmont and Kilborun Aves.; cost $85,-000.

Delavan, Wis.—Brady Knitting Mills, 905 Clinton St., preparing preliminary plans for 1-story, 48 x 150 ft. addition to plant.

Troy, Mont.—See "Railroads."

Las Cruces, N. M.—Holly Sugar Co., 506 Boston Bldg., Denver, plans erecting sugar factory at Howard and Fremont Sts.; cost about $100,000. F. Whitten, Mgr.

Modesto, Cal.—Valley Ice Co. (James R. Erskine, gen. mgr., Fresno and Bakersfield) will erect 115 x 600-ft. concrete ice factory; capacity, 200 tons per day.

Hamilton, Ont.—Tallman Bros. Co. has under consideration $50,000 addition to brass manufacturing plant. Stewart & Witton, 7 Hughson St., archts.

Lindsay, Ont.—Plans being prepared for erecting cold storage plant for Flavelles, Ltd., Produce and Cold Storage Co., H. S. Johnson, mgr.; cost $75,000.

Toronto, Ont.—Plans being prepared for new harness factory for Adams Bros., 204 King St.; cost $90,000.

North Vancouver, B. C.—Plans being prepared for erecting new sawmill and 800 ft. of docks for Canadian Robert Dollar Co.; cost $200,000.

PRICES AND LETTINGS.
★Indicates award of contract.

★Chester, Pa.—Contract awarded by Sun Shipbuilding Co. to Barclay-White Co., 1530 Chestnut St., for erecting five 1 and 2-story brick and reinforced concrete additions to plant; cost $120,000.

BUILDINGS
Public and Private

PROPOSED WORK.

Springfield, Mass.—City authorizes issuing $540,000 school bonds.

Newburgh, N. Y.—J. S. Shattuck, 80 N. Pearl St., engaged to prepare plans for erecting hotel; cost $350,000. A. R. Murphy, prop., Kenmore Hotel, Albany, reported interested.

Bayonne, N. J.—Bayonne Hospital plans erecting addition to cost about $100,000.

Cape May, N. J.—Bd. Education has purchased site on Washington St. for erecting high school; cost, about $100,000.

Hillside, N. J.—Bd. Educ. will erect new grammar school at Virginia St. and Union Ave.; cost about $60,000.

Newark, N. J.—Plans filed by Central RR. of New Jersey (A. E. Owen, ch, engr., New York City, for erecting new passenger terminal on Broad St.; cost, $483,-000.

Princeton, N. J.—Board of Trustees, Princeton University, consider erecting addition to Art Building, to be used as school of architecture; cost about $250,000.

West New York, N. J.—Reported plans being prepared for erecting double four-story brick apartment house on Hudson Ave.; cost $50,000; address Morris Jacobs.

Harrisburg, Pa.—Harrisburg Hotel Co. (E. Z. Wallower, pres.) recently organized, plans erecting hotel to be known as the Penn-Harris; cost about $1,000,000.

Norristown, Pa.—Y. M. C. Assoc. plans erecting new building on present site on DeKalb St.; cost, about $200,000.

Philadelphia, Pa.—Plans are prepared by Frederick Webber, Morris Bldg., for erecting 13-story, 112 x 236-ft. steel, concrete and terra cotta apartment hotel.

Lynchburg, Va.—Y. M. C. A. plans erecting bldg.; cost about $100,000.

Philadelphia, Pa.—Sites being selected for erecting new fire stations; appropriation $205,000. Thos. Barrett Smith, mayor.

Birmingham, Ala.—Plans being prepared for erecting Birmingham infirmary bldg., cost about $50,000. E. Brice, Empire Bldg., archt.

Louisville, Ky.—Dirs. Pendennis Club plan erecting 6 or 7-story dormitory and club house. M. E. Taylor, pres.

Cincinnati, O.—Plans being prepared by Myers Y. Cooper, 318 Union Trust Bldg., for apartment house at Madison Road and Stettinius Ave., Hyde Park; cost $100,000.

Plans being prepared by Mrs. L. Luelle M. Worth, through Attorney Louis A. Ireton, 1501 Union Trust Bldg., for erecting apartment bldg. at McMillan St. and Essex Pl.; cost $75,000.

Cleveland, O.—Plans being prepared by Franz Warner, 767 Hippodrome Annex Bldg., for erecting 8-story garage near Public Square; cost, about $155,000.

Crawfordsville, Ind.—Wabash College plans erecting gymnasium; cost about $75,000. Herbert Foltz, archt., Pythian Bldg., Indianapolis.

Fort Wayne, Ind.—Y. M. C. A. has employed C. R. Weatherbogg, archt., to prepare plans for bldg.; cost about $300,-000.

Indianapolis, Ind.—Indiana State Normal School plans erecting Science bldg.; cost about $94,364.

Madison, Wis.—Y. M. C. A. preparing plans for erecting new bldg.; cost about $150,000.

Boone, Iowa.—Y. M. C. A. plans erecting new bldg.; cost about $50,000.

Cedar Rapids, Ia.—Plans being prepared by Proudfoot, Bird & Rawson, 810 Hubbell Bldg., Des Moines, for erecting 5-story 120 x 100 reinforced concrete brick and terra cotta fireproof shop and hall bldg.; cost $200,000; 1st Ave. Realty Co., A. C. Reps pres., 213 1st Ave. E., reported interested.

Council Bluffs, Ia.—Interstate Flour and Feed Co., L. R. Butcher, mgr., 16th Ave. & 4th St., contemplate the erection 115 x 300-ft. bldg.

Des Moines, Ia.—Reported C. L. Herring Motor Co. will erect 2-story and basement, 132 x 148, brick and reinforced concrete fireproof service station.

Hampton, Ia.—Preliminary plans being prepared by Bankers Realty Investment Co., Bee Bldg., Omaha, Nebr., for erecting 3-story 132 x 124 ft. brick, terra cotta & tile fireproof hotel; cost $75,000. Stock Co., 3d and Reeves Sts., reported interested.

Shenandoah, Ia.—Plans being prepared for home for aged members and administration offices will be erected near city hospital and McComb Park; cost $100,000. Mrs. Etta Branson, Shenandoah, chief officer, Degree of Honor Home.

Sioux City, Ia.—Plans being prepared by F. E. Colby & Son, 510 Davidson Bldg., for erecting 2-story and basement 150 x 60 ft. store and office bldg.; cost $50,000. Wm. Gordon, 230 Davidson Bldg., reported interested.

Grand Rapids, Minn.—Itasca County voted $50,000 bonds for erecting hospital.

Madison, Minn.—Kletzech Bros., Milwaukee, plan erecting 7-story addition to Park Hotel; cost about $250,000.

St. Cloud, Minn. — City considering sketches for municipal bldg. to include police and fire dept. quarters; cost about $60,000.

St. Paul, Minn.—Joseph Levy of St. Paul House Furnishing Co., 7th & Cedar Sts., reported interested in erecting $75,-000 bldg. at 7th & John Sts.

Winona, Minn.—State Normal School Bd., St. Paul, contemplates erecting new women's dormitory for local state normal school.

Wichita, Kan.—Plans being prepared by Lorentz Schmidt, 126 N. Market St., for erecting 2-story brick terra cotta and reinforced concrete school bldg.; cost $100,000. J. L. Leland, secy. Bd. Educ.

Omaha, Neb.—Plans being prepared by John & Allan McDonald, 905 Omaha Natl. Bank Bldg., for erecting 10-story, 66 x 132-ft. brick, re-concrete steel and terra cotta hotel; cost $400,000. Harry A. Wolf, 514 Ware Block, reported interested.
Plans being prepared by Chas. A. Berger, Minneapolis, Minn., for erecting 2-story and basement, 50 x 140-ft. con-

crete steel, brick and glass fireproof creamery bldg.; cost $125,000. Waterloo Creamery Co., Le Roy Corliss, pres., 1617 Howard St.

Lewiston, Mont.—Reported B. H. Farrell, Lewistown, will build 6-story fireproof hotel; cost, about $350,000.

Cameron, Mo.—Reported plans in progress for rebuilding college bldg., recently destroyed by fire. M. S. Martin, Hannibal, archt.; cost $50,000.

Columbia, Mo.—Erection of $250,000 student clubhouse contemplated for University of Missouri. Henry H. Kinyon, alumni secy, may be able to give information.

Crane, Mo.—County voted $50,000 bonds for courthouse.

Kansas City, Mo.—Willard E. Weaver, 304 Commerce St., will erect five 3-story brick apartment houses; cost $75,000.

St. Joseph, Mo.—Plans being prepared by Walter Boschen, St. Joseph, for erecting 70 x 110-ft. brick, tile, tar and gravel roof, steel frame floor construction, vacuum heat First Christian Church; cost $75,000.

Austin, Tex.—Reported University Presbyterian Church will erect bldg.; cost $60,000. S. G. Gabriel reported interested.

Beaumont, Tex.—C. W. Howth is having plans prepared for erecting reinforced concrete business block costing about $50,000.

Ardmore, Okla.—Plans completed and contract soon to be let for erecting 6-story office building for B. A. Simpson.

Chehalis, Wash. — Reported William West, proprietor, St. Helen's Hotel, will erect 4-story brick hotel annex; cost, about $60,000.

Seattle, Wash.—Lee & Brinton, Colman Dock, engaged to prepare plans for building to be erected for Ames Shipbuilding & Dry Dock Co. at W. Hanford St. and 26th Ave., S. W.; cost, $80,000.

J. L. McCauley, New York Blk., Seattle, engaged to prepare plans for erecting first two stories of 6-story, 105 x 120-ft. building at Maynard Ave. and Jackson St. for Chase Patented Bed Co.; cost, about $50,000.

Spokane, Wash.—B. P. O. E. of Spokane plan erecting a lodge building; cost $125,000.

Bend, Ore.—Plans being prepared by Beezer Bros., Northern Bank Bldg., Seattle, Wash., for fireproof hospital to be erected for Sisters of Charity of Nazareth, of Kentucky; cost, $75,000.

Eugene, Ore.—See "Railroads."

Ogden, Utah.—Union Pacific plans erecting government mail transfer station; cost $75,000. Guy Adams, supt. railway mail service, Union Pacific, Omaha.

Sandpoint, Idaho.—Architects soon to be selected to prepare plans for proposed high school to cost about $90,000. Wm. Ellison, chmn. Bldg. Comn., school bd.

Shawinigan Falls, Que.—Plans being prepared by McDuff & Lemieux, 320 University St., Montreal, for a brick and stone Roman Catholic Church; cost, $150,000. Contract for construction will be let in December.

Toronto, Ont. — Reported plans being prepared for The T. Eaton Co. Dept. Stores for store, cost $15,000,000. This will include special heating plant of reinforced concrete and steel.

BIDS DESIRED.

Laconia, N. H.—Until Dec. 27 by Jas. A. Wetmore, acting superv. archt. treas. dept., Washington, D. C., for erecting U. S. Post Office building; advertised in this issue.

St. George, S. I., N. Y.—Until Dec. 20 by Calvin D. Van Name, pres. Richmond Boro., for interior finish work of an additional county court house located on Jay St., De Kalb St. and Stuyvesant Pl.; security $125,000.

Portsmouth, O.—Until Dec. 22 by Wm. C. Hazelbeck, clk. bd. educ., for erecting a school building; separate bids for installing heating and ventilating, etc. Ritter & Bates, archts., 46 First National Bank Bldg., Portsmouth.

Dowagiac, Mich.—Until Dec. 22 by Jas. A. Wetmore, acting superv. archt., Treas. Dept., Washington, D. C., for erecting post office.

Springwells, Mich.—Until Dec. 11 by Dr. Alfred W. Holmes, treas. school dist., for erecting school building in Dist. No. 3.; separate bids for heating, plumbing and ventilating. Edw. C. Van Leyen & Ed. Schilling, H. J. Keough, associate archts., 1115-21 Union Trust Bldg., Detroit.

Mt. Carmel, Ill.—Until Dec. 26 by Jas. A. Wetmore, acting superv. archt., Treas. Dept., Washington, D. C., for erecting post office.

Iowa City, Ia.—Reported desired until Dec. 14 by G. L. Lockhart, archt., 120½ E. Washington St., for erecting Fourth Grade School, cost $60,000; First Grade School, $85,000, and East Side School, $75,000.

Hastings, Minn.—Until Dec. 5 by State Bd. Control, State Capitol, St. Paul, for erecting service building at State Asylum. C. H. Johnson, archt., 715 Capital Bank Bldg., St. Paul, Minn.

Waconia, Minn.—Until Dec. 20 by Paul J. Nimmer, clk. school dist. No. 44, for erecting school; separate bids for excavating, ventilating and plumbing. Kirby T. Snyder, archt., 1133-34 Plymouth Bldg., Minneapolis. Check for 5 per cent of bids required.

Okemah, Okla.—Until Dec. 11 by Bd. Educ. (W. P. Rorex, clk.) for erecting a 2-story brick school building.

Bakersfield, Cal.—Until Dec. 22 by Jas. A. Wetmore, acting superv. archt., Washington, D. C., for erecting a U. S. Post Office.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Brockton, Mass.**—Reported contract awarded by city to H. C. Briggs, Brockton, for erecting 2-story, 35 x 170 ft. school; cost about $84,999.

★**Newark, N. J.**—Contract awarded by Standard Oil Co. of New Jersey to H. D. Best, 52 Vanderbilt Ave., New York, for erecting two-story and basement, 71 x 91-ft. automobile service building at 94 Ogden St.; cost $60,000.

★**Philadelphia, Pa.**—Contract awarded by Quaker Lace Co., 22d and Lehigh Sts., to William Steel & Sons, 1600 Arch St., for erecting 5-story basement, brick and steel office building at Lehigh Ave. and 4th St.; cost, $50,000.

★**Petersburg, Va.**—Reported contract awarded by Bd. Educ. to Harwood & Moss, Newport News, for erecting 2-story high school; cost $121,000.

★**Orlando, Fla.**—Contract awarded by Bd. of Trade to Hanner Bros., at $61,300, for erecting new hospital of Orange; cost $85,000. Dr. J. S. McEwan, Chmn. Bldg. Com.

★**Cincinnati, O.**—Contracts awarded by Bd. Educ. as follows on group of buildings (East Side High School, bids opened Nov. 16): Concrete work, Roos Bros., 2814 Stanton St., $114,000; excavating, Joseph A. Byrnes, 22 Rodman Bldg., $28,041; carpenter work, David Gordon Bldg. Co., 734 W. 7th St., $23,486; sheet metal and roofing, Weitkamp & Beck, Hunt and Spring Sts., $25,590; interior marble work, Buckeye Marble Co., $8,990; structural and ornamental iron work, Grimm Iron Works, 2431 Spring Grove Ave., $65,400; bidders all of Cincinnati.

★**Homewood, Ill.**—Reported contract awarded by Ravisloe Country Club to P. Dahl, 11 S. La Salle St., Chicago, for erecting 1 and 2-story clubhouse; cost about $150,000.

★**St. Paul, Minn.**—Contract awarded Charles Skooglum, 502 Ryan Annex, St. Paul, for erecting St. Paul Athletic clubhouse at Cedar & 4th Sts.; cost $700,000.

Joplin, Mo.—Contract soon to be let by J. Ferguson for bids for erecting 3-story, 75 x 100 ft., office bldg.; cost about $150,000. E. P. Madoree, archt., 832 Reserve Bank Bldg., Kansas City.

★**Portland, Ore.** — General contract awarded by Women's Union to John Almeter, Builders' Exchange, Portland, for erecting 4-story brick and mill construction building at 10th & Montgomery Sts.; cost, about $60,000. A. E. Doyle, archt., Worcester Bldg., Portland.

★**Montreal, Quebec.**—Contract awarded by North End Amusement Co. to Anglins, Ltd., 65 Victoria St., for theater, at $125,000.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Rochester, N. Y.—River & Harbor Com. adopted ordinance for purchasing a strip of land 1680 ft. long for municipal dock on east side of the Genesee River adjoining the new bridge at Stuston St.

North Wilkesboro, N. C.—See "Reinforced Concrete."

West Palm Beach, Fla.—Surveys have been contemplated and plans are being prepared for inlet from ocean to Lake Worth, also constructing turning basin and dock system, etc.; amount available $200,000. Isham Randolph & Co., 208 S. La Salle St., Chicago, Ill., engrs.

New Orleans, La.—Contract soon to be let by Maj. Julian R. Schley, U. S. Engrs. Office, here, for constructing bulkhead at Mississippi River, Southwest Pass, to cost $405,000; also piles, etc., to cost $22,000.

Anahuac, Tex.—Trinity River Irrigation Dist. has sold $40,000 bonds for rebuilding bulkhead across Turtle Bay.

Austin, Tex.—Attorney Generals Dept. has approved bonds for $230,000 for wharves, docks, terminals, slips and other appliances for facilitating the navigation of the Nueses River.

Chowcilla, Cal.—G. A. Howell, E. M. Binder and others are having plans prepared for levees along sloughs of San Joaquin River and for drainage system to be constructed at cost of about $400,000 by proposed Chowcilla Reclamation Dept. Address Secy. of Dist.

Los Angeles, Cal.—Pacific Coast Steamship Co. (F. M. Barry, asst. mgr.) contemplates constructing dock 1450 ft. long, for which city appropriated $266,000.

San Diego, Cal.—City voted to give 500 acres of tide lands to the federal government for site for naval base. War department also contemplates constructing buildings and dredging channels at total cost of $225,000.

City voted $682,210 for constructing cyclopean concrete dam 137 ft. high and 750 ft. wide on site of Lower Otay dam destroyed last year. Plans have been prepared by M. M. O'Shaughnessy, city engr., San Francisco, for this work.

San Dimas, Cal.—J. W. Reagan, co. flood control engr., Court House, Los Angeles, preparing plans for constructing dam 125 ft. high, 265 ft. wide, with 12-ft. roadway, on top, in San Dimas Canyon, to impound about 2400 acre-ft. of water as part of work to be done under proposed $3,600,000 flood control bond issue.

Yuma, Ariz.—U. S. Government Dept. contemplates constructing gigantic dam across Colorado River; estimated cost $25,000,000. Address L. W. Alexander, secy. Yuma Co. Commercial Club, Yuma.

Ft. William, Ont.—See "Reinforced Concrete."

Toronto, Ont.—Contract will be let this winter by Ontario Hydro Electric Power Comn. (Adam Beck, chmn.) for constructing canal between Lake Erie and Niagara Gorge in connection with the Chippewa Niagara Falls power development.

BIDS DESIRED.

Philadelphia, Pa.—Until Dec. 21 by George S. Webster, dir. Dept. Wharves, Docks and Ferries, 550 Bourse Building, for pier construction with appurtenant work in Delaware River, near foot of Cherry St.; advertised in this issue.

Wheeling, W. Va.—Until Dec. 30 at U. S. Engineer's Office for constructing lock and guide walls for Dams Nos. 23 and 25, Ohio River; advertised in this issue.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Chelsea, Mass.**—Contract awarded by Bureau Yards & Docks, Navy Dept., Washington, D. C. (bids opened Nov. 6), to Cape Ann Corp., 195 Cabot St., Beverly, at $17,425, for Contract 2268, sea wall at Naval Hospital, Chelsea.

Albany, N. Y.—See "Reinforced Concrete."

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Syracuse, N. Y.—Plans prepared by H. C. Allis, city engr., approved by Bd. Contract and Supply for enlarging channel of Furnace Brook for flood protection.

Tonawanda, N. Y.—All bids opened Nov. 24 by W. W. Wotherspoon, supt. pub. wks., Albany, for completing the improvement of Ellicott Creek from its intersection with Tonawanda Creek, a distance of 4800 ft., rejected.

Senatobia, Miss.—Drainage bonds for $80,000 will be sold Jan. 1. Address L. M. Blanchard, Senatobia.

Columbus, O.—See "Structural Steel."

Troy, O.—Ditch and levee bonds for $371,000 will be sold Dec. 15 by C. N. Peters, co. aud.

Detroit, Mich.—Maj. H. Burgess, corps. engrs. U. S. A., has made surveys for improving Rouge River to consist of a channel 21 ft. deep and 240 ft. wide at mouth of stream and narrowing to 100 ft. 800 ft. above the mouth; cost about $1,000,000.

Grand Rapids, Mich.—School bonds for $250,000 will be sold Dec. 18 by Herbert N. Morrill, secy. bd. educ.

Harvard, Ill.—Contract will soon be let by Arthur L. Webster, drainage engineer, State Bank Bldg., for the Coons Creek Drainage Dist., near Marengo and Belvidere, to consist of over 22 miles of ditches; estimated cost, $82,000.

Centralia, Wash.—Caleb Berry, former city engr., has been engaged to prepare plans for constructing proposed irrigation district in Ford's and Waunch's prairies near Centralia.

Keystone, Wash.—Keystone Irrigation Dist. (R. H. Williamson, North Yakima, atty.) will hold election Dec. 2 to issue bonds for irrigating 4000 acres in vicinity of Keystone; water to be secured from Lake Colville or Sprague Lake; also install pumping plant.

McMinnville, Ore. — At election held Nov. 6 city voted in favor of issuing bonds for recourse to Hasken Creek; bonds to be sold probably in February. W. J. Brower, engr., McMinnville; city will do work.

Salem, Ore.—C. B. McConnell, Burns, Ore., contemplates constructing irrigation system in Harney Valley to reclaim about 40,000 acres, by draining Malheur Lake, in Harney County.

Vale, Ore.—Pres. Warm Springs Irrigation Dist. was authorized to engage engineers to examine reservoir site for improving district, for which $750,000 bonds will be sold.

Kingsburg, Cal.—Laguna Lands, Inc., Fresno, contemplates constructing system of canals for irrigating new tract of 30,000 acres south of Kingsburg. I. Teilman and L. A. Nares, Fresno, among the incorporators.

Santa Barbara, Cal.—City engineer has been instructed to prepare plans for drainage and protcetion of Alamo Padro Serra from winter floods.

BIDS DESIRED.

Council Bluffs, Ia.—Reported desired until Dec. 9 by J. D. Hannan, co. aud., for constructing Mosquito Creek Drainage Dist.; cost $40,000.

Webster City, Ia.—Until Dec. 6 by W. J. Paterson, co. aud., for reconstructing part of Castner Williams, aud., Askland Drain No. 4, in Hamilton County, as follows: Sec. 1, Sec. 2, Sec. 3, in all about 14,252 ft. 6 to 30-in. tile, together with T and Y, etc.

Bemidji, Minn.—Until Dec. 8 for constructing Judicial Ditch No. 36 and bridges; cost $12,476; Judicial Ditch No. 31 with bridges; cost $13,529; Judicial Ditch No. 31; cost $4,143.

Moorhead, Minn.—Until Dec. 19, by A. O. Houglum, co. audt., for digging and constructing county ditches No. 1 and No. 40, including a number of steel bridges; amount of work required on main ditches is approximately 180,045 cu. yd. excav.; total estimated cost $35,806.

Fargo, N. D.—Reported desired until Dec. 16 by W. A. Tucker, co. aud., for constructing drains, requiring 1,600,000 cu. yd. excavation.

Asotin, Wash.—Until Dec. 11, by Delta Kraudelt, co. aud., for completion silcott cut-off, including one mile of heavy rock work.

El Centro, Cal.—Until Dec. 18, by Imperial Irrigation dist., on revised plans for excavating canals 6000 ft. long, 600,000 cu. yd. in U. S., and 2200 ft. long, 443,000 cu. yd. in Mexico.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Norfolk, Va.—Following are bids opened Nov. 14 at U. S. Engrs. Office, Custom House, Norfolk, for dredging inland waterway from Norfolk to Beaufort Inlet, N. C.;

Form 1, dredging Sect. 3—500,000 cu. yd. scow measurement; Norfolk Dredging Co., River & Harbor Bldg., Norfolk, 31c.

Form No. 2, dredging Sects. 1, 2, 4, 5, 6, 7 and 8—4,755,000 cu. yd. place measurement: Bowers Southern Dredg. Co., Marine Bldg., Galveston, Tex., .156c; Atlantic Gulf & Pacific Co., 308 First Natl. Bank Bldg., Houston, Tex., .1475c; dredging Sect. 3—500,000 cu. yd. scow measurement, Bowers Dredging Co., .25c; Atlantic Gulf & Pacific Co., .1475c.

Form No. 3, combinations, dredging Sects. 7 and 8—1,130,000 cu. yd. place measurement. Sanford & Brooks, Water & Commerce Bldg., Baltimore, Md., .149c; Atlas Dredg. Co., .133c; dredging Sects. 2 and 4—1,400,000 cu. yd. place measurement, same company, .1075c; dredging Sects. 6 and 7—1,345,000 cu. yd. place measurement, .133c; dredging Sects. 6, 7 and 8—1,905,000 cu. yd. place measurement same company, .133c; dredging Sects. 1, 2 and 4—1,950,000 cu. yd. place measurement, P. Sanford Ross, Inc., 277 Washington St., Jersey City, N. J., .145c; dredging Sect. 1—550,000 cu. yd. place measurement Standard American Dredg. Co., Houston, Tex., .2385c. Sect. 5—900,000 cu. yd. place measurement, same company, .3285c; dredging Sects. 2 and 4—1,400,000 cu. yd. place measurement, Maryland Dredging & Contr. Co., Fidelity Bldg., Baltimore, Md., .1075c, and Sect. 3—500,000 cu. yd. scow measurement, .30c; dredging Sects. 1, 2, 4, 5, 6 and 7—4,195,000 cu. yd. place measurement, Atlantic Gulf & Pacific Co., .152c; 500,000 cu. yd. scow measurement Sect. 3, same company, .152c; dredging Sects. 1, 2, 4, 5, 6 and 7—4,195,000 cu. yd. place measurement, Bowers Southern Dredging Co., .154c.

The plant proposed to be used by this firm includes plant belonging to Coastwise Dredging Co., Norfolk, Va.

★**Marks, Miss.**—Contract awarded by Comrs. Indian Creek Drainage Dist. to National Contr. Co., Alexandria, Minn., at about $235,000 for 1,655,00 cu. yd. ditch and 737,000 cu. yd. levee work.

★**Luverne, Ia.**—Contract awarded by Hancock, Kossuth and Wright Counties to L. H. Thompson, Holmes, for labor and tile work, at $24,479, and Mommouth Clay Mfgr. Co., Mommouth, tile, at $26,840.

★**St. Paul, Minn.**—Contract awarded by Geo. P. Reis, co. aud., to John C. Cox, St. Paul, 959 Hastings Ave., at $15,520, for constructing County Ditch No. 14. Bids opened Nov. 24.

★**Merced, Cal.**—Contract awarded by Co. Supervs. to Shattuck & Edinger Co., Richmond, and 414 Marsh-Strong Bldg., Los Angeles, for constructing drainage system for Livingston Dist. embracing 2500 acres, at $32,000, and Atwater Dist. 7000 acres, at $65,000.

★**Modesto, Cal.**—Contract awarded W. C. Price & Co., 211 Clay St., San Francisco, by Waterford Irrigation Dist., for constructing canals involving approximately 155,000 cu. yd. as follows: Sect. 3, 45,000 cu. yd. adapted to revolving shovel and fresno equipment and elevating grader, Sect. 4, 55,000 cu. yd. fresno and elevating grader, Sect. 5, 55,000 yd. fresno grader. Bids rejected for Sects. 1 and 2 will be readvertised. Bids opened Nov. 14.

Richvale, Cal.—Following bids opened Nov. 10 by Clay B. Harris, secy. Bd. Dir. Drainage Dist. 100, Butte Co., for constructing Units 1, 2 and 3 of the Outlet Drain: Kenyon & Whitman, Sacramento, 21 cts. per cu. yd. or $22,865 for the three units; Ross Constr. Co., Sacramento, for Unit 3, 14.9 cts. per cu. yd. or $10,743 for Unit 3 only. All bids rejected.

★**Terra Bella, Cal.**—Following are four lowest bids opened Nov. 13, by Dir. Terra Bella Irrigation Dist. (S. H. Kieffer, engr., 57 Post St., San Francisco) for constructing first unit of irrigation system, comprising 16 wells and well pumping plants, five main and boosting pumping plants, equipped with 8 and 12-in. centrifugal pumps, 25 and 75 h.p. motors, 120 h.p. Diesel engine and about 40 miles of 4 to 30-in. pipe line, etc.: W. A. Craner, Rialto Bldg., San Francisco, $376,000 (awarded contract); C. C. Moore & Co., Sheldon Bldg., San Francisco, $382,000; Jas. Kennedy, Washington Bldg., Los Angeles, $414,000; Shattuck & Edinger, 109 E. 6th St., Los Angeles, $417,000.

★**Vancouver, B. C.**—Contract awarded H. P. Peterson, Clark St., at $97,500 for constructing interceptor for city drainage. A. P. Creed, engr., Vancouver.

TUNNELS AND SUBWAYS

PROPOSED WORK.

Trenton, N. J.—Philadelphia & Reading Ry. Co. (S. T. Wagner, ch. engr., Philadelphia) contemplates constructing tunnel, 14 x 50 ft.; estimated cost $100,000.

MISCELLANEOUS

PROPOSED WORK.

Transmission Line—Gaysville, Vt.—Gaysville Light & Power Co., Brandon, Vt., planning to extend its electric transmission line to Barnard Village.

Swimming Pool—Boston, Mass.—Swimming pool, 88 x 36 ft., of terra cotta, tile lined, will be filled with water pumped from ocean, to be erected by Mrs. W. Harry Brown, 5th and Murray Hill, Pittsburgh, Pa.; cost $60,000.

Garbage—Fall River, Mass.—Contract will soon be let by the Bd. of Health for disposal of garbage for a term of about 5 years.

Snow Removal—Rochester, N. Y.—Ordinance has been adopted by city for removal of snow from sidewalks for year 1916-17; estimated cost, $90,000. Herbert W. Pierce, comr. pub. wks.

Incinerator Plant—Newark, N. J.—Plans being prepared by J. C. Hallock, deputy ch. engr., bd. of wks., for constructing garbage disposal plant on Elizabeth Ave. Specifications to provide for bids on four different types to have capacity of 250 tons daily; estimated cost, $250,000.

Park—Knoxville, Pa.—Park bonds for $80,000 voted by borough.

Park and Playground—Rankin (P. O. Braddock), Pa.—Borough voted $30,000 park and playground bonds.

Incineraor—Rankin (P. O. Braddock), Pa.—Borough voted $45,000 bonds for constructing garage incinerator.

Garbage—Reading, Pa.—No bids opened Nov. 22, by Chas. Marks, city clk., for disposal of garbage and offal.

Park Improvements — Lakewood, O.—Park improvement bonds for $75,000 were defeated at recent election.

Transmission Line—Elkhart, Ind.—Indiana-Michigan Electric Co., South Bend, has petitioned Co. Comrs. for franchise to erect electric transmission lines from Elkhart to the west corporation line of Bristol and from the east corporation line of Bristol along the Mottville to the state line.

Transmission Line—Ottawa, Ill.—Chicago, Ottawa & Peoria Railway Co. (W. B. McKinley, pres., Champaign) is rebuilding its electric transmission line connecting Spring Valley and the power plant of the Northern Illinois Light & Traction Co.

Transmission Line—Waconia, Minn.—Northern States Power Co., Chicago, Ill., contemplates erection of transmission line from Waconia to Redwood Falls.

Transmission Line—Pleasant Hill, Mo.—L. K. Green & Co. contemplate erection of electric transmission line to connect Pleasant Hill and Lees Summit.

Transmission Line—East Mayfield, Tex.—Knox Lumber Co., Hemphill, contemplates constructing transmission line.

Transmission Line—Forney, Tex.—City Council considering proposal submitted by the Texas Power & Light Co., Dallas, to extend its transmission lines to Forney and install street-lighting system throughout city.

Nordheim, Tex.—Texas Southern Electric Co., Commercial Bank Bldg., Houston, contemplates extending its transmission line to Nordheim.

Transmission Line—Republic, Wash.—Pacific Power & Light Co., Portland, Ore., petitioned Comrs. of Adams Co. for franchise to erect and maintain electric transmission lines on certain roads and highways in county.

Transmission Line—Spokane, Wash.—Washington Water Power Co., Spokane, applied for franchise to erect new electric transmission line on certain roads in Lincoln Co.

Dredge — Warrenton, Ore.—Petitions have been made to Port of Astoria Comm. by committee representing town of Warrenton for an appropriation of $50,000 for constructing a dredge to be owned and operated by the commission.

San Diego, Cal.—See "Miscellaneous."

BIDS DESIRED.

Asphalt—Brooklyn, N. Y.—Until Dec. 6, by L. H. Pounds, boro. pres., for furnishing and delivering 30,000 gal. of refined asphalt in liquid form, in the storage tank at the Municipal Asphalt Plant, 7th St. Basin, Gowanus Canal; security required, 30% of amount for which contract is awarded.

Retaining Wall—Brooklyn, N. Y.—Until Dec. 11, by C. B. J. Snider, supt. school bldgs., 59th St. and Park Ave., New York City, for constructing retaining wall at Bushwick High School on Irving Ave., Brooklyn, including plumbing; security $10,300.

C.-I. Skew Bevel Gears—Washington, D. C.—Until Dec. 26, by U. S. Reclamation Service, for furnishing 9 pairs of c.-i. skew gears for gate stands for Rio Grande Project, New Mexico-Texas; advertised in this issue.

Transmission Line—Bremerton, Wash.—Until Dec. 18, at Bureau Yards and Docks, Navy Dept., Washington, D. C. (F. R. Harris, chief), for telephone and electric power transmission line from the Olympic Power Co.'s pole line to the radio building at Pacific Coast torpedo station.

Generator, Cranes, Etc.—Panama—Until Jan. 3 by R. E. Rutherford, asst. purchas. agent., Panama Canal, 24 State St., New York City, for purchasing generator sets, boilers, cranes, etc.; advertised in this issue.

Electric Motors, Etc.—Panama.—Until Dec. 5 by R. E. Rutherford, asst. purchas. agt. Panama Canal, 24 State St., New York City, for purchasing electric motors, generators and air compressor; advertised in this issue.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Sea Wall — Newport, R. I.—Contract awarded Nov. 4, by Bureau Yards and Docks, Navy Dept., Washington, D. C., to Roy H. Beattie, Fall River, Mass., at $26,571, for constructing sea wall at Newport.

Tunnel Lighting, Etc.—New York, N. Y.—Contract awarded by Pub. Serv. Comn., 120 Bway., New York City, to G. E. Engineering Co., Inc., 417 Canal St., New York City, at $116,703, for furnishing tunnel lighting, station lighting, heating, ventilating, etc., in the Bway. and Canal St. subways.

Coal Handling Apparatus—Weehawken, N. J.—Contract awarded by New York Central RR. (G. W. Kittredge, ch. engr., Grand Central Sta., New York City) to Gifford-Wood Co., Hudson, N. Y., at $26,869, for coal handling apparatus at Weehawken Terminal.

★**Wall—Washington, D. C.**—Contract awarded by Comrs. D. C. (Oliver P. Newman, chmn.) to W. D. Murray, Washington, D. C., at $22,000 for constructing portion of wall on Canal Road.

★**Piling — Meridian, Miss.** — Contract awarded to Republic Creosoting Co., Mobile, for creosoted pile and lumber for seawall or revetment to protect bank of reservoir, 150,000,000 gal. capacity and covering 75 acres; estimated cost of seawall $12,000. M. L. Worrell, city mgr.

Proposals

For Proposals Advertised See Pages 49 and 50.

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.		See Eng. Record.
Dec. 4.	Larchmont, N. Y.	Dec. 2
Dec. 5.	Bridgeton, N. J Adv. Nov. 25.	Nov. 25
Dec. 5.	Ogden, Utah	Dec. 2
Dec. 5.	Oklahoma, Okla.	Nov. 25
Dec. 5.	Eveleth, Minn.	Dec. 2
Dec. 6.	Erie, Pa.	Nov. 18
Dec. 6.	Cleveland, O. Adv. Nov. 18.	Nov. 18
Dec. 7.	Ironton, Minn.	Nov. 25
Dec. 8.	San Francisco, Cal.	Nov. 25
Dec. 8.	Otsego, Mich.	Dec. 2
Dec. 8.	Panama	Dec. 2
Dec. 9.	Shreveport, La.	Nov. 25
Dec. 11.	Everett, Wash.	Dec. 2
Dec. 11.	Union, N. J.	Dec. 2
Dec. 11.	Lyndhurst, N. J. Adv. Dec. 2.	Dec. 2
Dec. 12.	Detroit, Mich. Adv. Nov. 11.	Nov. 11
Dec. 12.	Stuart, Ia.	Dec. 2
Dec. 13.	Fargo, N. D.	Dec. 2
Mar. 6.	Chilton, Wis.	Dec. 2
Dec. 14.	Lima, O. Adv. Nov. 25, Dec. 2.	Nov. 25
Dec. 15.	Clayton, N. C.	Dec. 2
Dec. 16.	Berwyn, Ill.	Dec. 2
Dec. 18.	Winnipeg, Man. Adv. Nov. 18 to Dec. 2.	Nov. 18
Dec. 21.	New Orleans, La.	Nov. 4

STRUCTURAL STEEL WORK

Dec. 4.	Des Allemands, La. Adv. Nov. 11 to 25.	Nov. 11
Dec. 4.	Shoals, Ind.	Nov. 25
Dec. 5.	Fort Hancock, N. J. Adv. Nov. 18 to Dec. 2.	Nov. 18
Dec. 5.	Cape May, N. J.	Nov. 11
Dec. 7.	Seale, Ala.	Nov. 25
Dec. 7.	Flemington, N. J.	Nov. 25
Dec. 9.	Chillicothe, O.	Dec. 2
Dec. 10.	Florence, Ala.	Nov. 25
Dec. 11.	Americus, Ga.	Nov. 11
Dec. 12.	Milino, Fla.	Dec. 2
Dec. 12.	Seattle, Wash.	Dec. 2
Dec. 14.	Miami, Fla. Adv. Nov. 25, Dec. 2.	Nov. 25
Dec. 18.	New Hampton, Ia.	Dec. 2
Dec. 20.	Malta, Mont.	Dec. 2
Jan. 1.	Newton, Ia.	Nov. 18
Jan. 1.	New Castle, Pa.	Nov. 18
Jan. 1.	Mitchell, S. D.	Oct. 7

REINFORCED CONCRETE.

Dec. 5.	Earlimart, Cal.	Nov. 25
Dec. 11.	Rockford, Ala.	Dec. 2
Dec. 14.	Lake Charles, La.	Nov. 25
Dec. 15.	Potter, Wis.	Nov. 18
Dec. 20.	Ellsworth, Kan.	Dec. 2
Jan. 1.	Manhattan Beach, Cal.	Nov. 25

ROADS AND PAVING.

Dec. 4.	St. George, S. I., N. Y.	Dec. 2
Dec. 5.	Ventura, Cal.	Dec. 2
Dec. 5.	Sanford, Fla.	Nov. 25
Dec. 5.	Ventura, Cal.	Nov. 25
Dec. 5.	Bay Minnette, Ala.	Nov. 25
Dec. 5.	Indiana	Nov. 25
Dec. 5.	Greenup, Ky.	Dec. 2
Dec. 6.	Santa Ana, Cal.	Nov. 25
Dec. 6.	Perry, Fla.	Nov. 25
Dec. 6.	Mt. Vernon, Wash.	Nov. 25
Dec. 6.	Bakersfield, Cal.	Nov. 25
Dec. 6.	Huntington Beach, Cal.	Nov. 25
Dec. 6.	Indiana	Dec. 2
Dec. 7.	Elizabeth, N. J.	Nov. 25
Dec. 7.	Elizabeth, N. J.	Dec. 2
Dec. 8.	Lexington, Miss.	Dec. 2
Dec. 8.	Plains, Pa.	Dec. 2
Dec. 12.	Pasadena, Cal.	Nov. 25
Dec. 13.	Somerville, N. J.	Nov. 25
Dec. 14.	Indiana	Dec. 2
Dec. 15.	Greenville, S. C.	Nov. 4
Dec. 15.	Grove Hill, Ala.	Oct. 28
Dec. 16.	Luverne, Ala.	Nov. 25
Dec. 18.	Cleveland Heights (P. O. Cleveland, O.)	Nov. 18
Dec. 18.	Monroe, La.	Nov. 25
Dec. 19.	Amboy, Ill. Adv. Nov. 25, Dec. 2.	Nov. 25
Dec. 20.	Butte, Mont.	Dec. 2
Jan. 1.	Sidney, O.	Nov. 4
Jan. 3.	Keyport, N. J.	Nov. 18
Jan. 10.	Independence, Ia.	Nov. 18
Feb. 1.	Cedar Rapids, Ia.	Nov. 18

RAILWAYS

Dec. 5.	Atlanta, Ga.	Nov. 11
Dec. 6.	Portland, Ore. Adv. Sep. 30 to Oct. 14.	Sep. 23
Dec. 6.	Portland, Ore.	Oct. 28

Bids Close.		See Eng. Record.

BUILDINGS.

Public and Private.

Dec. 5.	Des Moines, Ia.	Nov. 25
Dec. 5.	Pittsburgh, Pa.	Nov. 18
Dec. 5.	Oak Park, Ill.	Nov. 25
Dec. 5.	Astoria, Ore.	Nov. 25
Dec. 5.	Hastings, Minn.	Dec. 2
Dec. 6.	Twin Falls, Idaho	Oct. 21
Dec. 6.	Wellsville, O.	Nov. 18
Dec. 6.	Wellsville, O.	Nov. 25
Dec. 7.	Omaha, Neb.	Nov. 18
Dec. 7.	Chadron, Neb.	Oct. 28
Dec. 7.	Columbus, Miss.	Nov. 4
Dec. 7.	Bangor, Wis.	Nov. 18
Dec. 7.	Clear Lake, Ia.	Nov. 25
Dec. 7.	Omaha, Neb.	Nov. 25
Dec. 7.	Iowa City, Ia.	Nov. 25
Dec. 8.	Haverlock, Neb.	Nov. 25
Dec. 11.	Springwells, Mich.	Dec. 2
Dec. 11.	Eureka Springs, Ark.	Nov. 4
Dec. 11.	Wichita, Kan.	Nov. 25
Dec. 11.	Cincinnati, O.	Nov. 25
Dec. 11.	Okemah, Okla.	Dec. 2
Dec. 14.	Cape Charles, Va.	Nov. 18
Dec. 15.	Tucson, Ariz.	Oct. 14
Dec. 15.	Danville, Ill.	Nov. 11
Dec. 15.	Leighton, Ala. Adv. Nov. 25, Dec. 2.	Nov. 25
Dec. 15.	Hendricks, Minn.	Nov. 25
Dec. 19.	Farrell, Pa.	Nov. 25
Dec. 20.	St. George, S. I., N. Y.	Dec. 2
Dec. 20.	Jersey City, N. J.	Nov. 25
Dec. 21.	Bonne Terre, Mo.	Nov. 4
Dec. 21.	Nacogdoches, Tex. Adv. Nov. 25, Dec. 2.	Nov. 25
Dec. 22.	Bakersfield, Cal.	Dec. 2
Dec. 22.	East St. Louis, Mo.	Oct. 28
Dec. 22.	Portsmouth, O.	Dec. 2
Dec. 26.	Frederick, Md. Adv. Nov. 25, Dec. 2.	Nov. 25
Dec. 26.	Mt. Carmel, Ill.	Dec. 2
Dec. 27.	Laconia, N. H.	Dec. 2
Dec. 30.	Sullivan, Ind.	Nov. 18
Jan. 1.	Webster, S. D.	Sep. 16
Jan. 18.	Marion, S. C. Adv. Nov. 25, Dec. 2.	Nov. 25
May 1.	Minneapolis, Minn.	Nov. 25

FOUNDATIONS, PIERS AND DAMS.

Dec. 5.	Wheeling, W. Va. Adv. Nov. 25, Dec. 2.	Nov. 25
Dec. 8.	Cincinnati, O. Adv. Nov. 11 to Dec. 2.	Nov. 11
Dec. 8.	Bemidji, Minn.	Dec. 2
Dec. 11.	Zanesville, O	Nov. 11
Dec. 11.	Ludington, Mich.	Nov. 25
Dec. 14.	Wheeling, W. Va. Adv. Nov. 18 to Dec. 2.	Nov. 18
Dec. 15.	Indiana Harbor, Ind. Adv. Nov. 25, Dec. 2.	Nov. 25
Dec. 15.	Yuma, Ariz.	Nov. 25
Dec. 19.	Cincinnati, O. Adv. Nov. 25, Dec. 2.	Nov. 25
Dec. 21.	Philadelphia, Pa.	Dec. 2
Dec. 30.	Wheeling, W. Va. Adv. Dec. 2.	Dec. 2
Jan. 1.	San Dimas, Cal.	Nov. 18
Jan. 2.	Santa Fe, N. M. Adv. Nov. 18.	Nov. 18

EXCAVATION, DREDGING AND DRAINAGE.

Dec. 5.	Bridgeton, N. J. Adv. Nov. 25.	Nov. 25
Dec. 6.	Webster City, Ia.	Dec. 2
Dec. 7.	Lima, O. Adv. Nov. 25, Dec. 2.	Nov. 25
Dec. 8.	New York, N. Y. Adv. Nov. 11 to Dec. 2.	Nov. 11
Dec. 9.	Duluth, Minn.	Nov. 25
Dec. 9.	Council Bluffs, Ia.	Dec. 2
Dec. 11.	New Orleans, La. Adv. Nov. 18.	Nov. 18
Dec. 11.	Asotin, Wash.	Dec. 2
Dec. 12.	Sibley, Ia.	Nov. 25
Dec. 15.	Tracy, Cal.	Nov. 25
Dec. 15.	Belvidere, Ill.	Dec. 2
Dec. 16.	Fargo, N. D.	Dec. 2
Dec. 19.	Erie, Pa. Adv. Nov. 18 to Dec. 2.	Nov. 18
Dec. 19.	Moorhead, Minn.	Dec. 2
Dec. 20.	Duluth, Minn.	Nov. 25
Dec. 20.	Oakland, Cal.	Nov. 25
Dec. 22.	Glencoe, Minn.	Nov. 25

TUNNELS AND SUBWAYS.

Dec. 7.	Philadelphia, Pa. Adv. Oct. 14, 21.	Oct. 14
Dec. 7.	Philadelphia, Pa.	Nov. 25
———	New York, N. Y. Adv. Nov. 11, 18.	Nov. 11

MISCELLANEOUS.

Dec. 6.	Asphalt, Brooklyn, N. Y.	Dec. 2
Dec. 6.	Grade Crossings, Portland, Ore. Adv. Sep. 30 to Oct. 28.	Sep. 30
Dec. 11.	Crane, Washington, D. C.	Nov. 18
Dec. 11.	Retaining wall, Brooklyn, N. Y.	Dec. 2
Dec. 12.	Needle Valves, Washington, D. C. Adv. Nov. 4.	Nov. 4
Dec. 18.	Transmission, Bremerton, Wash.	Dec. 2
Dec. 20.	Gates-Washington, D. C. Adv. Nov. 25.	Nov. 25
Dec. 26.	Screw Gears, Washington, D. C. Adv. Dec. 2.	Dec. 2
Jan. 4.	Transmission Line, Weaversville, Cal.	Oct. 21

President Urges Legislation to Help Railroads and Foreign Trade

Railway Earnings Show Gains Promising Construction If Roads Get Fair Treatment—Warning of Reserve Board May Affect Money Rates More Than Foreign Trade

THE PRESIDENT'S message to Congress Dec. 5, making a strong appeal for the immediate passage of railway and foreign-trade legislation, the importance of which to engineers and contractors was emphasized by this journal last week, must be taken as a most encouraging sign. The plan of the administration as outlined includes the passage of legislation which would make an interruption of traffic impossible until after full and public investigation of all labor disputes, and contemplates giving the railroads a fair deal through strengthening the Interstate Commerce Commission and interpreting the act which created it as conferring broader powers in the matter of rate regulation. The message advocates the immediate passage of the Webb bill. The Engineering Record stated last week its belief that the administration was honestly seeking a fair solution to these questions. It is confident that the policies outlined will receive the active support of every thinking man in the field. The railroads continue to show increased earnings that appear to be limited at present mainly by a shortage of rolling stock. Returns from about half the railway mileage of the country for October indicate a gain of 12 per cent in net earnings over October, 1915, with a severe net car shortage for the recent period as against a considerable surplus of idle cars last year. Prospects for railway construction in 1917 appear to be improving.

The recent strengthening of call money rates in New York, while not of direct significance to the construction field, which borrows its money on different terms, is in line with a general stiffening of interest rates which would have been expected before but for the great increase in our supply of money. A general strengthening of money rates due to increasing foreign and domestic borrowing is naturally to be looked for in the course of events, but it is predicted in well-informed quarters that short-term money rates will recede after the turn of the year. The warning of the Federal Reserve Board to the banks of the country against buying too many of the short-term treasury bills of England and France, which were later withdrawn from our market, will have its effect in making short-term money rates easier for American borrowers.

This action of the reserve board has been severely criticized as short-sighted and likely to affect our foreign commerce unfavorably. If, as is to be hoped, this action does not greatly reduce our exports, it will not be taken too seriously by those in the construction field, much as their activity depends on the stimulus to business furnished by foreign trade. The warning seems to indicate merely that the reserve board considers a large volume of such unsecured notes the least desirable form for the extension of credit to Europe to take at this time, in view of the possibility that the war might drag on until much of this debt would be refunded by long-term obligations. The effect of this would be to tie up in a long-term investment much of the reserve which our banks maintain for short-term loans, causing higher money rates and perhaps some stringency of funds for short-term borrowers at home. The board evidently plans to control further imports of gold in such a way as to prevent the money from becoming scattered and forming the basis for a dangerous inflation of credit. We will undoubtedly continue to supply the demands of Europe to such an extent that we cannot expect payment in goods for some time. All our imports of this character, including American securities once held abroad, amount to only three-fifths of our exports since the war began. The gold and promises to pay which we take for the remainder of the obligation are valuable to us as representing goods which we are entitled to receive in the future without any payment in goods on our part. The result of the reserve board's action thus means that Europe's promises to pay us in goods for those she is now receiving will have to take another form than the one proposed.

Buildings

A very unusual number of building projects for this season of the year is noted in this issue. No less than fifteen building contracts exceeding in value $150,000 were awarded last week, and bids are desired on a number of large projects for the first time in a month, while the volume of prospective building appears to be on the increase. The larger projects noted in this issue are summarized below:

Contracts Awarded:	Kind	Cost
Providence, R. I.	Theater	$300,000
Newark, N. J.	Factory	176,000
Newark, N. J.	Railroad station	483,000
Philadelphia, Pa.	Office building	200,000
Baltimore, Md.	Steel plant	900,000
Pittsburgh, Pa.	Warehouse	600,000
Chicago, Ill.	Factory	800,000
Homewood, Ill.	Club	150,000
St. Paul, Minn.	Club	700,000
Bentonville, Ark.	Lodge building	150,000
Seattle, Wash.	Hotel	150,000
Los Angeles, Cal.	Office building	150,000
Vallejo, Cal.	Flour mill	500,000
Montreal, Que.	Factory	1,000,000
Trenton, Ont.	Chemical plant	500,000
Bids Desired:		
Chicopee, Mass.	High school	300,000
New York, N. Y.	Hospital buildings	*180,000
Cleveland, Ohio	Hospital	150,000
Austin, Tex.	Office building	300,000
Proposed Work:		
Rutland, Vt.	Factory	300,000
Newburgh, N. Y.	Hotel	350,000
Ocean City, N. J.	Hotel	800,000
Philadelphia, Pa.	Hospital	250,000
Philadelphia, Pa.	Fire stations	205,000
Weatherland, Pa.	Factory	1,000,000
Cleveland, Ohio	Warehouse	225,000
Cleveland, Ohio	Factory	300,000
Cleveland, Ohio	High school	200,000
Cleveland, Ohio	Convention hall	2,500,000
Columbus, Ohio	Y. M. C. A. building	538,000
Cincinnati, Ohio	Club house	275,000
Cincinnati, Ohio	Factory	250,000
Fort Wayne, Ind.	Y. M. C. A. building	300,000
Champaign, Ill.	University buildings	8,000,000
Dixon, Ill.	Power plant	300,000
Columbia, Mo.	Club house	250,000
Joplin, Mo.	Office building	150,000
Ft. Worth, Tex.	Hotel	500,000
Des Moines, Ia.	Cathedral	325,000
St. Paul, Minn.	Elevator	200,000
Madison, Minn.	Hotel	250,000
Mandan, N. D.	Railroad shop	1,500,000
Lewiston, Mont.	Hotel	350,000
Montreal, Que.	School buildings	400,000

*Total security.

Waterworks and Sewers

A contract for constructing reservoirs to cost $75,000 has been let at Newton, Mass. Greenville, Ohio, will open bids Dec. 14 for constructing sewers to cost $75,000. Sewer work to cost $265,000 will be let Dec. 13 at Portland, Ore. Waterworks improvements costing $350,000 have been voted at Herkimer, N. Y. A sewage-disposal plant to cost $60,000 is under consideration at Oneonta, N. Y. Coatesville, Pa., has sold $75,000 bonds to complete waterworks improvements. Reading, Pa., is considering the construction of a $95,000 sewage disposal plant. A new water main to be laid at Springfield, Ill., will cost $150,000. Plans are being prepared for waterworks improvements to cost $80,000 at Caldwell, Kan. Sewers to cost $73,000 are being planned at Tacoma, Wash. Plans have been completed for improvements to the waterworks system of Seattle costing $75,000.

Roads and Paving

Few contracts were awarded last week, and no bids are desired on work of importance. That bonds voted recently are finding a ready market is suggested by the number of sales of such issues noted in the following table of proposed work:

	Kind	Cost
Albany, N. Y.	Paving	$194,000
Rochester, N. Y.	Asphalt	205,000
Long Island City, N. Y.	Boulevard	412,000
Newark, N. J.	Bonds sold	*1,600,000
Pottstown, Pa.	Highway	350,000
Wilmington, Del.	Paving	200,000
Arcadia, Fla.	Bonds sold	90,000
Ft. Myers, Fla.	Bonds voted	190,000
Canton, Ohio	Paved highways	250,000
Xenia, Ohio	Bonds sold	91,000
Paducah, Ky.	Bonds for sale	200,000
Georgetown, Ky.	Bonds sold	100,000
Wickliffe, Ky.	Bonds sold	300,000
Morristown, Tenn.	Bonds sold	150,000
Maryville, Tenn.	Bonds sold	100,000
Houghton, Mich.	Highways	180,000
Sault Ste. Marie, Mich.	Bonds sold	100,000
Cameron, Tex.	Bonds voted	150,000
Tyler, Tex.	Bonds sold	100,000
Salmon, Idaho	Bonds voted	300,000
Tillamook, Ore.	Highways	170,000
California	Road improvements	15,250,000
Calexico, Cal.	Paving	150,000

*Part of issue for sewer construction.

Miscellaneous Headings

A contract has been awarded at Kansas City for building a $145,000 reinforced-concrete bridge. The first unit of an irrigation system at Terra Bella, Cal., has been contracted for at $376,000. A contract has been let at San Rafael, Cal., for constructing a tunnel to cost $257,000. It is reported that the New York, New Haven & Hartford Railroad will strengthen its bridge over the Hudson River at Poughkeepsie at a cost of $750,000. A report from Philadelphia states that the Pennsylvania Railroad will build a $400,000 classification yard. Plans for the $1,000,000 bridge at Washington, D. C., have been submitted for approval. It is reported that double-tracking and grade revision in Illinois to cost $9,000,000 will be undertaken by the Chicago & Alton Railroad.

A contract will soon be let at New Orleans for a $405,000 bulkhead. A board of consulting engineers created for the purpose has recommended the construction of a $2,000,000 reinforced-concrete bridge to replace the Belle Isle Bridge burned some time ago at Detroit. It is reported from Grand Rapids, Mich., that $1,100,000 will be available for electric-railway construction. The Chicago, Milwaukee & St. Paul Railway intends building a $750,000 branch line from New England, N. D., to Amidon. The construction of a $150,000 bridge is proposed at Salt Lake City. A steamship company is considering carrying out the construction of a large dock at Los Angeles toward which the city has appropriated $266,000. Plans are being prepared for a large flood-control dam at San Dimas, Cal. It is understood that the Alaska Road Commission will build a $300,000 steel bridge at Juneau.

An error in the price of sewer pipe at New York occurred in the Engineering Record last week through the confusion of a new list adopted with the previous list in applying the new discounts. The prices quoted per linear foot should be changed to 7.8 cents for 3-in., 11.7 cents for 5-in., 18.2 cents for 8-in., 35.1 cents for 12-in., 117 cents for 24-in., and 294¼ cents for 36-in.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Calais, Me.—Irving R. Bradley, supt. Maine Water Co., considering taking water from Howard Lake, 6 miles distance; 14 and 16-in. pipe will be required.

Reading, Mass.—No bids were opened Nov. 27 by the Metropolitan Water and Sewer Bd., Boston, for constructing 1370 ft. 24 x 27-in. and 36-in. concrete sewer in trench, and 2330 ft. of concrete in rock and earth tunnel; indefinitely postponed; new bids will probably not be called until spring; appropriation $100,000.

Wethersfield, Conn.—Fire Dist. Comn. (Wilfred W. Savage, cnmn.) may petition Legislature for permission to construct sewers; cost, about $60,000.

Batavia, N. Y.—Plans reported completed by W. S. Lozier, Rochester, for sewage disposal plant on county home farm.

Buffalo, N. Y.—Sewer and water bonds for $190,000 will be sold Dec. 15 by John F. Cochrane, city compt.

Fredonia, N. Y.—Election in March to vote bonds for sewage disposal plant for village.

Geneva, N. Y.—Special election will be held Dec. 12 for constructing filtration plant. W. A. Riley, city clk.

Herkimer, N. Y.—Citizens voted $350,000 bonds for waterworks to include about 18 miles of 14 and 16-in. pipe, equalizing tank and two 45,000-gal reservoirs; bids for bonds will probably be received in January. Arthur T. Clark, engr., 115 Main St.

Oneonta, N. Y.—City reported completed plans for sewage disposal plant; cost, $60,000; work will probably begin next spring.

Camden, N. J.—All bids recently received by Street Committee of City Council for 32d St. sewer were rejected Nov. 27, being over $125,000 and considered too high; specifications will probably be modified.

Linden, N. J.—State Department of Conservation and Development at Trenton has granted permission to Linden Water Co. to take water from Florence mill pond; water to be used to supply town of Linden.

South Orange, N. J.—Bd. Trustees considering enlargement of local water plant; present capacity, about 1,600,000 gals. daily, with sufficient supply for city of Irvington. Negotiations under way between borough officials for furnishing service.

Aldan, Pa.—Borough Council considering constructing sewerage system.

Coatesville, Pa.—Reported bonds for $75,000 have been sold for finishing improvements to waterworks. Ellis E. Stern, city clk.

Du Bois, Pa.—Borough Council considering constructing a sewage disposal plant to cost about $75,000.

Johnstown, Pa.—Bonds for $125,000 are to be issued by Conemaugh & Franklin Water Co., to pay off present indebtedness and arrange for construction of filtration plant and completion of new dam, about 3 miles above Conemaugh.

Reading, Pa.—City Engr. reported to have asked appropriation of $95,000 for construction of house sewage disposal plant.

Westfield, Pa.—Later reports state that previous item is an error; sewer system practically completed here. W. C. Emigh, boro. engr.

Salisbury, Md.—Extensions and improvements to waterworks contemplated. E. J. C. Parsons, pres. council.

Wilmington, Del.—Council considering issuing $600,000 bonds for waterworks improvements, to include new basin, filter, etc. Henry C. Downward, pres. council.

Clover, S. C.—Reported waterworks bonds for $30,000 voted by city.

Clover, S. C.—Waterworks bonds for $30,000 will be sold Dec. 16. Address T. W. McElwee, clk., or John R. Hart, attorney, York, S. C.

Cairo, Ga.—Election for $28,000 sewerage bonds indefinitely postponed; will likely be held in January or February. J. H. Connell, city clerk.

De Ridder, La.—Reported city considering constructing pumping plant for water supply.

Murray, Ky.—Waterworks and electric-light plant bonds for $20,000 has been voted by city. X. A. Kramer, engr., Magnolia, Miss.

Columbus, O.—Plans about completed by Chas. P. Hoover, city chemist, for lime kiln for filtration plant; cost, $30,000. Jerry O'Shaughnessy, supt. waterworks.

Dayton, O.—City Comrs. recently ordered $77,000 bonds issued to complete storm sewer improvement already outlined by Service Dept.

Euclid, O.—A 10-in. water pipe line proposed for Euclid Ave.; F. A. Pease, engr., Marshall Bldg., Cleveland; H. D. Dunlop, city clk.

Greenville, O.—J. W. P. Lucas, supt. waterworks, states that city has not passed ordinance for $85,000 bond issue for well system.

Westerville, O.—State Bd. Health has approved plans for waterworks improvements to be constructed some time next year. Council will consider raising funds for the work. Richards Eng. Co., engrs., 37½ E. Long St., Columbus. Previous report an error.

Worthington, O.—Sanitary sewer system proposed, to cost about $40,000; address Town Clk.

Flint, Mich.—Reported city planning expenditure $167,000 for storm-water sewers, $53,000 for intercepting sewer and $28,000 for sanitary sewers, and $52,000 for paving during 1917.

Grand Rapids, Mich.—Local press reports state Bd. Pub. Wks. considering revision of plans for sewage disposal; new plans may add an additional cost $250,000 to the former project, which was estimated at $450,000.

Plymouth, Mich.—Reported city preparing plans for disposal plant and sanitary sewer system; cost, $60,000. Hoad & Decker, engrs., University of Michigan, Ann Arbor.

Chicago, Ill.—Reported that the Dist. Eng. Dept. recommends constructing 3 activating plants in the Chicago Sanitary Dist.; cost about $1,000,000.

Decatur, Ill.—Reported surveys have been started for constructing 3 miles sanitary sewers in 1917. Warren Engineering Co., Decatur, Ill., engrs.

Gibson City, Ill.—Citizens voted $29,000 bonds for waterworks and electric light plant. Some drainage and pavement work also contemplated. Melluish & Broyhill, engs., Bloomington. C. E. Lowry, city clk.

Park Ridge, Ill.—Plans have been prepared for large amount of additional sewers and water mains; contract soon to be let. E. L. Shaw, engr., 1642 Monadnock Bldg., Chicago, Ill.

Springfield, Ill.—City plans laying new water main, 36 in. diam., from the pumping station to city; work will be begun May 1; cost, $150,000. Willis J. Spaulding, comr.

Manitowoc, Wis.—Reported that 5000 lin. ft. of 6-in. and 8-in. pipe with 10 hydrants to be laid. L. K. Pitz, city engr.

Forest City, Ia.—Reported election to be held Dec. 11 on constructing reservoir and pumping station. B. M. Clark, city clk.

Imogene, Ia.—Reported city considering constructing waterworks and sewerage system.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Where name of official is not given inquiries should be addressed to City Clerk, County Clerk or corresponding official.

Marshall, Minn.—O. H. Sterk, Marshall, is engineer for waterworks, sewers and drainage work; estimated cost, $500,000.

St. Paul, Minn.—City Council contemplates constructing sewers on portions of Margaret, St. Clair, Palace and Grigg Sts.; also on Branston and Hendon Aves.; also storm water relief sewer on Como Ave. and Rice, 6th, 5th, 4th and 3d Sts. and Johnson Parkway.

Council proposes constructing storm sewer on Fairview, Wheeler, Summit, Hamlin, Macalester, Snelling and Pascal Aves.; estimated cost $50,000.

Caldwell, Kan.—Burns & McDonnell, Interstate Bldg., Kansas City, Mo., preparing plans for waterworks improvements; cost $80,000.

Geuda Springs, Kan.—Reported waterworks and sewerage system to be constructed soon. Russell L. Ward, city clk., Box 164.

Oconto, Neb.—Reported city considering constructing waterworks system.

Carl Junction, Mo.—Contract will be let in about 60 days for constructing sewer system. A. W. McDowell, city clk.

Higginsville, Mo.—All bids received Nov. 27 by city for main outlet sewer and sewage disposal plant rejected; new bids will be called for about Jan. 1. Burns & McDonald, Interstate Bldg., Kansas City, Mo., engrs.

Stanberry, Mo.—Contract soon to be let for about 6 miles waterworks extensions. C. A. Greenlee, city clk.

Eudora, Ark.—Plans being prepared by X. A. Kramer, Magnolia, Miss., engr., for sewerage and waterworks system; estimated to cost $35,000.

Abilene, Tex.—City considering securing an additional water supply. Address the Mayor.

Beaver, Okla.—Election Dec. 11 on $17,000 bonds for waterworks; address City Clk.

Brady, Tex.—Reported city will soon construct two additional storage dams to enlarge waterworks. J. Lyles, supt. waterworks.

Bryan, Tex.—A. S. Adam, city engr., completed plan for sewage disposal plant, to consist of an Imhoff settling tank, sprinkling filter and settling tank, etc.; estimated cost, $15,000.

Gainesville, Tex.—Plans prepared by H. M. Maire, arch., Austin, and contracts soon to be let for activated sludge and sewage disposal plant; cost, about $35,000. H. A. Pressey, engr., 50 Church St., New York. W. J. Scott, secy. Sewer Co., Gainesville.

Houston, Tex.—See "Foundations, Piers and Dams."

Post City, Tex.—Reported City Water Co. plans constructing water system. L. J. Montgomery, interested.

Victoria, Tex.—Plans prepared by Dallas Lime & Gravel Co., Dallas, for constructing disposal plant for this city; plant will include Imhoff tanks, dosing chambers, sprinkling filters; cost, $35,000. P. Trevino, engr., Victoria.

Kendall, Okla.—Election will be held Dec. 20 by city for constructing sewer system. George Coe, clk., R. F. D. No. 1, Tulsa, Okla.

Norman, Okla.—Reported that bonds for $10,000 to be issued for sewer system and waterworks improvements. J. Martha Wise, city clk. J. W. Klinglesmith, engr.

Sapulpa, Okla.—City desires bids on storm sewer to cover 11 blocks; cost $6,000.

Weleetka, Okla.—The Waterworks Co. (C. A. Parish, pur. agt. and gen. mgr.) contemplates purchasing water meters to cost $3,000; also proposes constructing 2 settling basins and filtration plant, 500,000-gal. capacity, with motor-driven pumps.

Wynnewood, Okla.—City considering construction of sewers.

Camas, Wash.—Council will engage hydraulic engr. to make survey of local water system, both as to existing conditions and as to proposed plans by which city can either acquire present system, owned by Pittock Leadbetter Co., Portland, Ore., or construct new one; F. B. Barnes, city clk.

Tacoma, Wash.—Plans being prepared by A. L. Nicholson, city engr., for constructing sewers in Second School Land addition; cost, $65,000. Also trunk main on 6th Ave.; cost, $8,000.

Seattle, Wash.—Plans completed by F. W. Allen, engr., care Chas. Newhall Co., Westlake Ave., Seattle, for installing waterworks system in Water Dist. No. 2; work includes earthen dam with concrete core wall, impounding basin 10,000,000 gal. capacity, sand filtration plant, pumping plant, pipe line, stand pipe, reservoirs, wood stave pipe mains and laterals; cost, $75,000.

Sumner, Wash.—W. P. Woods, city engr., preparing plans for extension of sewer system.

Wenatchee, Wash.—Council considering construction of filtration plant; cost about $25,000. Chas. T. White, water comr.

Hubbard, Ore.—Plans reported completed by City Engr. for constructing waterworks.

Hanford, Cal.—Election to be held for $30,000 bonds for extending fire mains. Edward Lynch, Glendale, Cal., engr.

Seal Beach, Cal.—Election Dec. 21 on $45,000 bond issue for sewerage system, including septic tanks and $30,000 for waterworks, including wells. Olmsted & Gillelen, engrs., 1112 Hollingsworth Bldg., Los Angeles.

Yuma, Ariz.—R. M. Moore, Continental Securities Co., Union Oil Bldg., Los Angeles, Cal., plans expenditure of $50,000 for improvements to Blairsdale water, lighting and gas plant, recently acquired.

Midvale, Utah.—Bond issue for $35,000 has been voted by city; $25,000 to be used to purchase present water system, the balance $10,000 for extension and drawing additional supply from higher up the canyon.

Murry, Utah.—City Comrs. ordered plans prepared for 3 miles additional sewers.

Chicoutimi, Que.—J. A. Cleaveau, engr., preparing plans for waterworks system, 11 miles of pine pipe will be required; work to be started in the spring.

Three Rivers, Que.—Planning to improve and extend present municipal waterworks. R. S. & W. S. Lea, engrs., 820 New Birks Bldg., Montreal, Que.

Sandwich, Ont.—Council plans new water main, to cost $20,457, and new sewers, to cost $25,000. Address E. R. North.

North Vancouver, B. C.—Dist. Council appointed committee to investigate question of establishing water system in eastern portion of city.

BIDS DESIRED.

Yonkers, N. Y.—Until Dec. 18, by Bd. Contract and Supply (Edw. Walsh, secy.), for installing 3,000,000-gal. pump in tube well station. Edw. L. Peene, supt. Water Bureau.

Philadelphia, Pa.—Until Dec. 27, at office New Chester Water Co. (A. W. MacCallum, secy.), 26 S. 3d St., Philadelphia, for constructing a 24" and 18" cast iron pipe line from reservoirs to Marcus Hook, 1 concrete reservoir 160' x 335' x 17' reinforced; also removal of rock trenching, back-filling and excavating; advertised in this issue.

Indian Head, Md.—Until Dec. 26, at Bureau Yards and Docks, Navy Dept., Washington, D. C. (F. R. Harris, ch.), for furnishing and installing motor driven centrifugal pump, and all piping, fittings, valves, hydrants and accessories necessary for extending high-pressure fire system at Naval Proving Ground.

Cuyahoga Falls, O.—Until Dec. 18, for laying about 5000 lin. ft. 6-in. and 12,000 lin. ft. 4-in. water mains in "Brodbeck Park" allotment; also about 10,000 ft. 8-in. and 3200 ft. 12-in. sewer, with Y-branches and manholes; certified check, 5 per cent. E. D. Barstow, engr.

Greenville, O.—Reported desired until Dec. 14, for constructing 12 to 60-in. sewers; cost, $55,565. R. H. Horn, city engr.

Mt. Vernon, O.—Until April 1 by C. G. Snow, dir., for establishing $20,000 meter system.

Shaker Heights (P. O. Cleveland) O.—Until Dec. 19, by Carl A. Palmer, vil. clk., 2855 Coventry Rd., for constructing storm and sanitary sewers in Kemper Rd. from Fairmont to North Woodland Rd. B. W. Willard, engr., 804-812 Marshall Bldg., Cleveland, O.

Detroit, Mich.—Reported desired until Dec. 12, for 400 tons large special castings. Address H. A. Gilmartin, secy. Bd. Water Comrs.

Bloomington, Ill.—Until Dec. 12, by Bd. Local Improv., for installing 6-in. cast iron water mains on portions of Front St. and on Vale St., and a 12-in. vitrified pipe sewer on portions of Lee St. E. E. Jones, chmn.

Park Ridge, Ill.—Reported desired until Dec. 12, by Albert Verity, pres. Bd. Local Imp., for constructing connected system of sewers, water mains, house drains and water service pipes together with necessary manholes, catch basins, hydrants and valves on Meacham Ave.

Rock Island, Ill.—Reported desired until Jan. 2, by William McConochie, mayor, for constructing sewers and sewage treatment plant.

Rockwell City, Ia.—Reported desired until Feb. 5, by city (F. E. Burnham, clk), for constructing sewage disposal plant, including spectic tank and filters; cost, $10,000. J. H. Mayne, 235 Merriam Bldg., Council Bluffs, Ia., engr.

Webster City, Ia.—Until about Jan. 8, by H. G. Vollmer, city mgr., for improving municipal water and electric light plant, including installation of 500-kw. steam turbine, boiler, to cost about $18,000.

Moran, Kan.—Reported desired until Dec. 18, by city (F. W. Young, clk.), for erecting water and light plants, to cost $42,000. W. B. Rollins & Co., 209 Railway Exchange Bldg., Kansas City, Mo., engrs.

Sedan, Kan.—Reported desired until Dec. 12, for constructing sewer system and disposal plant. E. T. Archer & Co., engrs., New England Bldg., Kansas City, Mo.

El Dorado Springs, Mo.—Until Dec. 19, by C. P. Ryan, city clk., for improving waterworks in connection with recent $20,000 bond issue. C. H. Curry, Kansas City, engr.

Tulsa, Okla.—Reported desired until Dec. 18 by Frank Newkirk, city aud., for material and construction of filtration plant on waterworks property. Stevens & Stiles, engrs., 222 Commerce Trust Bldg., Kansas City, Mo.

North Portland, Ore.—Until Dec. 13 by City Council for rebuilding of Tanner Creek trunk sewer between Taylor St. and Wullametta River; cost about $265,000.

Portland, Ore.—Until Dec. 13, by A. L. Barbur, city aud., for constructing Tanner Creek sewer; work to include reinforced concrete pipe from 6 ft. in diameter to more than 9 ft.; 45,500 cu. yd. excavation, 40,000 lin. ft piling, etc.; cost, about $273,000. Philip Dater, city engr.

Tracy, Cal.—Until Dec. 19, by W. Von Soster, secy West Side Irrigation Dist., for constructing intake canal 5500 ft. long at Bethany Ferry; work includes 225,000 cu. yd. earth excavation. Hunter & Morton, Commercial Savings Bldg., Stockton, engrs.

Waterford, Cal.—Until Dec. 19 (readvertisement) by Waterford irrigation district for constructing sections No. 1 and 2 of system, including 45,000 cu. yd. open cut excavation, 9800 cu. yd. portal excavation, and 2200 lin. ft. of 8-ft. tunnel.

Pocatello, Idaho.—Until Dec. 16, by A. R. Dawson, city clk., for constructing sanitary sewer in Lateral Sewerage Dist. No. 11; work includes laying about 4140 ft. 8-in. sewers and accessories, 1300 cu. yd. rock excavation, etc.; plans with city engr.

Toronto, Ont.—Until Jan. 16, by Chmn. Bd. Control, City Hall, for installing 40 million imperial gallon centrifugal sewage pump at main sewage pumping station, Toronto. Specifications from Works Dept., Room 6, City Hall.

PRICES AND LETTINGS.

★Indicates award of contract.

★Philadelphia, Pa.—Contract awarded by G. E. Datesman, dir. dept. pub. wks., for branch sewers as follows: Venango and Stokley Sts. to Emilie Pascuzzi, for $98,000; Olney Ave. and 11th St. to Peter Ellis, $23,000 and $5,500 respectively; Duncannon St. to Donato Delice, $23,000; Catharine St. and 55th St. to Joseph Lombardi, at $21,000 and $6,700 respectively.

★Washington, D. C.—Followings are bids on sewer construction opened Nov. 21 by Comrs. D. C. (a) Good Hope Run Trunk Sewer, Sect. 2, (b) concrete invert, Old Tiber Sewer, Sect. 2, (c) Pennsylvania Ave., S. E. Relief Sewer, (d) 14th St. trunk sewer, Sect. 3, (e) Mt. Pleasant Trunk Sewer: *Warren F. Brenizer Co., Washington, D. C. (a) $17,575, (b) $10,075, (c) $12,535, (d) $10,265, (e) $22,985; L. M. Johnson, Arlington, Va. (a) $19,777, (b) $11,115, (c) $13,070, (d) $10,035, (e) $22,788; Geo. Hyman, Washington, D. C. (a) $23,625, (c) $13,130, (d) $12,825, (e) $33,425; P. J. Ligon, Brighton, Md. (e) $27,871. Asa Phillips, supt. sewer dept.

*Contract for construction awarded Warren F. Brenizer Co.

Following are two lowest bids opened Nov. 28 by Comrs. D. C. for sewers, Anacostia main interceptor sects. 7, 8, 9, 10: Warren F. Brenizer Co., 141 Q St., N. W., $28,425; Wm. F. Cush, $28,795; and for Rock Creek main interceptor sect. 8: Geo. Hyman, $23,700; W. H. H. Allen Construction Co., 1413 H St., N. W., $26,095; bidders all of Washington.

New Orleans, La.—Contract awarded by Lighthouse Inspector, 8th Dist. (bids opened Nov. 14), for 500 lengths of 16-in. cast-iron water pipe to Hammond-Byrd Iron Co., Birmingham, Ala.

West Allis, Wis.—Contract awarded by Bd. Pub. Wks. (bids opened Nov. 11) for extending water main and constructing sewers in 50th, 69th and 77th Aves. (6-in. water pipe, 8-in. sewer pipe) to Herman Hohensee, 965 27th St., Milwaukee, Wis., at $1.49 and $1.47 per ft. respectively. E. G. Orbert, City Engr.

St. Paul, Minn.—Following are lowest bids opened Nov. 27 by H. W. Austin, purchas. agt., bureau of water: U. S. Cast Iron Pipe & Foundry Co., 71 Bway., New York, for Coagulation Basins, (1) hub and spigot specials, Sched. A, $3,499; (2) c.-i. pipe, Sched. A, $15,263; high-service reservoir, (1) hub and spigot specials, Sched. B, $6,449; (2) flange specials. Sched. B, $662; (3) c.-i. pipe, Sched. B, $34,419.

Following are lowest bids opened same date and place for sluice gates: Coldwell & Wilcox Co., Newburgh, N. Y., $8,755; gate valves, James B. Clow & Son, 544 S. Franklin St., Chicago, Ill., $2,552; furnishing reinforcing steel, C. A. P. Turner Co., 615 Ryan Bldg., St. Paul, Minn., for square twisted, $33,990, and for Jones & McLaughlin diamond bar, $32,800.

Clay Center, Kan.—Contract awarded by city (E. R. De Bray, clerk) for constructing storm sewer No. 3 to E. D. Reed at $17,187, and lateral sewer at $651.

★**Big Timber, Mont.**—Contract awarded to Gus. Nordquist, Great Falls, for constructing sanitary sewer system; cost $40,000. Gerharz & Jaqurth Eng. Co., Great Falls, engrs. J. E. Rus, city clk.

Troy, Mont.—Contract awarded F. E. Evans Contr. Co., Great Falls, for constructing 60,000-gal. reservoir either of wood or concrete.

★**Rockport, Mo.**—Contract awarded Koehler Constr. Co., Kansas City, Mo., for furnishing and laying pipe, with valves and hydrants. John C. Stopel, city clk.

★**El Paso, Tex.**—Contract awarded by city as follows: To Fulton Iron Wks. for 460-hp. Fulton Tosi engine, Aldrich pump, at $58,700; U. S. Cast Iron Co., for 10,000 ft. 24-in. class B c. i. pipe, at $35.95 per ton, and for constructing pumping plant to Baumgarten & Wyle for $4,600. H. P. Jackson, supt. waterworks.

★**Lockhart, Tex.**—Contract awarded by city for constructing sanitary sewer system and disposal plant to Cardwell Constr. Co., Texarkana, at $30,463; bids for constructing garbage incinerator were rejected; sewer job bid exceeded bond issue and there were not enough funds to cover cost of incinerator.

Quanah, Tex.—Contract awarded by city (H. V. Prowder, mayor) to Winslett-Eldridge Company, Dallas, Tex., for constructing sewer system and disposal plant at $25,000 and $4,000 respectively.

Seymour, Tex.—Contract awarded by city (E. W. Russey, city secy.) to James Construction Co., Joplin, Mo., for constructing sewer system and disposal plant at $24,978.

Long Beach, Cal.—Contract awarded by Bd. Pub. Wks. to Peter S. Tomich and S. W. Jaeger, Long Beach, at $37,000 for constructing sewerage system for Santa Cruz Ave. and other streets.

Merced, Cal.—Reported contract awarded for tank for waterworks to Chicago Bridge & Iron Co., 37 W. Van Buren St., Chicago, by Crocker-Huffman Land & Water Co., Box 511. Henry A. Lage, gen. supt. Total cost, $30,000.

★**Santa Barbara, Cal.**—Contract awarded (bids opened Nov. 1) to National C. I. Pipe Co., Sheldon Bldg., San Francisco (Blair & Co., agents), for 6, 4 and 10-in. c. i. pipe, at $39.75 per ton, $42.75 per ton and $49.75 per ton respectively. J. M. Warren, secy. water comrs.

STRUCTURAL STEEL WORK

PROPOSED WORK.

Moira, N. Y.—Plans will probably be completed about March for constructing steel bridge here. S. O. Howard, co. supt. highways, Malone.

Poughkeepsie, N. Y.—New York, New Haven & Hartford RR. (Edw. Gagel, ch. engr., New Haven, Conn.) intend remodeling and strengthening "Poughkeepsie Bridge" over Hudson River at cost of $750,000.

Woodbine, Ga.—Contract will be awarded in spring by Comrs. Roads and Revenues, St. Mary's, for new $20,000 bridge over Satilla River on eastern branch of Dixie Highway. Wm. M. Torrance, engr., 814 Savannah Bank & Trust Co. Bldg., Savannah.

Manchester, Tenn.—City has under consideration construction of viaduct over RR. tracks at McLean St. from plans of Nashville, Chattanooga & St. Louis Ry. (H. McDonald, ch. engr.), Nashville.

Rantoul, Wis.—Bonds for $20,000 voted to construct bridge over Manitowoc River. Address Co. Clk., Cheton.

Atlantic, Ia.—Plans being prepared by H. S. Williams, co. engr., for bridges as follows: 3 32-ft. I-beam spans, 20-ft. roadway, one skewed; 2 24-ft. I-beam spans, 20ft. roadway; all with concrete floors and abutments; also 2 reinforced concrete box culverts.

Dows, Ia.—Plans being prepared by L. G. Krull, co. engr., Clarion, to improve Iowa River bridge north of here with 2 new 32-ft. I-beam spans, 2 reinforced concrete abutments, new steel joists to present 100-ft. span, and paving with creosoted wood block complete roadway.

Hampton, Ia.—Plans being prepared by A. B. Baker, co. engr., for bridges as follows: 2 45-ft. pony-truss spans, 16-ft. roadway; 45-ft. pony-truss span, 18-ft. road; 2 60-ft. pony-truss spans, 16-ft. roadway; all with concrete floors and abutments.

Linn Grove, Ia.—Plans being prepared by Geo. K. McCullough, co. engr., Storm Lake, for 60-ft. pony truss span and 130-ft. through truss span, both with 18-ft. roadway, one 4-ft. sidewalk, concrete floors and abutments; part of proposed improvement of Little Sioux River crossing.

Newton, Ia.—Contracts will be let in January by County for constructing number of bridges including 2 40-ft. pony truss spans, one with 16-ft. roadway, other with 18-ft. roadway, both with concrete floors and abutments. Ray McMurray, co. engr.

Rock Rapids, Ia.—Contracts will shortly be let for constructing numerous bridges in county; estimated cost, $70,000. E. J. Riegel, co. aud.

Austin, Minn.—County has under consideration construction of numerous bridges; estimated cost, $120,000. O. J. Simmons, co. aud.

Superior, Mont.—Bonds for $75,000 voted by County to construct bridges on Yellowstone trail.

Eureka Springs, Ark.—See "Roads and Paving."

Eufaula, Okla.—Cost (estimated at $125,000) for constructing bridge over Canadian River on Jefferson Highway will be borne by Muskogee and Pittsburg Counties; address Co. Clk., Muskogee.

McAlester, Okla.—See "Roads and Paving."

Oklahoma City, Okla.—Contracts will soon be let by Co. Comrs. (Maynard Cornelius, clk) for constructing 20 steel and concrete bridges, 9 of which will be over North Canadian River; total estimated cost $35,000. Plans for 10 more will shortly be completed; total estimated cost $20,000. Harry C. Adams, co. engr.

Baker, Ore.—Superstructure plans being prepared by L. R. Stockman, city engr., for new $30,000 steel bridge over Powder River at Center St., for which concrete abutments have been completed.

Portland, Ore.—Elimination of grade crossings on East Side by constructing viaducts over tracks of Oregon, Washington RR. & Navigation Co. (R. L. Huntley, ch. engr., 15th and Dodge Sts., Omaha, Neb.), for which city intends spending $165,000, being considered by City Comr. Dieck.

Salt Lake City, Utah.—State legislature will be asked to appropriate funds for constructing bridge between City creek canyon and Wasatch Boule., connecting latter at 11th Ave.; estimated cost, between $150,000 and $200,000. John Dern, state capitol comr.

Juneau, Alaska.—Reported Alaska Road Comn. (Capt. J. C. Mahaffy, engr.), Valdez, has $750,000 for road construction work in 1917, which includes constructing in 3 units, each costing $100,000, steel bridge over channel between Douglas Island and here.

Hamilton, Ont.—Contracts will soon be let for constructing bridges, at Bronte, Oakville and Port Credit on Hamilton-Toronto highway, also construction of 24-ft. road, similar in design to this highway from Etobicoke to Toronto. Hugh Bertam, comr.

Port Arthur, Ont.—City Council (T. F. Milne, clk.), considering construction of bridge over McIntyre river.

BIDS DESIRED.

Rochester, N. Y.—Until Dec. 7, by Comrs. Pub. Bldgs. at office Purchas. Agt., Court House, Monroe Co., for 216½ tons Lackawanna arch web interlocking steel sheet piling in 55-ft. lengths; advertised in this issue.

Memphis, Tenn.—Until Dec. 21 at U. S. Engr. Office, for constructing and delivering 3 steel sand barges, Nos. 1602 to 1603 inclusive; advertised in this issue.

St. Paul, Neb.—Reported desired until Dec. 15 by E. D. Bahensky, co. clk., for constructing 3 steel bridges in Howard Co., one 45-ft., one 40-ft., and one 24-ft.

Superior, Mont. — See "Excavation, Drainage and Dredging."

Laredo, Tex.—Until Dec. 15 by J. A. Rodriguez (co. clk., Webb Co.) for constructing steel bridge across Santa Isabel River, about 15 miles north of Laredo.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Lockport, N. Y.—Lowest bid received by State Highway Comn., Albany, for constructing lift bridge over canal was from Tifft Constr. Co., Iroquois Bldg., Buffalo, at $82,276. Lupfer & Remick, Ellicott Square, Buffalo, submitted bid of $84,788.

Washington, D. C.—Following bids were opened Nov. 27 by General Purchasing Officer, Panama Canal, under circular No. 1101, for furnishing 215,435 lb. structural steel: Bid 1, Belmont Iron Works, 22d St. and Washington Ave., Philadelphia, Pa. (unit bid 6c., 135 days); J. B. Kendall Co., Washington, D. C. (.628c., 200 days); Penn Bridge Co., Beaver Falls, Pa. (.563c., 240 days); U. S. Steel Products Co., 30 Church St., New York City (.511c., 290 days, and alternate, .611c., 100 days).

★**Clearwater, Fla.**—Contract awarded by county to Converse Bridge & Steel Co., Chattanooga, Tenn., at $26,538, for constructing bridge over Anclote River at Tarpon Springs, and at $10,018 for one over Stephen's Creek at Clearwater; concrete approaches with twin leaves and series of rolling lifts. J. B. McCrary Co., engrs., Atlanta, Ga.

★**Terre Haute, Ind.**—Contracts awarded Nov. 22 by Co. Comrs. for bridges as follows: Anderson bridge, Harrison Township, National Concrete Co., Indianapolis, $11,750; Altekruse Bridge over Honey Creek at First St., in Honey Creek Township, $10,600.

★**Fairbury, Neb.**—Contract awarded by County (C. O. Marthis, clk.) to Standard Bridge Co., Omaha, at $40,000, for 740-ft. steel bridge over Blue River.

★**Fredericton, N. B.**—Contract awarded by St. John & Quebec Ry. (C. B. Brown, ch. engr., Moncton, N. B.) to Nova Scotia Constr. Co., 159 Upper Water St., Halifax, N. S., at $22,000, for constructing two 50-ft. and one 60-ft. steel plate girder span bridge with substructure of concrete on piles, over Nerepis River at its mouth.

★**Russell Township, Ont.** — Contract awarded by Township to Ontario Bridge Co., Toronto, at $16,450, for constructing steel and concrete bridge.

REINFORCED CONCRETE

PROPOSED WORK.

Brooklyn, N. Y.—Plans filed for 2-story 185 x 100 -ft. concrete factory to be built by F. W. Devoe & C. T. Reynolds Co., 565 Smith St.; cost, $100,000.

Wilkes-Barre, Pa.—Co. Comrs. have under consideration construction of concrete bridge over Susquehanna River from Market St. to Kingston.

Washington, D. C.—Plans have been submitted by Col. C. A. F. Flagler, army engr., to National Comn. of Fine Arts, for Key Memorial Bridge to replace present condemned Aqueduct over Potomac River between here and Georgetown, Va. Congress has appropriated $1,000,000 for double-decked concrete structure, 1050 ft. long, with 5 parabolic ribbed arches over river and smaller arches on shore approaches, with masonry retaining walls; middle span will be 244 ft. long, 60 ft. wide, with clearance of 75 ft. Bridge will be used by Washington, Arlington & Falls Church Ry., and probably Great Falls and Old Dominion Co.

Duluth, Minn.—Comr. J. A. Farrell estimates cost of repairing and concreting city bridges at $200,000, toward which city has appropriated $50,000.

Red Wing, Minn.—Surveys are being made to construct several reinforced concrete bridges in county to conform to plans of State Highway Comn. C. H. Meyer, co. aud.

Ft. Worth, Tex.—Erection of 6-story reinforced concrete storage warehouse, cost $50,000, will begin Jan. 1 by Binyon-O'Keefe Storage Co. Sanguinet & Staats, Ft. Worth, Tex., archts.

Los Angeles, Cal.—Plans being prepared in the East for erecting reinforced concrete steel frame roof, 150 x 250-ft. bottling plant at Washington St. and Compton Ave., for Arrowhead Springs Co. (F. W. Handschy, mgr.); cost, about $150,000.

Plans being prepared by Frank L. Stiff, archt., 1102 Van Nuys Bldg., and George W. Harding, engr., Washington Bldg., for erecting 10-story and basement 60 x 150 ft. and 10-story and basement, 80 x 154-ft. reinforced concrete loft buildings, on Los Angeles St., near 8th St., for M. J. Connell; buildings will be connected by bridges.

Fresno, Cal.—Plans being prepared by Glass & Butner, Rowell Bldg., for erecting 1-story and basement, 275 x 150-ft. reinforced concrete warehouse at Ventura Ave., P St. & Santa Fé Ave., for Pacific Coast Grocery Co. W. B. Wellman of Wellman, Peck & Co., Pres., San Francisco.

BIDS DESIRED.

Ft. Wayne, Ind.—Until Dec. 27, by Comrs., Allen Co., for constructing a 3-span reinforced concrete arch bridge over St. Joseph River; appropriation, $65,000. A. W. Grosvenor, engr., 408 Bass Block.

Quincy, Ill.—Until Dec. 23, by Indian Grove Drainage Dist., for constructing reinforced concrete sluice on pile foundation. W. P. Bushnell, engr., Room 2 Wells Bldg. Advertised in this issue.

Paola, Kan.—Until Dec. 27, by Bd. Co. Comrs., for constructing bridges (concrete foundations, I-beam superstructure) in Marysville Twp.; Deck Fisher bridge, about 2 miles from Hillsdale; School bridge over Sweetwater Creek, about 3 miles from Hillsdale; Sol H. George bridge, about 6 miles from Paola. In Mound Twp., 4 miles from Beagle, Mack Bush bridge; in Middle Creek Twp., 4½ miles from Somerset, George Hornbuckle bridge. In Stanton Twp. over Dutton branch, about 4 miles from Rantoul, Durrant bridge. South Wea bridge, in Middle Creek Twp., 2½ miles from Louisburg, and Brewer Ford bridge over Middle Creek, in Sugar Creek Twp., 6 miles from Drexel, Mo.; concrete foundation and steel span superstructure. Mike Fenoughty bridge, over Plum Creek in Stanton Twp., first-class reinforced concrete. Ed. Huff, co. engr.

Waterford, Cal.—Until Dec. 21, by Bd. Dirs. (C. C. Horsley, secy.) Waterford Irrigation Dist., for constructing reinforced concrete siphon; work is about 5 miles east of Waterford; $560 must be set aside for purchase of cement.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Rosebank, S. I., N. Y.** — Contract awarded by L. A. Dreyfus Co. to Turner Constr. Co., 11 Bway., for erecting 4-story concrete building.

★**Philadelphia, Pa.**—Contract awarded by Midvale Steel Co. to F. W. Mark's Constr. Co., 2820 N. 21st St., for erecting 6-story and basement reinforced concrete and brick office bldg.; cost $200,000.

★**Pittsburgh, Pa.**—Contract awarded by Investment Land Co. to Stone & Webster Engineering Co., 120 Bway., New York, for erecting 200 x 300-ft., 7-story reinforced concrete warehouse; cost, about $600,000.

★**Atlanta, Ga.**—Contract awarded by Hentz, Reid & Adler, Candler Bldg., Atlanta, to Southern Ferro Concrete Co., Equitable Bldg., for erecting 5-story, 65 x 125-ft. Colored Y. M. C. A. Bldg.; reinforced concrete frame and foundations.

★**Augusta, Ga.**—Contract awarded by Union Savings Bank Trustees to Southern Ferro Concrete Co., General Contractors, Atlanta, Ga., for erecting reinforced concrete, 36 x 200-ft. 2-story building for new home of Union Savings Bank; cost, about $60,000. R. H. Hunt, archt., Chattanooga, Tenn.

★**Terre Haute, Ind.**—See "Structural Steel."

Detroit, Mich.—Recommendations of Bd. of Consulting Engrs. (Dean M. E. Cooley, of University of Michigan, chmn.) place cost of proposed reinforced concrete bridge connecting city with Belle Isle, which will will be 60 ft. wide, with 12-ft. sidewalks on each side and constructed on piles, at $2,000,000, and with subway approach from mainland at Jefferson Ave.; cost of latter will be $125,000.

★**Potter, Wis.**—Contract awarded Nov. 28 to J. Young & Bros., Oconto, Wis., for constructing on piles 6 40-ft. span reinforced concrete bridge.

★**St. Louis, Mo.**—Contract awarded by Century Electric Co., 21st & Poplar Sts., St. Louis, to Woermann Constr. Co., Suite 543 Century Bldg., St. Louis, for general construction work on 3-story concrete and brick 60 x 150-ft. warehouse building. Klipstein & Rathmann, archts., Chemical Bldg.

★**Los Angeles, Cal.**—Following are approximate bids opened by Bd. Education for grading athletic field at Lincoln High School and constructing concrete structures: Wattson & Spicer, Wright & Callender Bldg., $10,000; R. H. McCray Co., 234 W. 28th St., $12,000; R. A. Baker & Son, 6050 Pasadena Ave., $15,500.

★**Vallejo, Cal.**—Contract awarded by Sperry Flour Co. to Dinwiddie Construction Co., Crocker Bldg., San Francisco, for erecting reinforced concrete building; cost, about $500,000.

★**Trenton, Ont.**—Contract awarded by British Chemical Co. to Gaylord Engineering Co. (local mgr., F. Skinner) at $500,000, for erecting reinforced concrete and steel plant, to consist of 40 buildings.

★**Dayton O.**—Following total and unit bids were opened Nov. 21 by Co. Comrs., Walter H. Azling, clk., for constructing remainder of substructure of bridge No. 174 over Great Miami River: (a) C. L. Reichelderfer, Circleville, O., $36,577 (awarded contract); (b) Hackedorn Constr. Co., Indianapolis, Ind., $45,072.

	*(a)	(b)
47.6 cu. yd. 1-2-¾ concrete	$15.00	$16.50
2,341 cu. yd. 1-2½-5 concrete	13.00	16.00
5,340 lin. ft. piling	0.60	0.70
2,043.2 lb. steel	0.06	0.10

★**Kansas City, Mo.**—Following are unit bids received Nov. 22 by Park Comrs. (T. C. Harrington, secy.) for constructing concrete bridge at 71st St. over Blue River in Swope Park: (a) Horton Concrete Constr. Co., 520 Reliance Bldg., $144,943 (awarded contract); (b) Concrete Constr. Co., Rialto Bldg., $149,423; (c) List-Gifford Constr. Co., 520 N. Y. Life Ins. Bldg., $149,533.

	*(a)	(b)	(c)
1,270 cu. yd. concrete in slabs, curbs, etc.	$9.40	$11.00	$13.42
840 cu. yd. concrete in c-gds., c-bs., sp. gds.	9.40	11.00	13.42
180 cu. yd. concrete in spandrel columns	9.40	11.00	13.42
680 cu. yd. concrete in arch ribs	9.40	11.00	15.42
1,420 cu. yd. concrete in piers above plinths	9.40	10.00	8.92
2,900 cu. yd. concrete in piers below plinths	9.40	9.60	7.15
960 cu. yd. concrete in pier bases	9.40	9.50	6.90
730 cu. yd. concrete in abutments	9.40	10.00	9.42
100 cu. yd. concrete in end monuments	9.40	12.00	16.00
1,370 lin. ft. concrete handrails	1.50	3.00	2.75
3[illegible],000 lb. reinforcing metal, ¾ in. or over	0.045	0.045	0.0425
260,000 lb. reinforcing metal, ¾ in. or under	0.0475	0.0475	0.044
2,200 lb. sheet lead for expansion joints	0.10	0.12	0.10
7,000 lb. wrought-iron drainage pipes	0.05	0.06	0.05
3,000 lb. cast-iron inlet drops	0.05	0.05	0.05
18,000 lb. expansion plates, name plates, etc.	0.10	0.08	0.07
16 lamp posts	15.00	25.00	60.00
1,430 lin. ft. pipe conduits	0.20	0.25	0.40
1,430 lin. ft. cables for lighting	0.20	0.25	0.40
3,110 sq. yd. creosoted wood paving blocks	2.00	2.50	2.50
1,250 sq. yd. macadam pavement on approaches	1.00	1.25	1.50
560 lin. ft. concrete curb	0.40	0.40	0.40
3,920 cu. yd. dry excav. piers	2.00	1.25	1.90
1,840 cu. yd. wet excav. piers	4.00	1.75	2.75
650 cu. yd. excav. abutments	2.00	1.25	1.10
4,000 cu. yd. earth embankment	0.25	0.50	0.30
Removal debris	10.00	100.00	500.00

ROADS AND PAVING

PROPOSED WORK.

Rockwood, Me.—Estimated cost of completing construction of Jackman-Rockwood road placed at $50,000. State legislature appropriated $22,500; Maine Central RR., $10,000; Somerset County, $7,500. Address Co. Clk., Showhegan.

Warwick, R. I.—Town appropriated $16,000 to improve 2 roads. J. T. Lockwood, clk., Apponaug.

Albany, N. Y.—Common Council has allowed Bureau of Streets $194,000 for street work in 1917.

Lockport, N. Y.—Cost of constructing county line road from Orleans to Niagara, 8 miles, for which surveys are now being made, will be borne jointly by Orleans and Niagara Counties. Address Co. Clk., Lockport.

Long Island City, L. I., N. Y.—Preliminary estimates filed with Bureau Street Openings place cost of widening and improving Queens Boule., exclusive of land, at $412,203. M. E. Connolly, boro, pres., Borough Hall.

Rochester, N. Y.—City intends paving with sheet asphalt Genesee Park Boule., estimated cost $205,000; also paving with sheet asphalt, grading and laying sewers in other streets. Jos. A. Crane, city clk.

Syracuse, N. Y.—City intends paving 3 avenues and resurfacing 3 others. H. A. Allen, city engr.

Utica, N. Y.—Bd. Contract and Supply will soon let contracts for resurfacing portion of Rutgers St. (estimated cost $13,463), resurfacing portion of Lincoln Ave. with concrete and constructing reinforced concrete retaining in another part of this avenue.

Flemington, N. J.—Bd. Freeholders will soon ask for bids on $56,000 road improvement bonds. Wm. W. Foster, clk.

Glen Ridge, N. J.—Borough sold $55,000 bonds with which to pave Ridgewood Ave. in spring. John A. Brown, clk.

Bradford, Pa.—Street paving bonds for $80,000 voted. B. A. Wise, city engr.

Clearfield, Pa.—City intends spending $50,000 on paving various streets. E. W. Hess, city engr.

Lebanon, Pa.—Estimated cost of paving with concrete road around Quittapahilla Creek placed at $80,000. P. A. Volcker, city engr.

Mahanoy City, Pa.—Bonds for $70,000 voted, part of which will be used for street work. W. G. Thomas, city engr.

Pottstown, Pa.—Citizens of Pottstown and West Chester raising $75,000 each to defray part of cost, estimated at $350,000, to construct proposed road between the two places. Address City Clk., Pottstown.

Wilkes-Barre, Pa.—Estimated cost to pave Reese, Murray and Jones Sts. and Garnet Lane, at $12,937, by B. K. Finch, city engr. Council has under consideration grading and paving with sheet asphalt, setting stone and concrete curbing on portion of Brook St.; also opening and extending Essex Lane. Fred. H. Giles, city clk.

Wilmington, Del.—City intends spending $200,000 on street paving. E. M. Hoopes, city engr.

Parsons, W. Va.—Election in 3 districts Dec. 29 for total of $308,000 road construction bonds. H. F. Colebank, co. clk.

New Berne, N. C.—County intends paving with brick 4½ miles of Trent road and 4½ miles of Vanceboro road.

Wilmington, N. C.—Estimated cost of improving portion of Water, Nutt and Front Sts., placed at $30,000, $6,000 of which will be used to lay water mains in same.

Statesboro, Ga.—Election probably in February to vote bonds for paving 2 miles of streets. W. B. Johnson, city clk.

Arcadia, Fla.—City sold $90,000 street improvement bonds.

Ft. Myers, Fla.—Bonds for $190,000 voted in Special Road and Bridge Dist. No. 8 to grade and construct 42 miles hard-surfaced roads. Address Co. Clk.

Wimauma, Fla.—New election will be held to bond this district for $22,500 to extend Riverview Rd. as part of Tamiam Trail; address Co. Clk., Bradentown.

Mansfield, La.—City intends paving 29,000 sq. yd., 8000 sq. yd. of which will be gravel and binder. J. W. Parsons, mayor.

New Orleans, La.—Certificates aggregating $750,000 will be sold to pave various streets in 1917, probably with creosoted wood block. Address Chmn. Common Council.

Crystal, Springs, Miss.—City intends spending $20,000 to lay concrete sidewalks.

Greenville, Miss.—Bd. Supervs., W. W. Miller, co. clk., intends improving and grading 145 miles permanent roads, 100 miles of which will be concreted; $950,000 bonds voted. J. S. Allen, engr.

Stanton, Ky.—Co. Comrs. sold $40,000 road bonds.

Akron, O.—Co. Comrs. intend paving 17 miles of roads in 1917; proposed work consists of completing Richfield, Mogadore and Stow-Tall roads; paving portion of S. Arlington, Loyal Oak and Manchester roads.

Canton, O.—Co. Comrs. intend spending $250,000 in 1917 for brick, macadam and monolithic pavements on county roads. State aid will be obtained to improve Canton-Lisbon road, which is part of Lincoln Highway. Other roads being considered for improvement are Canton-Canal Fulton road, Canton-Navarre road, Massillon-Canal Fulton road (3 miles), Robertsville-Minerva road (3 miles), Raff road, Harrisburg-New Baltimore road, Marlboro-"Death Curve" road, and North Lawrence-Canal Fulton road.

City intends paving 3rd St. N. E., at $36,400, and portion of 11th St. N. W., at $39,500.

Cincinnati, O.—Estimated cost of improving intersection of Delta and Linwood Aves. placed at $31,414 for granite, at $29,164 for asphalt or bitulithic, by Frank S. Krug, city engr.

Cleveland, O.—Plans being prepared by W. A. Stinchcomb, co. engr., for widening Superior Ave. from E. 12th to E. 105th Sts. and Broadway from E. 35th to city limits, expense of which will be borne by county, city and property owners.

Fairview, O.—Contracts will soon be let for constructing 1½-mile road between this village and Goldwood; address Co. Clk., Cleveland.

New Boston, O.—Estimated cost of paving various streets here placed at $28,000, for which bonds have been sold. G. C. Kinley, engr., 1309 Franklin Ave., Portsmouth.

New Bremen, O.—Plans being prepared by Geo. Champ, Nasby Bldg., Toledo, O., for paving Main, Franklin and Pearl Sts.; contracts will probably be let in spring.

Washington, O.—Paving bonds for $18,500 for improving Paint St. will be sold by John N. McFadden, city aud.

Waum, O.—City sold $38,000 improvement bonds.

Flint, Mich.—See "Waterworks and Sewerage."

Houghton, Mich.—Bd. Supervs. intend spending $180,000 on road construction work in 1917.

Saginaw, Mich.—Contracts will probably be let in March, 1917, for paving portion of Germania Ave. with sheet asphalt; estimated cost, $15,000. Herman H. Eymer, city engr.

Berwyn, Ill.—Estimated cost of paving Riverside Drive with concrete, and Sheldon, Morton, Aurora and Park Aves. with macadam placed at $42,000. B. S. Strutzenburg, city engr.

Grayville, Ill.—Plans being prepared by G. W. Coulter, engr., Mt. Carmel, for paving 8 miles of streets.

Lincoln, Ill.—Citizens considering petition to bond county for $50,000 for good roads. T. S. Davy, co. supt. highways.

Ottawa, Ill.—Bd. of Local Improvements (Geo. L. Farnsworth, engr.) intend paving portions of Jefferson, Jackson, Lafayette, Phelps and numerous streets in West and South Side Dists. of city.

Princeton, Ill.—Bd. Local Improvements intends paving 3 miles of street in spring, with vitrified brick, with asphalt filler on concrete base, and laying concrete gutters.

Springfield, Ill.—City has under consideration paving with creosoted wood blocks in district bounded by Madison, Jackson, 1st and 10th Sts.

Kenosha, Wis.—County voted Nov. 22 $45,000 road bonds to complete 4-mile link of Sheridan road from Illinois state line to here.

Committee on Streets and Alleys has recommended to Common Council permanent improvement of 19 streets in 1917, some of which are: Sheridan Rd., Chicago St. and Fremont Ave.

Manitowoc, Wis.—About 25,000 sq. yd. brick, asphalt concrete or cement pavement being considered by city. L. K. Pitz, city engr.

Milwaukee, Wis.—Co. Bd. Supervs. (Wm. E. McCarty, chmn.) considering spending $350,000 on road work in 1917.

Oliver, Wis.—Bd. Supervs., Superior, Wis., intend constructing road from here to South Superior at estimated cost of $27,000.

Traer, Ia.—City Council intends paving every main street during 1917.

Ortonville, Minn.—County has appropriated $20,000 for road work in 1917. A. V. Randall, co. aud.

St. Cloud, Minn.—County intends asking for $50,000 federal aid to use with $50,000 county road fund for 1917 road construction work.

Wheaton, Minn.—County has appropriated $20,000 for road work in 1917. J. T. Erickson, co. aud.

Leavenworth, Kan.—See "Roads and Paving, Prices and Lettings."

Darby, Mont.—County road from here to Lent Mine, 8 miles, will be constructed with aid of Federal Forestry Service and Lent Mine owners. Address Co. Clk., Hamilton.

Kansas City, Mo.—Bd. Pub. Wks. (L. Oppenstein, pres.) intends grading and paving with asphalt, also concrete, portions of numerous streets, of which some are: Newton Ave., 9th and Jefferson Sts.

Salem, Mo.—Election in January for $160,000 road construction bonds. James H. McDonald, co. clk.

Springfield, Mo.—City intends spending $13,500 to pave with asphaltic concrete on 4-in. concrete base, 8725 sq. yd. of St. Louis St.; bids will be asked in spring. O. D. Chrisman, city engr.

Stanberry, Mo.—Contracts will probably be let in January for approximately 30,000 sq. yd. paving. C. A. Greenlee, city clk.

Eureka Springs, Ark.—Contract will soon be let by Road Comrs. Eureka Dist. No. 1 (E. M. Bare, secy) for constructing automobile highway from here to Seligman, Mo., and 350-ft. steel bridge over White River. R. D. Alexander, engr., Oklahoma City, Okla.

Forrest City, Ark.—Plans being prepared by Lund & Hill, Southern Trust Bldg., Little Rock, Ark., for paving in Dist. No. 4. Dr. J. O. Rush, comr.

Russellville, Ark.—Election in this district in February to vote $140,000 bonds to construct 23-mile macadam highway from here to Hector. Hugh R. Carter, engr., State Highway Dept., Little Rock, Ark.

Walnut Ridge, Ark.—State Highway Dept., Little Rock, have completed plans to construct 18-mile highway from here to Rhea Bridge.

Burkburnett, Tex.—City intends paving principal business streets leading east from depot. Address W. D. Cline, comr., City Hall.

Cameron, Tex.—Road Dist. No. 8 voted Nov. 16, $150,000 road bonds. Address Co. Clk.

Columbus, Tex.—Election Jan. 16, 1917, in Road Dist. No. 1 to vote $100,000 road bonds. Address Co. Clk.

Dallas, Tex.—Contracts will soon be let by city for grading, paving with vibrilithic and doing all necessary underground work on connecting link road between South Dallas and west side of business district; estimated cost $65,000. Otto H. Lang, comr.

Eastland, Tex.—Co. Comrs. have under consideration creation of two new road districts and bonding same to construct 100 miles of roads.

Eastland, Tex.—Election Dec. 30 to vote upon $200,000 road bonds in Dist. No. 1, in which are cities of Cisco, Eastland and Ranger; proposed road will be part of Ft. Worth-El Paso highway and will be macadamized. Co. Comrs. have under consideration creation of two new road districts and bonding same to construct 100 miles of additional roads.

Victoria, Tex.—Petition for election to bond city for $100,000 or more for street paving presented to City Council.

McAlester, Okla.—Estimated cost to grade and surface proposed 70-mile highway system throughout county, placed at $473,000; for bridge work, at $50,000; or, $6,760 per mile, divided as follows: $800 for grading, $176 for sub-grade, $1,650 for loading and hauling stone, $220 for spreading stone, $264 for rolling stone, $176 for sprinkling, $174 for foreman and miscellaneous expenses and $3,300 for stone, delivered, calculating 2200 cu. yd. of stone per mile at $1.50 per cu. yd.; address Co. Clk.

Vinson, Okla.—Election will shortly be called to vote upon $35,000 bonds for road work; address City Clk.

Roswell, N. M.—Petition being circulated asking for election to vote $100,000 road construction and repair bonds; address Co. Clk.

Sprague, Wash.—Appropriation of $40,000 available for new state road from here to Harrington, for which surveys are being made. Guy G. Harvey, co. engr., Davenport.

Astoria, Ore.—Approximately $39,546 will be raised in Road Dist. No. 2 by 7-mill levy tax for 1917 road and bridge work. G. F. Parker, co. engr.

City intends hard surfacing Olney Ave., 9th and Clatskanie Sts. and Smith's Point road. Olof Anderson, city aud.

Grants Pass, Ore.—County will have $39,916 for road and bridge work in 1917, from appropriation and 4-mill assessment.

McMinnville, Ore.—Petition being circulated for election to vote $500,000 for constructing hard surfaced roads; address Co. Clk.

Sheridan, Ore.—Appropriation of $30,000 available to hard surface 3 miles of road east of here connecting with city. C. B. Wilson, co. clk., McMinnville.

Tillamook, Ore.—County Court, A. M. Hare, judge, intends spending $170,000 for road work in 1917.

Albany, Cal.—Election Dec. 9 to vote $25,000 for paving San Pablo Ave.

Beaumont, Cal.—Contracts will be let in spring for constructing several miles of concrete highways near here; address Co. Clk., Riverside.

California.—State Highway Comn., A. B. Fletcher, ch. engr., Sacramento, has in addition to $15,000,000 road bonds voted at Nov. 7 election, $250,000 federal aid road fund with which to construct approximately 1000 miles highways. Improving trunk lines extending from San Diego to northern boundary of state will be initial work. One-fifth of sum will be used to construct new highways, one of which will be from Los Angeles to Sequoia forest. Highway from Oakdale to Sonora will be concreted part of distance, remainder hard surfaced.

Contracts will soon be let by this Comn. for constructing 4 separate units of state highway system, aggregating 11 miles, in Colusa, San Luis Obispo and Santa Barbara Counties.

Calexico, Cal.—Contracts will soon be let by city (H. L. Sherman, city engr.) for paving 48,000 sq. yd. on 1st, 2nd, 3rd and four other streets, with 5-in. concrete and 2-in. bitulithic, including laying concrete pipe storm sewers, sidewalks and curbs on some of streets and making all sewer connections not made to date; estimated cost $150,000.

Los Angeles, Cal.—Contract will probably be let latter part of December by Bd. Supervs. (A. M. McPherrin, clk.) for grading and constructing 5-in. oiled macadam pavement, 22 ft. wide, corrugated iron culverts, etc., in Ballona Ave., Main St. and others in and near El Segundo, in Road Dist. No. 117; also grading and constructing 5-in. concrete pavement with bituminous surface, 20 ft. wide, on Azusa Ave., in Road Dist. No. 90.

Sanger, Cal.—City intends grading and oiling and laying cement curbs and walks on 5 miles of streets.

San Jacinto, Cal.—City voted $28,000 for paving 3½ miles of streets.

Santa Ana, Cal.—County intends readvertising bids for constructing Sunset Beach-Huntington Beach coast boule.

Visalia, Cal.—Petition to construct concrete highways throughout county will shortly be presented to Bd. Supervs.

Ogden City, Utah.—City Comn. considering constructing boulevard on north side of river, between Washington and Monroe Aves. W. Jenkins, city engr.

Utah.—Tentative agreement for funds for proposed road work in 1917 and 1918 between State Road Comn. (E. R. Morgan, state road engr.), Salt Lake City, and Federal Forestry officials (L. P. Kneipp, local dist. forester), Ogden, amounts to $52,500 from State and same from Federal Aid in 1917 and $64,000 from State and $67,000 from Federal Aid in 1918.

Heyburn, Idaho.—Park Comrs. intend constructing $13,000 scenic road into park from north; contracts will probably be let in spring.

Salmon, Idaho.—County voted $300,000 to construct with state and federal aid numerous roads.

Juneau, Alaska.—See "Structural Steel."

Hamilton, Ont.—See "Structural Steel."

Lindsay, Ont.—Smith & Smith, co. engrs., preparing plans for numerous county roads.

Toronto, Ont.—Estimated cost of paving portion of Davenport Rd. placed at $30,329 by R. C. Harris, comr.

BIDS DESIRED.

Washington, D. C.—Until Dec. 14 by Board of Comrs. for grading certain streets, aggregating 201,000 cu. yd.; address Ch. Clk. Engr. Dept. District Bldg.; advertised in this issue.

Pinesville, W. Va.—Until Dec. 23, by Co. Court Wyoming Co. (Will T. Cook, co. clk.) for constructing 6 sections earth roads. Advertised in this issue.

Moulton, Ala.—Until Jan. 8, by Court of Revenue, Lawrence Co., for constructing 5 miles macadam road from town of Courtland south to Landersville Road. Address J. C. Kumpe, judge, probate.

Owensboro, Ky.—Until Dec. 12 (readvertisement) by Fiscal Court, Davies Co., for reconstructing Leitchfield, St. Joseph, Hawesville and Rockport Roads, in all about 164,219 cu. yd. earth excavation, 31,401 cu. yd. river gravel, 53,350 tons broken stone, 3125 cu. yd. concrete, 42,401 cu. yd. bank gravel. R. Wiley, comr. pub. roads.

Whitesburg, Ky.—Until Dec. 14, for street paving and improvement; cost about $12,000 to $15,000; address Mayor.

Youngstown, O.—Until Dec. 14, by H. Parrock, Dir. Service, for paving Green and Alice Sts. and Oak Hill Ave., in all about 4860 sq. yd., on 5" concrete, together with stone curb, etc. F. M. Lillie, engr.

Storm Lake, Ia.—Until Dec. 20, by W. W. Bennett, co. aud., for grading 72 miles county highway system. Geo. K. McCullough, co. engr.

Ft. Scott, Kan.—Until Dec. 18, by N. J. Rose, co. clk., for improving 11.7 miles Pawnee and 7½ miles Walkertown Road, to be paved with macadam 14 ft. wide 8 in. thick, 3-ft dirt shoulders. R. W. Toles, co. engr.

Kansas City, Mo.—Until Dec. 12, by Bd. Pub. Wks., for paving with brick block pavement on portions of Main St., Grand Ave.; concrete pavement on portions of Kensington, North Aves., and Washington St., together with curbing and artificial stone sidewalks, etc.

Galveston, Tex.—Until Dec. 18 by John M. Murch, co. aud., for repairing and improving boulevard between Broadway and 22d St., consisting of 18,500 sq. yd. concrete sidewalk pavement, 13,250 lin. ft. curbing, 4825 cu. yd. 4-in. concrete base for brick roadway, 31,000 sq. yd. vitrified brick paving, 15,000 sq. yd. brick paving and about 43,700 sq. yd. asphalt paving.

Los Angeles, Cal.—Until Jan. 2, by Bd. Superv. (A. M. McPherrin, clk.), for grading and constructing oil macadam pavement on 2.6 miles of Signal Hill Blvd., Panarama Drive, Temple Ave., and Catalina St., about 1 mile from Zaferia station on Los Angeles-Long Beach line of Pacific Elec. Ry., in all about 13,700 cu. yd. excavation, 13,728 lin. ft. shaping roadbed, 14,222 lb. reinforcing steel, 34 cu. yd. concrete, 74 ft. corr. iron pipe; county furnishes 7519 tons disintegrated granite, 1473 tons macadam, 587 bbl. oil, 51 bbl. cement. etc.; cost about $11,000.

Ventura, Cal.—Until Dec. 15, by Bd. Superv. (J. B. McCloskey, clk.), for grading and constructing 4-in. concrete pavement, 16 ft. wide, on 7.42 miles of Somis to Moorpark Rd., Div. 8; about 23,170 cu. yd. excavation, 39,187 lin. ft. shaping and rolling roadbed, 7756 cu. yd. concrete in pavement, 196 cu. yd. concrete in culverts, 12,900 lb. reinforced steel, 390 ft. iron pipe, etc.

PRICES AND LETTINGS.

★Indicates award of contract.

Boston, Mass.—See "Miscellaneous."

Stamford, Conn.—Lowest bid opened Nov. 27 by State Highway Comn., Hartford, for paving 23,257 lin. ft. with native stone macadam road on Long Ridge highway was from Francesco Valerio, Stamford, at $34,000.

Irvington, N. J.—Following bids were opened by Town Council (Isaac J. Casey, engr.) for curbing, paving, and making necessary sewer connections in Ellis Ave.: John Dorer, Irvington, N. J., $23,694; Newark Paving Co., 133 First St., Newark, N. J., $24,428; Ralph Sangiovanni, 80 Hoyt St., Newark, N. J., $25,053; in Twenty-first St., Newark Paving Co., $32,117; Standard Bitulithic Co., Essex Bldg., Newark, N. J., $32,326; John Dorer, $34,130.

★Philadelphia, Pa.—Contract awarded by Dept. Pub. Wks. to E. H. Vare, Betz Boule., at $67,691, for paving portion of Passyunk Ave. with asphalt and granite block.

Keyser, W. Va.—Contract awarded by Co. Comrs. to H. W. Kaylor, Hagerstown, Md., at $85,000, for road in New Creek District.

★Gadsden, Ala.—Contract awarded by city to J. F. Morgan & Co., Attalla, Ala., at $35,348, for paving with asphalt portion 5th St.

★Benton, Tenn.—Contract awarded by Co. Comrs. to Riley-Ryan Co., Chattanooga, Tenn., at $62,500, for constructing 18-mile mountain road, including 145,000 cu. yd. excavating.

★Knoxville, Tenn.—Contract awarded by city to Murphy Constr. Co., local, at $20,000 for paving portion 4 streets with asphalt.

★Piqua, O.—Contract awarded Nov. 24 by city to Hennessy Bros., Piqua, at $40,000, for paving Washington Ave. with brick from Forest Hill cemetery to High St.

★Ft. Wayne, Ind.—Following bids were opened Nov. 21 by Co. Comrs. (Will Joceum, co. aud.) for constructing concrete road: W. J. Neidhart & Co., Anderson, Ind., $31,500 (awarded contract); I. J. Walker, Huntington, Ind., $33,149; Hutton, Harris Constr. Co., North Vernon, Ind., $33,164; Moellemig Constr. Co., Ft. Wayne, Ind., $33,987.

★Shelbyville, Ill.—Contract awarded by County to D. E. Murphy, Pana, at $14,900, for constructing dirt roads in county.

Leavenworth, Kan.—Bid of $47,990 rejected by city (Fred. Metchan, clk.) for paving Broadway; new bids will be asked in spring. Harry A. Perkins, engr.

★Ft. Smith, Ark.—Contract awarded by city to Cleveland Trinidad Asphalt Co., 3409 Trumbull St., Cleveland, O., at $12,499, for paving with asphaltic concrete 8779 lin. ft. in Dist. No. 12.

★Sapulpa, Okla.—Contract awarded by city to John E. Nolan, local, at $25,000, for paving 11 blocks.

Camas, Wash.—Lowest bids received by city (F. B. Barnes, clk.) for paving Main St. with bitulithic were from United Constr. Co., $13,968, and Warren Constr. Co., $14,197, both of Portland.

Everett, Wash.—Contract awarded by Co. Comrs. (Mae Weatherbee, co. aud.) to Mark O'Dell, Arcade Bldg., Seattle, at $108,000, for grading and paving with concrete road proposition No. 30.

★Sumner, Wash.—Contract awarded by city to Hecker, Erickson & Anderson, Tacoma, at $24,000, for paving portions of Cherry St. and 6 others.

★Long Beach, Cal.—Lowest bids received by Bd. Pub. Wks. for paving with Warrenite, laying cement walks and constructing culverts in 6 blocks of 6th St. was Fairchild-Gilmore-Wilton Co., Pacific Elec. Bldg., Los Angeles, at 10.9 cts. per sq. ft. for 128,749 sq. ft.

★Watts, Cal.—Contract awarded by city (V. R. Franklin, clk.), bids opened Nov. 14, to E. S. Groshong, Burbank, Cal., for paving 79,110 sq. ft. oil-bound rock macadam, 3 in. thick, and laying 25,270 sq. ft. sidewalks and 5054 lin. ft. curbs.

★San Francisco, Cal.—Contracts awarded by city as follows: To Flinn & Treacey Const. Co., First Natl. Bank Bldg., at $9,894, for paving and curbing Oakdale Ave.; to Blanchard-Brown Co., 660 Market St., at $19,263, for improving Phelan and Ocean Aves.; to City Street Improvement Co., 166 Geary St., at $15,680, for improving Arthur Ave.; to Karl Ehrhart, 660 Market St., at $52,594, for improving Evans Ave.

★Santa Paula, Cal.—Contract awarded by city to Fairchild-Gilmore-Wilton Co., Pacific Elec. Bldg., Los Angeles, at $25,000, for improving several streets with Warrenite on concrete base (unit bid 14 cts. per sq. ft.); concrete pavement without surface (10 cts.); concrete sidewalks (12 cts.); concrete gutters (16 cts.); concrete curbs (35 cts.).

★Tulare, Cal.—Contract awarded by city to Federal Constr. Co., Sharon Bldg., San Francisco, at $19,900, for paving 5 blocks.

★Ventura, Cal.—Following are total and unit bids opened Nov. 8 by Bd. Supervs. (J. B. McCloskey, clk.) for constructing, with 4-in. concrete pavement, 11 miles of Div. I, Santa Paula-Ventura road, including 27,000 cu. yd. excav.: (a) Brashear-Burns Co., Van Nuys Bldg., $39,349 (awarded contract); (b) Connor Constr. Co., $39,929; (c) Rogers Bros. Co., Merrick and Stephenson Aves., $30,765; (d) C. H. Hudson, Contr. Trust and Savings Bank Bldg., $40,902.

	*(a)	(b)	(c)	(d)
28,000 cu. yd. excav.	$0.27	$0.30	$0.30	$0.29
58,600 ft. shaping and rolling	0.075	0.05	0.10	0.18
11,575 cu. yd. Class B concrete	2.12	2.25	2.05	2.15
183 cu. yd. Class B concrete bridges, etc.	8.00	8.00	7.50	10.00
30 lin. ft. 15-in. pipe	1.50	1.50	1.50	1.25
106 lin. ft. 18-in. pipe	1.75	1.80	1.80	1.50
30 lin. ft. 24-in. pipe	2.25	2.05	2.50	2.00
42 lin. ft. 30-in. pipe	3.00	3.00	3.00	2.50
10 lin. ft. 36-in. pipe	3.50	3.25	3.50	3.25
30 lin. ft. relaying 12 and 24-in. pipe	1.00	0.50	1.00	1.00
52 lin. ft. relaying 30 and 72-in. pipe	2.00	1.00	2.00	3.00
11,400 lb. reinforced steel	0.07	0.06	0.07	0.07
15-in. concrete pipe	1.75	1.75	1.60	2.00
18-in. concrete pipe	2.50	2.50	2.10	2.50
24-in. concrete pipe	2.80	2.80	2.75	3.50
30-in. concrete pipe	4.50	4.50	3.20	4.00
36-in. concrete pipe	6.25	6.75	4.00	5.50

RAILWAYS
Steam and Electric

PROPOSED WORK.

Jersey City, N. J.—Public Service Ry. Co. (R. E. Danforth, gen. mgr., Public Service Bldg., Newark) planning to double track line on Belleville Turnpike, from Elm St., North Arlington, to Kearney Ave., Kearney.

Trenton, N. J.—Reported Pennsylvania R. R. (A. C. Shand, ch. engr., Philadelphia), plans constructing two additional tracks on New York & Philadelphia division, to form a six-track system; work will include six-track bridges and will eliminate grade crossings between Morrisville and Philadelphia.

Dover, Pa.—Public Service Comn., Harrisburg, plan to operate trackless trolley cars on the public highway submitted by the Dover-Rossville Transit Co. This company proposes to operate a trackless line between Dover and Rossville.

Harrisburg, Pa.—Charter reported granted to Denver & Ephrata Eectric Ry. (H. S. Dissler, mgr., Ephrata); capital, $130,000.

Norristown, Pa.—Perkiomen Valley Traction Co. (S. T. Wagner, ch, engr., Philadelphia & Reading RR., Philadelphia), granted permission by Pub. Serv. Comn., to build line from Collegeville to Greenland, along Gravel Rd., State Highway, with provision that company pave between its tracks and 18-in. either side, with brick pavement; company also planning to construct line to Schwenkville.

Philadelphia, Pa.—Reported Pennsylvania RR. Co. (A. C. Shand, ch. engr.) will spend $400,000 for classification yards at Shock's Mills, Pa., and additional track facilities at Enola, to cost $40,000.

Tamaqua, Pa.—Pennsylvania RR. Co. (A. C. Shand, ch. engr., Philadelphia) plans to construct 40 miles of railroad, from Tamaqua to Hazelton.

Huntington, W. Va.—Chesapeake & Ohio RR. Co. (F. I. Cabell, ch. engr., Richmond, Va.) plan extensive track improvements at West Huntington, including sidetracks, switches for large glass and brick plants. A. B. Leach & Co. power plant to supply electricity to the mines.

Columbia, S. C.—Columbia Ry. & Navigation Co. (G. A. Guignard, pres., Columbia) reported to be making survey for railroad from Columbia to Greenwood, a distance of 70 miles; probably will be operated by electricity.

Savannah, Ga.—Plans are being prepared by Atlantic Coast Line RR. (J. E. Willoughby, ch. engr., Wilmington, N. C.) and city to eliminate grade crossings within city; cost will probably be borne by railroad.

Dayton, O.—Reported Recording & Computing Machines Co., W. I. Ohmer, pres., contemplates constructing an electric railway from the center of the city to the factory of company.

Cincinnati, O.—Little Miami RR. (operating company, Pennsylvania RR., Alex. C. Shand, ch. engr., Broad St., Philadelphia, Pa.) will issue bonds for track elevation, $36,000 for Cincinnati and $13,000 for Columbus.

Grand Rapids, Mich.—United Light & Railways Co. (Rich. Schaddrel, gen. mgr., Grand Rapids) sold $1,500,000 convertible debentures, of which the proceeds of $400,000 will be used to retire underlying bond issues, for payment of a small amount of floating debt, and balance for construction requirements of subsidiary companies during 1917.

Roodhouse, Ill.—Chicago & Alton RR. Co. H. T. Douglas, Jr., ch. engr., Chicago) plans to change grade of the Western division, to include double tracking 90 miles between Roodhouse and Kansas City, Mo.; total cost of work proposed said to be $9,000,000.

New England, N. D.—Chicago, Milwaukee & St. Paul RR. Co. (E. W. Adams, secy., Majestic Bldg., Milwaukee, Wis.) plan constructing a 35-mile spur from New England to Amidon, next spring; cost about $750,000.

Monroe City, Mo.—Burlington RR. Co. has petitioned Pub. Service Comn., Jefferson City, for permission to construct a standard gage railroad from Monroe City to Moberly, a distance of 35 miles.

Ft. Worth, Tex.—Gulf, Texas & Western RR. Co. (B. B. Cain, pres., gen. mgr., Dallas) reported considering plans to construct railroad from Graford to Ft. Worth, via Poolville, Boonville and Springtown. Capt. B. B. Paddock and I. H. Burney, Ft. Worth, reported interested.

Bellingham, Wash.—Methow Valley & Eastern Ry. Co., subsidiary of the Chicago, Milwaukee & St. Paul RR. Co. (C. F. Loweth, ch. engr., Chicago, Ill.), which plans to construct line from Bellingham to Spokane, will begin at once constructing initial section of proposed line from Pateros to Winthrop, a distance of 40 miles.

Elma, Wash.—Reported Chicago, Milwaukee & St. Paul Ry. Co. (E. F. Loweth, ch. engr., Chicago, Ill.) will next spring build line from Elma into the Olympia Peninsula.

Santa Ana, Cal.—Salt Lake Route (Jos. Nelson, pres. and gen. mgr., Salt Lake City, Utah), plans constructing 25 miles of railroad from Pico to Santa Ana.

Bouse, Ariz.—Surveys reported being made by Arizona & Swansea RR. Co. (Geo. Mitchell, pres. and gen. mgr., Los Angeles, Cal) for extension 40 miles northeast to tap Bagdad copper district. A. W. Mitchell, mgr., Bouse.

BIDS DESIRED.

Lawrence, Mass.—Until Dec. 20, by Lawrence Bridge Com. (John J. Donovan, chmn.), 505-507 Bay State Bldg., for constructing about 1500 lin. ft. double track on Central Bridge across Merrimack River. B. H. Davis, Whitehall Bldg., 17 Battery Pl., New York City, engr., advertised in this issue.

Brooklyn, N. Y.—Until Dec. 15, for the erection of third-rail track rail bonding and connecting on the Culver line. Address Chief Engineer's Office, No. 85 Clinton St., Brooklyn.

New York, N. Y.—Until Dec. 14 by Public Service Commission (James B. Walker, secy.), 20 Broadway, for installation cable feed pipes for part of 7th Ave.-Lexington Ave. Rapid Transit Railroad.

PRICES AND LETTINGS.

★Indicates award of contract.

New York, N. Y.—Following bids opened Dec. 5 (readvertisement) at office of Chief Engineer, 85 Clinton St., Brooklyn, for New York Municipal Ry. Corp., for erection of third rail and appurtenances and track rail bonding in connection with Broadway-Fourth Ave. line on Manhattan Bridge and Canal St. from South St. to Fiftieth st.: Louis H. Woods Constr. Co., 2355 Jerome Ave., Bronx, $211,060; Thos. Crimmins Cont. Co., 444 East Sixty-ninth st., city, $235,518; T. H. Reynolds Cont. Co., 13 Park Row, city, $238,382; Lupfker & Remick, Buffalo, N. Y., $238,609; Jobson-Giffird Co., 30 East Forty-second St., city, $241,626.

★Cincinnati, O.—Contract awarded by City Bd. Control for laying high pressure water mains in district bounded by 4th St., 8th St., Central Ave. and Bway, to Thurber & Browing Co., 4231 Spring Grove Ave., $55,834.

★Oklahoma, Okla.—Contract awarded by Kansas & Oklahoma Southern Ry. Co. for completing its line from Caney, Kan., to Ft. Smith, Ark., about 165 miles, to Samuel Stephenson Sons & Co., New Haven, Conn., who have sublet the work to the Railroad Construction Co., 212 5th Ave., New York.

★Los Angeles, Cal.—Contract awarded Robert Sherer & Co., 650 Pacific Electric Bldg., at about $260,000 for constructing 18-mile extension to Salt Lake Ry. from Pico to Anaheim, involving the cleaning and grading of right-of-way, about 310,000 cu. yd. excav., 3 reinforced concrete bridges, 50 concrete culverts. Contract for constructing bridges and culverts has been sublet to Wm. Ledbetter & Co., 651 Pacific Electric Bldg.

Brooklyn, N. Y.—Following are unit figures of four lowest bids opened by Pub. Serv. Comn., 120 Bway., Nov. 29 for constructing Sect. No. 1 A of Route 49, part of Culver Rapid Transit RR.: (a) Thos. Dwyer, Bway. and 216th St., $42,268; (b) Post & McCord, 101 Park Ave., $43,937; (c) A. L. Guidone & Son, Inc., 52 Vanderbilt Ave., $44,853; (d) Oscar Daniels Co., Woolworth Bldg., $46,856. Bidders all of New York City.

Item	(a)	(b)	(c)	(d)
1—3,500 cu. yd. earth excav. above m.h.w.	$1.50	$1.70	$1.10	$1.00
1E—300 cu. yd. railroad embankment, in place	1.50	1.10	0.90	1.00
1R—250 sq. yd. sodding slopes of railroad cut	0.50	0.55	1.35	1.00
2A—1,250 cu. yd. earth excav. above m.h.w. sewers	1.50	1.90	1.75	2.50
6—1,430 cu. yd. concrete masonry in place	10.00	9.30	10.00	10.00
6B—300 sq. yd. tooling concrete surfaces	1.00	1.10	1.00	1.00
6N—920 lin. ft. reinforced concrete fence	4.00	3.80	4.50	2.00
8—10 cu. yd. rubble stone masonry	10.00	12.00	8.00	6.00
8A—10 cu. yd. dry rubble masonry	8.00	10.00	6.50	4.00
9—10 cu. yd. brick masonry	15.00	25.00	15.00	12.00
9D—10 cu. yd. removal of old masonry	5.00	22.00	4.00	7.00
11—5 bbl. grout of Portland cement	4.00	2.00	15.00	3.00
12—100 lin. ft. timber piles, in place	1.00	0.50	0.30	0.30
13—1 M b. m. ft. timber foundations	100.00	75.00	80.00	50.00
14—40 cu. yd. broken stone or gravel, in place	3.00	2.70	3.00	2.00
15(c)—50 sq. yd. waterproofing, 3 ply	1.00	1.30	2.00	1.00
15C—700 sq. yd. waterproofing, without fabric	0.50	0.70	0.50	0.15
17(c)—1,030 lin. ft. vitrified drain pipe, 8 in	1.50	0.75	0.40	0.80
17(a)—180 lin. ft. vitrified drain pipe, 4 in	1.00	0.30	0.25	0.50
17A—320 lin. ft. (b) c.-i. pipe and fittings, 4 in., extra heavy	1.00	1.35	0.50	1.00
18—2,820 duct ft. tunnel ducts	0.15	0.17	0.35	0.13
18A—24,000 duct ft. railroad ducts	0.20	0.17	0.10	0.14
18C—3,300 duct ft. 3½-in. w.-i. or steel pipe railroad ducts	0.20	0.70	0.60	0.40
19—1 ton riveted steel	200.00	150.00	160.00	100.00
20—1 ton steel beams and shapes	200.00	150.00	120.00	90.00
21—46 ton steel rods and bars	80.00	110.00	80.00	100.00
25—1 ton miscellaneous iron castings	100.00	75.00	90.00	100.00
25C—1 ton miscellaneous iron castings, sewers	100.00	75.00	90.00	100.00
30(h)—40 sq. yd. street surface restored	2.00	1.10	4.00	1.00
37—80 lin. ft. vitrified pipe sewer, 12 in	3.00	1.60	0.80	2.00
39—160 lin. ft. vitrified pipe sewer, 18 in	4.00	3.20	2.00	2.50
42—10 ton c.-i. sewer pipe, straight	60.00	90.00	70.00	60.00
43—1 ton c.-i. sewer pipe, special castings	120.00	100.00	100.00	85.00
75M—(lump sum) maintain. Culver Line surface tracks	200.00	400.00	5,500.00	9,400.00
79—25 lin. ft. water pipe, 6 in	2.00	1.30	1.50	1.00
84—25 lin. ft. water pipe, 20 in	4.00	4.00	6.00	3.00
86—25 lin. ft. water pipe, 30 in	6.00	6.00	13.00	4.00
87—25 lin. ft. water pipe, 36 in	8.00	7.50	23.00	4.00
90—25 lin. ft. gas pipe, 4 in	2.00	1.00	0.60	1.00
92—50 lin. ft. gas pipe, 8 in	4.00	2.00	1.10	2.00
95—25 lin. ft. gas pipe, 16 in	6.00	3.00	2.50	4.00
100—1 ton new c.-i. hub and spigot straight pipe	60.00	90.00	90.00	60.00
101—1 ton new c.-i. hub and spigot special castings	120.00	100.00	100.00	80.00

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Rutland, Vt.—Permit granted and plans to be prepared for erecting additional factory to be used as warehouse, 310 x 118 ft.; cost, $300,000; for Dodge Bros.

Brooklyn, N. Y.—See "Reinforced Concrete."

Newark, N. J.—J. H. Meyer Tire Duck Co., 708-720 Frelinghuysen Ave., will erect brick 3-story 137 x 246-ft. cotton weaving building, and 1-story 51 x 40-ft. brick boiler house; cost, $176,000.

Bristol, Pa.—Plans are prepared for erecting dye plant on canal opposite cotton bleachery plant. Daniel F. Walters, 53 Wister St., Philadelphia, owner.

Larksville, Pa.—Reported Delaware & Hudson Co. will erect new breaker to replace the No. 3 breaker recently destroyed by fire. R. H. Buchnan, mining engr., 37 Lackawanna Ave., Scranton, Pa.; cost, about $150,000.

Philadelphia, Pa.—Reported Atwater-Kent. Mfg. Co., 4937 Stenton St., manufacturers of electrical goods, will erect 1-story 150 x 260-ft. brick factory on Stenton Ave.

Weatherland, Pa.—Plans being prepared to erect new plant near here for Neufercedar Box Co., Farrell, to replace one recently destroyed by fire; cost, about $1,000,000.

Williamsport, Pa.—Cheseman & Elliot, 100 William St., New York City, plans erecting factory and large storage building here.

Elkton, Md.—Reported Jessup & Moore Paper Co., which operates Radnor Pulp Works, will erect bleach mill; cost, $500,000.

Abingdon, Va.—Abingdon Utilities Co. incorporated with $100,000 to erect new plant.

Cincinnati, O.—Crown Overall Co. (Oscar Berman, pres.), 3rd and Plum Sts., will erect largest overall factory in world at 3rd and Plum Sts.; building will also contain swimming pool, gymnasium and other recreation features; cost, $250,000.

Kroger Grocery & Baking Co., Florence Ave. and Eden Park, plans erecting 10-story fireproof warehouse at Florence and Eden Park Aves.

Cleveland, O.—Plans being prepared by W. S. Ferguson, 1900 Euclid Bldg., for erecting 100 x 600-ft. 1-story factory on Belt line at Marcelline Ave. for Belt & Terminal Realty Co. Cost, $150,000.

Reported Euclid-46th St. Market Co., 4601 Euclid Ave., will erect addition to present structure; cost, about $75,000. W. S. Lougee, archt., 500 Marshall Bldg.

Plans being prepared for erecting 6-story ware and storage house on Ontario St. near Eagle Ave.; cost, about $225,000. Brandt Co., Sheriff St. Market, owner.

Plans being prepared by Christian, Schwarzenburg & Gaede, 1900 Euclid Ave., for erecting 4-story brick and reinforced concrete cloak factory at Superior Ave., near E. 23rd St., to be built by Landesmann, Hirschheimer Co., 1307 W. 9th St.; cost, about $300,000.

Reported Carbo-Hydrogen Co., Pittsburgh, will erect factory building at Center and Hemlock Sts.; cost, $75,000. Tom Knight, 250 The Arcade, is Cleveland agent.

North Baltimore, O.—Reported Hoytville Tile Co. will rebuild plant recently destroyed by fire.

Dixon, Ill.—Directors of Illinois Northern Utilities Co. plan erecting large addition to Dixon plant; cost, about $300,000, including machinery.

St. Paul, Minn.—Plans being prepared for erecting addition to Pioneer Grain Co., which operates grain elevator on Soo line trackage near Cortland St.; cost, $200,000. L. M. Abbey, mgr.

Mandan, N. D.—Reported Northern Pacific RR. (H. E. Stevens, ch. engr., St. Paul, Minn.) will erect new shop in spring; cost, $1,500,000.

Beaumont, Tex.—Bids being received and contract soon to be let for erecting E. L. Wilson Hardware Co. warehouse, to cost $70,000. Babib & Beck, archts., Beaumont.

El Paso, Tex.—Reported W. and C. C. Bush will erect $50,000 ice plant.

Fresno, Cal.—See "Reinforced Concrete."

Los Angeles, Cal.—See "Reinforced concrete."

St. Stephen, N. B.—Haley & Sons are rebuilding lumber mills; cost, $55,000.

London, Ont.—Plans being prepared at head office of **Ford Motor Co., Ford City,** Ont., for erecting **addition to be used as** assembling plant; **brick and reinforced** concrete. **Work to start in February.**

Sarnia, Ont.—Plans to be prepared by Mueller Brass Co. for erecting additions to factory; cost, $75,000.

PRICES AND LETTINGS.

★Indicates award of contract.

★Newark, N. J.—Contract awarded J. W. Bishop Co., 253 3rd. Ave. E., for erecting 3-story factory on Frelinghuysen Ave. for J. H. Meyer Tire Duck Co., Union Square, New York; cost, $176,000.

★Easton, Pa.—Contract awarded A. A. Bechtel, Easton, for erecting 3-story 45 x 100-ft. brick, concrete and steel addition to brewing plant of W. Kuebler's Sons; cost, $80,000. Peuckert & Wunder, engrs. and archts., 310 Chestnut St., Philadelphia.

★Philadelphia, Pa.—See "Reinforced Concrete."

Contract awarded William Steele & Sons Co., Kingsley and Cresson Sts., for erecting 1-story 120 x 316-ft. brick and steel addition to iron and steel plant of Morris, Wheeler & Co., 13th and Locust Sts.

★Pittsburgh, Pa.—See "Reinforced concrete."

★Williamsport, Pa.—Contract awarded Samuel Larrivee, Williamsport, for erecting brick and concrete 100 x 75-ft. 2-story paint factory for Cheesman & Elliot, 100 William St., New York City.

★Baltimore, Md.—Contract awarded Irwin & Leighton, 126 N. 12th St., Philadelphia, for erecting addition and improvements to plant of Bethlehem Steel Corp. at Sparrows Point; cost, about $900,000.

★Cincinnati, O.—Contract awarded by Union Gas & Electric Co., 4th and Plum Sts., to Foundation Co., 409 Pearl St., New York City, for erecting superstructure of power plant at Front and Smith Sts.; cost about $300,000.

★Chicago, Ill.—Contract awarded by James Kirk & Co., 106 East Austin Ave., to George A. Fuller Co., 140 South Dearborn St., for erecting 8-story soap factory on river corner West North Ave. and Fleetwood St.; cost, about $800,000.

★Waterloo, Ia.—Contract awarded Black Hawk Constr. Co. for erecting 5-story warehouse for the Rath Packing Co.; cost $56,000.

St. Louis, Mo.—See "Reinforced Concrete."

★Winslow, Ariz.—Contract awarded F. O. Engstrum Co., 5th and Seaton Sts., Los Angeles, Cal., for erecting concrete, brick and steel 128 x 80 x 40-ft. ice storage building for Atchison, Topeka & Santa Fe Railway Co.; cost, $50,000.

★Montreal, Que.—Contract awarded Anglins, Ltd., 65 Victoria St., for $1,000,000 factory for International Mfg. Co. Fuses will be manufactured exclusively in new plant.

★Cornwall, Ont.—Contract awarded by Canadian Cotton Co., Montreal, Que., to Anglins, Ltd., 65 Victoria St., Montreal, for erecting addition to factory; cost, $50,000.

★Trenton, Ont.—See "Reinforced Concrete."

BUILDINGS Public and Private

PROPOSED WORK.

Atlantic City, N. J.—Plans prepared and bids wanted at once for erecting new Hotel Dupont at Virginia Ave. and the Beach. Hewitt & Granger, Bullitt Bldg., Philadelphia, Pa., archts.

Camden, N. J.—Broadway Realty Co. will build 2-story brick and concrete theater building, 52 x 142 ft. Custer & Seltzer, archts.

Elizabeth, N. J.—New school to be erected at Virginia St. and Union Ave. by Bd. Educ.; cost, $60,000.

Doylestown, Pa.—National Farm School, Doylestown, will erect domestic hall, to include dining room, kitchen and laundry; cost, $75,000. Address Pres.

Philadelphia, Pa.—Plans being prepared for erecting $250,000 additions and improvements to Mt. Sinai Hospital, 5th and Reed Sts. Edward Wineman, director.

The Quality Amusement Co. of Pennsylvania will erect theater at Broad and Lombard Sts.; cost, $60,000 F. H. Keiser, Pottstown, reported interested.

The Publication Society and Sunday School Bd. of the Reformed Church, Philadelphia, will erect 12-story 120 x 116-ft. building at 15th and Race Sts.

Pottsville, Pa.—Reported Pottsville will erect Carnegie library; cost, $75,000. Address library trustees.

Baltimore, Md.—Shawinigan Electro Products Co. plan erecting fireproof building; cost, $85,000.

Newark, Del.—Delaware College, Newark, plans erecting new building; cost, $100,000.

Palatka, Fla.—Southern Utilities Co. will erect 3-story 48 x 70 ft. office building; cost $60,000.

New Orleans, La.—Public school, storm emergency, and other public improvement bonds for $5,000,000 will be sold Dec. 14. Address City Secy.

New Roads, La.—Voted $100,000 for school purposes. Address Pres. School Bd.

Shreveport, La.—Plans being prepared by E. F. Neild, Continental Bank Bldg., for erecting new fireproof opera house for Saenger Amusement Co.; cost, $100,000.

Cumberland Gap, Tenn.—Plans being prepared by A. Lincoln Fechheimer, 1534 Union Trust Bldg., Cincinnati, O., for erecting new administration building for Lincoln Memorial University; cost, $60,000.

Memphis, Tenn.—Plans were completed by George M. Shaw & Co., 1503 Tenn. Trust Bldg., for remodeling Union and Planters' Bank Bldg., 77 Madison Ave.; cost, $105,000.

Cleveland, O.—Reported Geo. A. Rutherford Co., 2160 E. 18th St., will erect 4-story building on Prospect Ave., near 30th St.; cost, $100,000.

Cleveland, O.—Plans being prepared by E. H. Betz, city archt., new city hall, for erecting convention bldg. and auditorium, seating 15,000, containing smaller halls and exhibition rooms; $2,500,000 available. C. J. Neal, city finance director.

Roman Catholic Diocese of Cleveland (Rt. Rev. John P. Farrelly, Bishop, Superior Ave. and E. 9th St.) will erect high school on E. 107th St., near Euclid Ave.; cost, $200,000.

Columbus, O.—Plans being prepared for Y. M. C. A. building; $538,107.75 available.

New Philadelphia, O.—City Council will issue $75,000 bonds for erecting combined city hall and community house on site of present city hall in E. High St.

Evansville, Ind.—Plans providing for erection of public market have been approved by Bd. Public Works; cost, $50,000.

Grand Rapids, Mich.—Plans being prepared for erecting grade school building to be erected next spring. Address Secy. Bd. Educ.

Champaign, Ill.—An $8,000,000 building program being arranged for Illinois University. Plan calls for erecting new agricultural building, $2,000,000; engineering plant, $2,000,000; library, $1,000,000; museum $1,000,000; gymnasium, $1,000,000; other buildings, $1,000,000.

Stevens Point, Wis.—Reported Normal School will erect new science building; appropriations have already been received to amount of $100,112. Address Bd. Normal School Regents, Milwaukee.

Des Moines, Ia.—Plans completed for new 102 x 150-ft. granite and Bedford stone Scottish Rite cathedral and contract will be let in spring; cost, $325,000.

St. Paul, Minn.—Reported Oakland Cemetery Assn. (F. D. Willis, secy.), plans erecting Crematory building; cost, about $60,000.

Deer Lodge, Mont.—Plans being prepared by Beezer Bros., North Bank Bldg., Seattle, Wash., for erecting hospital for Sisters of Charity; cost, $85,000.

Great Falls, Mont.—Salvation Army and other organizations plan erecting building to serve as Working Men's Hotel and for general army purposes; cost, $50,000.

Lewistown, Mont.—Plans have been prepared by B. H. Farrell, 214 Hawthoren St. for erecting 6-story hotel; cost, $350,000.

Beaumont, Tex.—C. W. Howth, Beaumont, plans erecting 2-story business building; cost, about $50,000.

Sherman, Tex.—City voted $100,000 bonds for erecting school.

Bremerton, Wash.—Plans have been completed by Steinman & Colvin for erecting 3-story gymnasium and club building for Y. M. C. A. at Front and Washington Sts.; cost, $60,000.

Centralia, Wash.—School Bd. plans erecting modern brick school to take place of Edison & Lincoln frame structures; cost, $50,000.

Tacoma, Wash.—Ackerman & Harris, vaudeville magnates, San Francisco, plan erecting $150,000 theater for Hippodrome Circuit.

Fresno, Cal.—Bd. Educ. approved plans prepared by Coates & Traver, Rowell Bldg., for erecting 3-story annex to high school; cost about $56,000.

Los Angeles, Cal.—See "Reinforced Concrete."

Los Angeles Investment Co., 8th & Bway., plan erecting 10-story hotel at 9th & Grand Ave.

Juneau, Alaska.—Plans being prepared by Harlan Thomas, Arcade Bldg., Seattle, for erecting combination grade and high school; cost, $75,000.

Montreal, Que.—Plans being prepared by C. A. Reeves, 83 Craig St. W., for two new schools for Catholic School Commissioners, 87 St. Catharine St. W.; cost $400,000. Bids to be called in January.

Sherbrooke, Que.—Plans being prepared by Audet Charbonneau, 37 King St., for business block, fireproof construction; cost, $55,000.

BIDS DESIRED.

Chicopee, Mass.—Reported desired until Jan. 1 by Bd. Education, for erecting $300,000 3-story high school. G. E. Haynes, archt., 184 North St., Pittsfield.

Springfield, Mass.—Until Dec. 16, by Committee on City Property (Giles Blague, chmn.), for erecting and completing Brightwood School, including plumbing, heating, ventilating, and electric lighting; B. Hammet Seabury, arch., 21 Besse Place.

Waterbury, Conn.—Reported desired until Dec. 20 by J. J. Fitzgerald, clk. Bd. Educ., for constructing high school.

Albany, N. Y.—Until Dec. 27, by W. W. Wotherspoon, supt. pub. wks., for constructing Barge Canal terminal warehouses; contract 201, at Albany and Whitehall; contract 202, North Tonawanda and Lockport; contract 203, at Troy, Mechanicsville, Ft. Edward and Port Henry. Advertised in this issue.

Richmond Borough, S. I.—Until Dec. 15 by Dept. Public Charities (John A. Kingsbury, comr.), Municipal Building, New York City, for erecting and completing 21 pavilion buildings, a group building and dining hall at Sea View Hospital; separate bids on each for plumbing, heating and electric work; total security $180,000.

Maryland.—Reported desired until Dec. 20 by Emerson C. Harrington, governor, Union Trust Bldg., for erecting 3 armory buildings to be located at Cambridge, Hyattsville and Westminster.

Washington, D. C.—Until Dec. 18, by Bureau Yards and Docks, Navy Dept., for constructing 2 electric freight elevators at Norfolk, Va., and Philadelphia, Pa., navy yards. Address F. R. Harris, chief of bureau.

Charleston, W. Va.—Until Dec. 12 by Bd. Education (W. O. Daum, secy.) for erecting junior high school in second ward; Frank L. Packard, archt., Columbus, O.

Jacksonville, Fla.—Until Dec. 23, by Bd. Pub. Instruction (F. A. Hathaway, co. supt. pub. instruction) for Duval Co., for erecting 25-room brick school building at Ashley and Broad Sts.; certified check for $500 required with bids. M. C. Greely, archt.

Jasper, Fla.—Until Dec. 28, by Bd. Comrs. Hamilton Co. (M. P. Hnter, clk.), for constructing fireproof vault in the court house; certified check for $200 must accompany bids. Lloyd Greer, archt., Valdosta, Ga.

Cleveland, O.—Reported desired until Dec. 15, for erecting 4-story brick and stone building for St. Alexie Hospital, Bway. and McBride St.; cost, about $150,000. W. C. Jansen, O'Brien Bldg., archt.

Maquoketa, Ia.—Until Dec. 26, by Supervising Archt., Treasury Dept., Washington, D. C., for constructing U. S. Postoffice.

Waconia, Minn.—Reported desired until Dec. 20, by school dist. for erecting high and grade school, including heating, plumbing, and ventilating. Kirby T. Snyder, 1133 Plymouth Bldg., Minneapolis.

Austin, Tex.—Reported desired until Dec. 15 by State Architect Atley B. Ayres, San Antonio, for constructing land office building, to cost $300,000; address Governor James B. Ferguson.

Beaumont, Tex.—Until Dec. 19 by Emmett A. Fletcher, mayor, for erecting additions and alterations to Junker school. Sanguinet, Staats & Gottlieb, archts., Houston and Fort Worth.

Oklahoma, Okla.—Until Dec. 27 by Jas. A. Wetmore, archt., for extending, remodeling, etc., U. S. Post Office and Court House.

St. Jean de Dieu, Que.—Until Jan. 10, by Trustees of Parish, for erecting parish church, 180 x 65 ft.; cost, $60,000. Pierre Levesque, 115 St. John St., Quebec City, archt.

PRICES AND LETTINGS.

★Indicates award of contract.

★Boston, Mass.—Bids opened Nov. 24 for erecting schoolhouse, Henry L. Pierce Dist., Dunbar Ave. and Torrey St., Dorchester, Mass., as follows: John Bowen Co., 184 Dudley St., Roxbury, Mass., $161,227; Archdeacon & Sullivan, 52 E. Concord St., Boston, Mass., $163,900; M. S. Kelliher, 13 Oak St., Atlantic, Mass., $166,000.

★Providence, R. I.—Contract awarded Warren-Moore Co., Commercial Trust Bldg., Philadelphia, for erecting new theater for Keith circuit; cost, about $300,000.

Rosebank, S. I., N. Y.—See "Reinforced Concrete."

★Steinway, L. I.—Contract awarded by Oakes Mfg. Co. to Turner Constr. Co., 11 Bway., New York City, for erecting 2-story, 299 x 32 ft., brick bldg.

★Newark, N. J.—Contract awarded Frank D. Hyde, 246 15th St., for erecting passenger station for Central Railroad of New Jersey on Broad St., at $483,000.

Atlanta, Ga.—See "Reinforced Concrete."

Augusta, Ga.—See "Reinforced Concrete."

★Cleveland, O.—Contract awarded by H. C. Bingham, pres. Upson Nut Co., Scranton and Carter Roads, to Chas. T. Willis, 286 5th Ave., New York, for erecting residence 2½ stories, 74 x 200 ft., on East Blvd. near Euclid Ave; cost, $200,000. Walker & Gillett, 128 E. 37th St., New York, archts.

★Bentonville, Ark.—Contract awarded by Bd. Directors Arkansas Grand Lodge, A. O. U. W., to Mann & Stern, Bentonville, for erecting 10-story A. O. U. W. building on Center St., between 2nd and 3rd. Cost, about $150,000.

★College Station, Tex.—Contract awarded by Bd. Dirs. of A. & M. College to Ledbetter & Greathouse, Austin, for erecting modern fireproof auditorium, cost $100,000, and administrative bldg. for agricultural experiment station, cost, $75,000.

★Seattle, Wash.—Contract awarded to Black. Constr. & Masonry Co., Alaska Bldg., Seattle, for erecting 14-story and basement 38 x 70-ft. steel frame and reinforced concrete, faced with stone and terra cotta, wing addition to Hotel Washington, at 2nd Ave. and Stewart St.; cost, $150,000. Ames & Young, archts., St. Louis, and H. Bittman, struct. engr., Securities Bldg., Seattle.

★Portland, Ore. — General contract awarded by A. E. Doyle, archt., 440 E. 8th N., to John Almeter, Builders' Exch., for erecting Women's Union at 10th and Montgomery Sts.; cost, $60,000.

★Los Angeles, Cal.—Contract awarded Atlas Bldg. Co. for erecting 4-story apartment building; cost $100,000. Peoples & Chesney, archts., 912 Haas Bldg

New York, N. Y.—Following are unit figures of four lowest bids opened Dec. 4 by Board Public Service Comn. for First District, 120 Bway., New York City, for Route No. 4-38, Sec No. 1 A-1 to 4 inclus. Station Finish; (a) Seventh Ave. Constr. Co., 277 Bway., $399,771; (b) Thos. Dwyer, Bway. and 216th St., $413,652; (c) A. L. Guidone & Son, Inc., 52 Vanderbilt Ave., $417,263; (d) D. C. Serber, Inc., 1123 Bway., $418,854; bidders all of New York City.

Item		(a)	(b)	(c)	(d)
501	14,200 sq. ft. tile w.g. 3"x6" (a) straight	.67	.19	.80	.73
	240 sq. ft. (b) 1" rad comb	1.46	1.70	1.40	1.13
	1,700 sq. ft. (c) 2½" rad comb	1.58	1.80	1.35	1.64
	50 sq. ft. (d) 20" rad comb	1.27	1.50	1.50	1.00
502	102,600 sq. ft. tile w.g. 4¼"x4¼" (a) straight	.67	.70	.64	.80
	90 sq. ft. (b) 1" rad comb	1.10	1.75	1.40	1.33
	4,030 sq. ft. (c) 2½" rad comb	1.92	1.75	1.35	2.06
	580 sq. ft. (d) 20" rad comb	1.00	1.10	1.10	1.07
509	50 lin. ft. tile bead w.g. (a) 1" rad	.34	.50	1.00	.45
510	1,020 sq. ft. tile, semi-vit. col. H.M. w.p. (a) straight	1.04	1.30	1.10	1.13
511	7,600 sq. ft. w.p. tile col. H.M. (a) straight	1.10	1.25	1.10	1.13
	20 sq. ft. (b) 1" rad comb	1.39	2.00	2.00	1.56
	225 sq. ft. (c) 2½" rad comb	2.12	2.60	1.25	2.45
	90 sq. ft. (d) 20" rad comb	1.30	3.00	1.50	2.16
513	15,170 sq. ft. mosaic and tile bands	1.42	1.70	1.25	1.44
514	1,730 sq. ft. mosaic and tile tablets	1.68	2.00	1.30	1.70
515	300 mosaic and tile plaques (a) station walls, each	1.68	3.25	1.50	3.40
516	130 sq. ft. mosaic and tile destination tablets	1.68	2.00	1.75	1.76
518	330 sq. ft. faience plaques	9.00	10.00	8.00	10.60
521	31,500 sq. yd. plastering arches (b) concrete	.46	.55	.65	.55
522	9,800 sq. yd. plastering flats (a) brick or H.T.	.40	.65	.50	.65
	11,030 sq. yd. (b) concrete	.58	.55	.55	.55
	60 sq. yd. (c) metal lath	.50	1.00	1.25	.75
523	19,530 sq. ft. cement work (a) wainscots	.14	.10	.28	.155
	179,000 sq. ft. (c) 3" floor finish	.12	.125	.25	.12
	8,430 sq. ft. (d) finish on concrete or H.T.	.08	.10	.12	.10
	50 sq. ft. (e) sign panels	.08	.50	.40	.20
524	950 cu. ft. concrete work (a) copings	.90	.70	1.00	1.10
	260 cu. yd. (b) foundations	8.00	10.00	8.50	9.00
	50 cu. ft. (c) reinforced	.90	1.00	.60	.88
	1,500 cu. ft. (d) protective	.90	1.20	.75	.88
	750 cu. ft. (e) street landings	.65	.70	.50	.33
525	80 cu. yd. cinder fill	1.20	5.00	4.50	1.10
526	4,100 lin. ft. tr. concrete stairs (a) self-supporting stairs	1.20	1.10	1.60	1.52
	120 sq. ft. (b) self-supporting landings	.40	1.10	.70	.55
	9,000 lin. ft. tr. (c) supported stairs	.75	.90	1.35	1.00
	5,000 sq. ft. (d) supported landings	.25	.40	.40	.25
	10 cu. ft. (e) supporting columns	1.00	1.00	1.50	1.40
	8,500 sq. ft. (f) non-slip treads	1.05	.90	1.00	1.13
	4,380 lin. ft. (g) cement bases	.20	.25	.26	.16
	770 lin. ft. (h) cement finish exposed	.15	.20	.20	.10
	800 sq. ft. (i) cement finish street landings	.10	.15	.16	.10
527	19,560 cu. ft. brick masonry (c) common	.60	.50	.48	.56
528	60 cu. ft. hollow tile masonry (a) 2"	.70	1.00	1.50	1.00
	23,600 cu. ft. (b) 3"	.64	.50	.65	.60
	8,470 cu. ft. (c) 4"	.45	.45	.50	.50
	20 lin. ft. (d) 4½"x13" flue	1.00	2.00	1.00	.50
528A	1,760 weepholes, each	.20	.20	.15	.20
528B	400 galv. iron strap anchors, each	.30	.20	.20	.30
529	30 sq. yd. metal lath (a) without furring	.70	2.00	1.50	.75
	80 sq. yd. (b) with furring	1.10	2.25	1.75	2.00
530	7 ticket booths (b) type "B," each	1,450.00	1,200.00	1,250.00	1,000.00
	1 (d) type "D," each	1,300.00	1,200.00	1,100.00	1,165.00
	13 (e) type "E," each	1,300.00	1,200.00	1,100.00	1,125.00
	1 (g) type "G," each	625.00	500.00	425.00	460.00
	2 (h) type "K," each	675.00	525.00	475.00	660.00
	2 (n) special type, each	675.00	525.00	475.00	1,120.00
531	1,350 sq. ft. hollow metal partitions, etc. (a) stall partitions	.39	1.00	.40	1.00
	200 (b) posts, each	7.00	8.00	7.00	15.00
	225 lin. ft. (c) top rail	.75	1.00	.75	2.00
532	7 doors (a) type "A," each	87.25	80.00	72.00	100.00
	11 per pair, (b) type "B"	142.00	140.00	127.00	140.00
	104 (d) type "D," each	91.35	85.00	76.00	80.00
	1 (e) type "E," each	77.25	75.00	62.00	70.00
	68 per pair, (f) type "G"	64.00	60.00	49.00	55.00
	1 (g) type "J," each	90.00	75.00	175.00	95.00
	240 sq. ft. (h) type "K"	3.00	3.50	3.00	5.00
	6 (i) type "Q," each	44.50	33.00	45.00	45.00
	100 sq. ft. (l) type "L"	3.00	3.50	3.00	5.75
	11 (m) type "M," each	82.25	75.00	65.00	74.00
	4 (o) type "P," each	44.50	33.00	30.00	28.00
	2 pair (u) type "BS"	130.00	125.00	115.00	130.00
533	970 sq. ft. windows (a) double hung	2.00	2.25	2.00	4.80
	10 sq. ft. (g) hinged	1.65	3.00	2.50	4.70
534	32 additional hardware (a) door checks, each	6.40	5.00	4.25	4.75
	115 (b) swing door stops (except type "G"), each	3.85	3.20	2.25	3.50
	24 (c) rubber covered chains, each	3.00	2.50	1.50	2.20
	32 (d) push plates, each	5.00	4.00	4.00	4.00
	32 (e) door pulls, each	5.60	5.00	4.50	5.00
	32 per pair, (f) kick plates	15.00	13.00	12.00	13.00
536	710 lin. ft. railings (a) type "Fs"	4.40	4.50	3.50	4.00
	1,460 sq. ft. (c) type "GS"	.64	.75	.55	.65
	480 lin. ft. (e) type "LS"	4.40	4.50	5.50	4.05
	450 sq. ft. (f) type "BS"	.89	.80	1.25	.65
	370 lin. ft. (g) pipe	2.12	2.20	2.00	1.80
537	250 lin. ft. gates, etc. (a) low sliding	10.15	12.00	9.50	10.20
	12 lin. ft. (b) high sliding	15.65	16.00	15.00	15.50
	18 lin. ft. (c) folding	10.65	15.00	10.00	11.25
	6 (e) exit turnstiles, each	327.00	275.00	175.00	245.00
	26 (f) single gate controls, each	35.00	30.00	10.00	24.20
	4 (g) double gate controls, each	50.00	40.00	20.00	38.50
	4 (h) c.i. floor boxes, each	12.00	12.00	8.00	8.80
	20 lin. ft. (l) 1½" galv. w.i. pipe	.35	1.00	.50	.50
	700 lin. ft. (m) 1" d steel tubing	.52	1.00	.30	.61
	40 per gate open, (p) c.i. gate posts, etc	60.00	80.00	35.00	72.00
	4 per gate open, (r) steel gate posts, etc	32.50	42.00	60.00	40.00
539	4 c.i. vent posts, each	132.00	150.00	100.00	110.00
540	28 signs, etc. (c) frames illum. suspended, each	130.00	120.00	50.00	128.00
	40 sq. ft. (d) frames enam. sign on low railing	3.65	3.00	4.00	2.53
	30 sq. ft. (e) frames enam. sign in high-low grille	3.40	3.00	4.00	2.53
	415 lin. ft. (f) enam. reflectors	3.29	3.00	1.00	2.30
	1,750 sq. ft. (g) enam. sign plates	.55	.75	.60	.66
	90 sq. ft. (k) frames, enam. direction signs	3.00	2.00	1.50	1.82
542	690 lin. ft. street railings (a) type "k"	8.65	10.00	8.50	9.10
	940 lin. ft. (b) type "k1"	9.15	10.50	8.50	8.50
	2 (c) type "sk," each	427.00	600.00	275.00	525.00
542A	200 sq. ft. sheet metal (b) drip pans	.50	1.00	.85	.48
543	50 lin. ft. tr. steel ladders (a) ladders bet. stations	4.30	3.00	3.00	2.40
	40 sq. ft. (b) ladder platforms	3.65	2.00	2.00	1.43
	11,600 per lb. (e) steel lintels	.06	.07	.07	.05
	1,150 per lb. (f) miscel. steel shapes	.07	.08	.08	.07
	45 (g) ladders, each	20.00	20.00	15.00	12.20
543A	2,000 per lb. miscell. iron castings	.09	.10	.07	.09
544	4,530 lin. ft. oak hand rails	.60	.60	1.00	.70
546	10,470 lin. ft. platform edge const. (d) wooden facia	.13	.25	.60	.25
	10,470 per hole (e) drilling holes in angle	.10	.30	.30	.18
547	lump rough plumbing work (a) nine stations	16,162.00			12,000.00
548	68 plumbing fixtures (a) water-closet bowls, each	59.00	50.00	55.00	50.00
	32 (b) lavatories—stations, each	40.00	40.00	40.00	40.00
	7 (c) lavatories—signal towers, each	38.00	30.00	35.00	28.00
	34 (d) urinals, each	89.00	85.00	95.00	85.00
	1 (e) slop sinks, toilet rooms, each	78.00	80.00	90.00	72.00
	15 (g) slop sinks, closets, each	78.00	65.00	75.00	67.00
	63 (h) floor drains, each	22.00	15.00	16.00	13.40
549	800 lin. ft. 1" supply pipe	.45	.30	.30	.28
550	650 sq. ft. structural glass (aa) ¾" wainscoting	1.90	1.60	1.65	1.76
	2,450 sq. ft. (b) ¾" pipe ch. partition	1.90	1.80	1.90	2.04
	650 sq. ft. (c) ¾" shelves	1.90	1.80	1.65	1.82
	140 sq. ft. (e) 1" floor slab	4.25	3.30	3.25	3.63
	560 lin. ft. (f) curved corners and angles	1.65	2.00	1.65	1.76
551	42 c.i. work in toilets (d) registers, each	8.00	15.00	9.00	11.00
	14 (e) vent louvres, each	20.00	17.00	13.00	13.20
	each	8.00	15.00	9.00	11.00
552	14,700 per lb. supporting shapes, steel	.085	.10	.08	.08
554	10,970 lin. ft. electric conduits w.i. (a) ¾"	.15	.20	.19	.17
	2,760 lin. ft. (b) 1"	18	.22	.23	.20
	4,215 lin. ft. (c) 1½"	.25	.30	.30	.28
	1,675 lin. ft. (d) 2"	.46	.40	.41	.51
	225 lin. ft. (e) 2½"	55	.60	.55	.62
	225 lin. ft. (f) 3"	72	.70	.65	.82
	1,350 lin. ft. (g) ¾" flexible	.17	.20	.19	.18
554A	45 special conduit fittings, rem. covers, each	.85	1.50	1.10	.95
555	171 c.i. outlet boxes, each	1.00	1.00	.90	.50
556	16 c.i. pull boxes (e) 12"x6"x4", each	11.50	10.00	11.00	8.50
	96 (f) 6"x6"x4", each	1.35	2.00	5.00	1.50
	32 (h) 1"x4"x1", each	.80	2.00	3.00	.90
557	62 c.i. heater boxes, each	20.00	15.00	16.00	11.75
558	23 steel panel board boxes (h) 25"x 6"x49" to 60", each	30.00	20.00	26.00	22.00
	4 (j) 50"x6"x49" to 60", each	45.00	35.00	35.00	33.00
	1 (k) 20¼"x30"x6", each	20.50	25.00	20.00	11.50
561	63,420 sq. ft. painting (a) 2 coats, iron and steel	.025	02	.0225	.025
	170,000 sq. ft. (b) 3 coats, iron and steel	0275	.025	.03	.03
	468,500 sq. ft. (c) 2 coats, plaster and cement	.01625	0175	.0225	.0175
	5,000 (d) numerals, each	25	15	.15	.12
601L	6 vent openings, masonry walls, Sec. 219, each	15.00	100.00	50.00	20.00

★**Hamilton, Ont.**—Contract awarded F. Charlton, Room 207 Clyde Bldg., at $50,000, for erecting two hospital pavilions of brick and concrete, for Dominion Hospitals Comn., Ottawa.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Boston, Mass.—See "Miscellaneous."

Herkimer, N. Y.—Mohawk Dredge & Dock Co., Herkimer, incorporated with capital of $50,000 for dredging purposes. E. B. Baker and R. W. Andrews, Herkimer, among incorporators.

Arcadia, Fla.—Contract will soon be let by Supervs. Limestone Irrigation Dist. for constructing main and lateral canals for draining 15,600 acres of land. Graven & Kimmel, Arcadia, engrs.

Gonzales, La.—Bond issue of $40,000 for continuance of drainage work in New River Drainage Dist. was carried at recent election. Leon Picard, pres.

Hammond, La.—Police Jury of Fangipahoa Parish have been petitioned to call election for issuance of $200,000 for drainage, main canal to be about 40 miles long, 40 ft. wide and 6 ft. deep. Address Pres. Police Jury.

Lake Charles, La.—Election will be held Dec. 27 for deepening intercoastal canal, making a canal 100 ft. wide and 12 ft. deep. Geo. Lack, pres. navigation dist., No. 1, Lake Charles.

Clarksdale, Miss. — Tallahatchie and Quitman counties contemplate draining about 46,000 acres, to consist of 1,200,000 cu. yd. dredge work and 150,000 cu. yd. levee drag-line work. L. W. Mashburn, engr., Clarksdale.

Troy, O.—Ditch and levee improvement bonds for $37,100 will be sold Dec. 15 by Comrs. Miami Co. at office of C. N. Peters, co. aud.

Belvidere, Ill.—Contracts will soon be let for Coon Creek Drainage work near Marengo and Belvidere, to consist of about 22 miles of ditches; cost about $82,000. Arthur L. Webster, engr., Harvard.

Luverne, Minn.—Bd. Co. Comrs. Rock Co., Minn., and Minnehaha Co., S. D., are considering constructing Judicial Ditch No. 3; estimated cost, about $21,000.

Owatonna, Minn.—County Comrs. contemplate constructing county ditch No. 3; cost, $80,000.

Olivia, Minn.—Plans being prepared by T. S. Hewerdine, C. E. Olivia, for drainage work, to consist of about 1,000,000 cu. yd. dredging, a total length of about 250 miles.

St. Paul, Minn.—Northern States Power Co., St. Paul, has secured contract with Northern Dredging & Dock Co. covering 1265 hp. in motors. This installation will be used by Dredging & Dock Co. for dredging river channel and filling in site to be occupied by new Armour packing plant at South St. Paul.

Thief River Falls, Minn.—Clearwater, Red Lake, Pennington, Polk, Beltrami, Koochiching and Marshall Counties contemplate uniting for Red Lake and Red Lake River drainage project; estimated cost, $300,000.

Walker, Minn.—Contract to be let early next year for constructing County Ditches Nos. 8 and 10. C. D. Baian, co. aud.

Reno, Nev.—Surveys have been made by Mauriee Hays, C. E., for removal of obstacles from Truckee River to drain 10,000 acres of swamp land east of city.

Ft. Keogh, Mont.—Captain Winterburn, Commandant, Ft. Keogh, states War Dept. has appropriated $25,000 for involving and enlarging irrigation system at Ft. Keogh remount station.

Hardin, Mont.—Surveys are being made for immense irrigation project in connection with Big Horn Canyon Irrigation & Power Co. (J. J. Harris, pres.)

Barstow, Tex.—Contract will soon be let by Ward Co. Irrigation Dist. No. 1, for constructing Rocky Ford Canal and dam, and for protection levee on east side of Pecos River. John B. Hawley, Barstow, engr.

Port Arthur, Tex.—Injunction which has prevented carrying out of drainage plans proposed by city, to consist of open-ditch drainage system, has been dissolved by Judge E. A. McDowell, 60th Dist. Court, Beaumont.

Jacksonville, Ore.—F. L. Tou Velle, co. judge, has ordered special election Dec. 27 for creation of irrigation district, comprising 25,000 acres lying between Medford, Phoenix and Jacksonville.

Prineville, Ore.—Ochoco Irrigation Dist. voted $100,000 for constructing a dam and irrigation system, in all about 23,400 acres.

Tillamook, Ore.—Question of adding 125 miles to port of Tillamook defeated at recent election; address Clk. Bd. Port of Tillamook.

Alpaugh, Cal.—Bonds for $283,000 will be sold Dec. 15 by Alpaugh Irrigation Dist. W. T. Holton, secy.

Holtville, Cal.—Imperial Laguna Water Co. organized by Mark Rose and others to secure water for irrigation in eastern part of Imperial Co., has also petitioned Imperial Irrigation Dist. for right-of-way for canal through Hanlon Ranch and other property in Mexico; if granted water will be taken from Laguna Dam in Colorado River above Imperial Irrigation Dist's. intake at Hanlon Heading and conveyed by high line through Mexico and back through eastern part of Imperial Co., about 100 miles.

San Diego, Cal.—Major G. B. Pillsbury, Corps. Engrs., U. S. A., Los Angeles, states that election recently held by city for donation of tide lands carried; to dredge channel to the municipal pier; estimated cost, $220,000.

San Francisco, Cal.—Pacific Gas & Electric Co., 445 Sutter St., San Francisco, contemplates enlarging corporation's irrigation system; cost, about $225,000.

Salt Lake City, Utah.—Brigham City Conservation Co. (C. B. Felt, pres. Salt Lake City) has applied for permission to divert 1000 sec. ft. of water from north fork Ogden River, to include storage reservoir and canal several miles long.

Stockton, Cal.—West Side Irrigation Dist. voted $295,000 bonds and contract will soon be let to construct intake canal and to furnish power.

Waterford, Cal.—Contract will soon be let by Waterford Irrigation Co. for concrete siphon, flume and other earth work, 3½ miles of canal and 2200 ft. tunnel construction.

Woodland, Cal.—B. F. Conway, Colonial Trust Bldg., Los Angeles, and associates have purchased 14,000 acres of land in this vicinity and will construct drainage and irrigation system.

Niagara Falls, Ont.—The Hydro-electric Comn. of Ontario contemplates constructing projected canal, about 12 miles long, between Chippewa Creek and Queenston for supply of 200,000 hp. additional electrical energy; estimated cost, about $9,000,000.

BIDS DESIRED.

Wilmington, Del.—Until Dec. 29, at U. S. Engrs. Office, for excavating Inland Waterway between Rehoboth Bay and Delaware Bay; advertised in this issue.

Benson, Minn.—Reported desired until Dec. 18, for constructing Judicial Ditch No. 7; work includes 53,594 lin. ft. from 10 to 18 in. tile; cost about $19,566. A. W. Van Slyke, Benson, engr.; plans with D. P. Carney, co. aud.

St. Peter, Minn.—Until Dec. 12, by W. H. Holz, co. aud., for digging and constructing Co. Ditch No. 62, Nicollet Co.; work includes 23,195 lin. ft. from 14 to 26 in. tile; also 7 miles of tile branch ditches; total cost about $26,352.57.

Superior, Mont.—Until Dec. 19 by J. H. Dwyer, co. clk., for constructing about 60,000 cu. yd. fill, 6 miles mountain road, heavy rock cuts and earth work, and 2 bridges, 460 ft. and 315 ft. long. Geo. R. Metlen, secy. Mont. highway comn., Helena.

Mexicali, Mex.—Until Dec. 18 (readvertisement), by Compania de Torrenos y Aquas de la Baja California (S. A.), for constructing Tecolote Cut-off on Alamo River Canal near Paredones, about 22,000 ft. long, and involving excavation of about 443,000 cu. yd. material. C. R. Rockwood, ch. engr. Imperial Irrig. Dist., El Centro, Cal.

El Centro, Cal.—Until Dec. 16 (not Dec. 18, as previously stated) by Imperial Irrigation Dist. for excavating canals 6000 ft. long, 600,000 cu. yd. in U. S. and 2200 ft. long, 443,000 cu. yd. in Mexico. C. R. Rockwood, ch. engr., Calexico.

PRICES AND LETTINGS.

★*Indicates award of contract.*

New York, N. Y.—Following are bids opened Nov. 24 at U. S. Engrs. Office, Army Bldg., New York City, for dredging in Hudson River, (a) Jersey City, (b) Weehawken, Edgewater: Morris & Cummings Dredg. Co., 17 State St., New York City, (a) 18.93 cts., (b) 23.93 cts.; Coastwise Dredging Co., Norfolk, Va., (a) 20.3 cts.; Eugene Breymann, Boston, Mass., (a) 15.25 cts., (b) 19.25 cts.

★**New Orleans, La.**—Contract awarded Grasse Contr. Co., Hennen Bldg., New Orleans, at 15.80 cts. per cu. yd., for 180,000 cu. yd. earthwork on the levee on the Sarpy, St. Charles Parish.

★**Oxford, Miss.**—Contract awarded by Greer Dist., Lafayette Co., to A. V. Willis & Sons., St. Louis, at about $125,000, for constructing 13 miles drainage canals for reclaiming 13,000 acres, constructing ditches 50 and 60 ft. wide and from 12 to 18 ft. deep, about 2,000,000 cu. yd. excavation.

★**Benton, Tenn.**—See "Roads and Pavings."

St. Ignatius, Mont.—Following are bids opened Nov. 28 by U. S. Reclamation Serv., St. Ignatius, for constructing canal on Flathead Project, involving 195,000 cu. yd. excav.: (a) Mendenhall, Bird & Co., Springville, Utah, $48,369; (b) Parsons Constr. Co., Seattle, $70,364; (c) A. L. Markhus, Dixon, Mont., $75,329.

	(a)	(b)	(c)
Schedule 1:			
40,000 cu. yd. excav., Class 1	....	$0.40	$0.42
1,500 cu. yd. excav., Class 2	....	0.50	0.60
750 cu. yd. excav., Class 3	....	1.25	2.00
3,000 cu. yd. overhaul	....	0.02	0.02
Schedule 2:			
35,000 cu. yd. excav., Class 1	$0.25	0.35	0.30
3,000 cu. yd. excav., Class 2	0.50	0.45	0.45
1,600 cu. yd. excav., Class 3	1.50	1.75	2.50
100 cu. yd. overhaul	0.02	0.02	0.02
Schedule 3:			
26,000 cu. yd. excav., Class 1	0.25½	0.35	0.32
3,400 cu. yd. excav., Class 2	0.50	0.45	0.70
4,100 cu. yd. excav., Class 3	1.90	1.75	2.30
7,000 cu. yd. overhaul	0.02	0.02	0.02
Schedule 4:			
79,000 cu. yd. excav., Class 1	0.24½	0.23	0.25
100 cu. yd. excav., Class 2	0.50	0.35	0.70
50 cu. yd. excav., Class 3	1.00	1.25	2.50
100 cu. yd. overhaul	0.02	0.02	0.02

Dyersburg, Tenn.—Following are bids opened Nov. 28 by Bd. Dirs. Bogota Drainage Dist., for constructing ditch 8 miles long, 10 ft. deep, 25 ft. wide; (a) requiring removal of 405,000 cu. yd. material, and (b) cleaning 96 acres of right-of-way at Dyersburg: James P. Carr, Ft. Wayne, Ind., (a) 6 cts, (b) $12; Goodrich & Gray, Royal Center, Ind., (a) 6.4 cts., (b) $10; McGuire Bros. & Caldwell, Trimble, Tenn., (a) 6.7 cts., (b) $10.40; Continental Constr. Co., St. Louis, Mo., (a) 6.45 cts.; (b) $12.

Benson, Minn.—Contract awarded by D. P. Carney, co. aud. (bids opened Nov. 15), to Ewing & Brockenbrough, 112 W. Adam St., Chicago, at $66,829 for constructing Ditch No. 4, about 10.99 miles long, to consist of 788,083 cu. yd. excav., together with laterals, bulkheads, etc.

★**Glencoe, Minn.**—Contract awarded by F. D. Stocking, co. aud., Nov. 25, to Geo. McAllester, Glencoe, at $19,000, for constructing County Ditch No. 28.

Kohoka, Mo. — Contract awarded by Gregory Drainage Dist. to R. H. & G. A. McWilliams, 322 S. Michigan Ave., Chicago, Ill., at about $45,889, for constructing 6¼ miles of levee.

★**Eagle Lake, Tex.**—Contract awarded by E. A. Frazee, secy. drainage dist., No. 22, to Howard Kenyon, Houston, at 12½ cents. per cu. yd. for 75,000 cu. yd. ditch excavation.

Los Angeles, Cal.—See "Railway."

★**Waterford, Cal.**—Contract awarded by O. Haldon, co. aud., Nov. 20, to W. C. Price & Co., 209 Clay St., San Francisco, at $35,650, for constructing 8½ miles of canal, involving 155,000 cu. yd. earth excavation.

★**Emmett, Idaho.**—Contract awarded by Comrs. Drainage Dist. No. 1 (S. W. Nusbaum, secy.), bids opened Nov. 2, to Maney Bros. & Co., Boise, Idaho, at $11,665, for open drainage canal, pipe drains and appurtenances.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

South Berwick, Me.—Berwick & Salmon Falls Electric Co., Masonic Bldg., Dover, N. H., contemplates constructing power plant, to include concrete dam, about 240 ft. long and 16 ft. high; cost $100,000. I. Jones, engr., Milton.

Manchester, N. H.—Manchester Traction & Light Co. (L. J. Farrell, ch. engr.) are taking steps to construct a dam at Gregg's Falls, 20 ft. below the old dam.

Atlantic City, N. J.—Construction of $500,000 pier contemplated. Sterling Realty Co., Atlantic City, owner of "Ocean Pier," interested.

Philadelphia, Pa.—Pennsylvania Sugar Refinery Co., 1039 N. Delaware St., has made application to Dept. Wharves, Docks and Ferries, for permission to extend and improve its piers at Nos. 46 and 47, North Wharves, to comprise 516-ft. continuous pier.

Baltimore, Md.—B. & O. RR. Co. (R. N. Begien, ch. engr., Baltimore) contemplate constructing pier 958 x 140 ft. with 2-story superstructure at Locust Point.

Martinsburg, W. Va.—Potomac Light & Power Co., Martinsburg, which took over the property of the Martinsburg Power Co., contemplates improvements to the system, including the reconstruction of dams Nos. 4 and 5 on the Potomac River.

Martinsburg, W. Va.—Potomac Light & Power Co., Martinsburg, contemplates reconstructing dams Nos. 4 and 5 on Potomac River; cost, about $100,000.

Hahnville, La.—Comrs. of Pontchartrain Levee Dist. contemplate constructing Sarpy levee on left bank of Mississippi River, to consist of 180,000 cu. yd. Address Secy. of Dist.

Winchester, Ky.—Plans being prepared by Edgar B. Kay, Colonial Bldg., Winchester, for construction of hydroelectric plant at Lock 10, Kentucky River, to develop 2000 hp. Plans are also being prepared for waterworks system, to cost about $180,000, which will include construction of power house, pumping station, installation of two 1,500,000-gal. pumps, three low-duty pumps, 500 hp. boiler capacity, etc.

Beaumont, Tex.—Wharf and dock improvement bonds for $230,000 have been sold. Address E. A. Fletcher, mayor.

Houston, Tex.—Wharf bonds for $825,000 and sewage disposal bonds for $410,000 will be sold Jan. 10 by city. Ben Campbell, mayor.

Bellingham, Wash.—Election will soon be held by city to vote on $35,000 bond issue for constructing ocean dock on continuation of Pine St.

Coalinga, Cal.—Plans being prepared by Floyd G. Dessery, engr., 514 Central Bldg., Los Angeles, for City Trustees for constructing submerged dam in Wharton Canyon, nine miles from city, water to run by gravity from dam to proposed reservoir, about 7½ miles from dam; $100,000 waterworks bonds issued recently.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Wheeling, W. Va.—Contract awarded by U. S. Engrs. to Penn Bridge Co., Beaver Falls, Pa., at $52,440, for constructing lock gates at Dam. No. 24, Ohio River (bids opened Oct. 21).

Ft. Morgan, Ala.—Following are bids opened Nov. 17 by U. S. Quartermaster for—(a) constructing wharf, (b) ramp per M ft. timber: G. M. Gadsden, Savannah, Ga., (a) $14,847, (b) $50; Jett-Muths Constr. Co., Mobile, (a) $17,208, (b) $48; A. E. Massey, New Orleans, La., (a) $19,450, (b) $90.

★**Zanesville, O.**—Contract awarded by W. W. Roach, dir. pub. service, Nov. 21 to J. A. Swingle Contr. Co., Zanesville, for constructing concrete revetment along Licking River.

★**Gregory Landing, Mo.** — Contract awarded by J. P. Foley, secy. Gregory Drainage Dist., Nov. 9, to R. H. & G. A. McWilliams, McCormick Bldg., Chicago, Ill., for 325,000 cu. yd. levee work at 12½ cts. per cu. yd.; and 90,000 cu. yd. open ditch work at 94 cts. per cu. yd., and clearing at $48 per acre.

Dallas, Tex.—Lowest bid opened for jetty work at Sabine Pass was that of David M. Picton & Co., 915 American Natl. Insurance Co.'s Bldg., Galveston, at $268,000.

TUNNELS AND SUBWAYS

PROPOSED WORK.

Cleveland, O.—Cleveland, Akron & Terminal Ry. Co., Cleveland, contemplates constructing an electrically operated subway under E. 55th St., work to begin in spring. O. C. Barber, Barberton, promoter.

★**San Rafael, Cal.**—Following are unit figures of four lowest bids opened by Marin Municipal Water Dist. for constructing Pine Mountain tunnel, 8700 ft. long, 8100 ft. of which is to have a 6-in. concrete lining and 600 ft. a 12-in. lining: (a) McLaran & Peterson, Sharon, Bldg., San Francisco, $257,400 (awarded contract); (b) F. S. Ostrander, $266,028; (c) E. S. Mulford, 1282 Sacramento St., $280,400; (d) Twohy Bros., Hobart Bldg., San Francisco, $293,750.

	*(a)	(b)	(c)	(d)
Intake	$1,000.00	$1,590.00	$2,000.00	$2,000.00
Outlet	500.00	900.00	400.00	900.00
6-in. lining, per ft.	29.00	29.66	31.00	32.50
12-in. lining, per ft.	35.00	38.32	44.00	46.00

PRICES AND LETTINGS.

★*Indicates award of contract.*

Ft. Wayne, Ind.—Contract awarded to Indiana Engineering & Constr. Co., Lincoln, Bldg., for constructing reinforced concrete tunnel 640 ft. long for the General Electric Co.

MISCELLANEOUS

PROPOSED WORK.

Transmission Line—Barre, Vt.—The Central Power Co. of Vermont, recently organized to develop water powers on Middlebury River and its branches, has applied to City Council for franchise to erect electric transmission lines into Barre.

The Central Power Co. of Vermont is reported to have acquired electric generating plant at Granby, P. Q., and proposes erecting transmission line to Stevens' Mills and Richford. Alexander Gordon of Barre interested in company.

Transmission Line—Fall River, Mass.—Fall River Electric Light & Power Co. (A. H. Kimball, gen. mgr.) negotiating with New England Power Co., Osgood-Bradley Bldg., Worcester, for connection with high-tension transmission lines of company, which terminates in a substation in Pawtucket, R. I. Local company proposes to erect, operate and own the transmission line from its generating station at foot of Hathaway St., Fall River, to Rhode Island line near Pawtucket, where connection will be made with lines of New England Co.

Transmission Line—Canisteo, N. Y.—Canisteo Light & Power Co. applied to Pub. Serv. Comn. to erect electric transmission line in village and for approval of exercise of rights and privileges under franchise granted to Charles A. Larrowe by village of Canisteo and transfer of franchise to company.

Transmission Line—Cuba, N. Y.—Cuba Electric Co. contemplates extending its electric transmission line to Rushford.

Transmission Line—Hudson, N. Y.—Preparations are being made by Albany Southern RR. Co. to extend its electric transmission line from Brainard into the town of New Lebanon, where company has recently been granted a franchise.

Playground, Etc.—New York, N. Y.—Bd. Estimate has granted Thomas W. Whittle, Park Comr., Bronx Boro., necessary appropriation for converting 24 acres of swamps in southwest corner of Van Cortlandt Park into an athletic field and playground, to consist of gymnasium, recreation building, swimming pool 75 x 125 ft., wading pool 240 x 200 ft. deep, tennis court, etc.

Groins, Etc.—New York, N. Y.—No bids opened Dec. 1 by U. S. Engr. Office, 802 Army Bldg., New York City, for constructing timber groins and repair of sea wall near Sandy Hook Reservation.

Incinerator—Rankin (P. O. Braddock), Pa.—Bonds for $45,000 for constructing garbage incinerator defeated at recent election.

Playground, Etc.—Rankin (P. O. Braddock), Pa.—Bonds for $30,000 for parks and playgrounds defeated at recent election.

Garbage Disposal—Newport News, Va.—City contemplates constructing garbage disposal plants on East End and North End; estimated cost $13,000. T. E. Pearce, city engr.

Transmission Line—Richmond, Va.—Permit has been granted to Virginia Railway & Power Co., Richmond, to erect 13,500-volt transmission line to connect with American Locomotive Works to supply energy for power purposes.

Transmission Line—Monroe, O.—Middletown (Ohio) Gas & Electric Co., Middletown, contemplates extending transmission line to Monroe to supply electrical service here.

Transmission Line—Coalton, Ill.—Pub. Utilities Comn. has granted Central Illinois Pub. Serv. Comn. permission to erect transmission line to Coalton to supply electrical service here.

Transmission Line—Granite City, Ill.—Pub. Utilities Comn. has granted Madison Co. Light & Power Co., Granite City, permission to erect transmission line from Granite City to Nameoki to supply electrical service there. The company has filed application with Pub. Utilities Comn. asking for a certificate of convenience and necessity to erect transmission line from Wood River to village of Hartford.

Transmission Line—Stanley, Wis.—The local electric-light plant, owned by North Western Lumber Co., has been purchased by the Wisconsin-Minnesota Light & Power Co., Eau Claire, and contemplates extending high-tension transmission line of the light and power company, which runs from Chippewa Falls to Boyd, to Stanley.

Transmission Line—Thorp, Wis.—Wisconsin-Minnesota Light & Power Co., Eau Claire, contemplates extending its transmission lines to this city.

Transmission Line—Mullinville, Kans.—Bonds for $10,000 for constructing transmission line and distribution system will be sold Dec. 15, by City Clk.

Transmission Line—Pueblo, Col.—Early next year Arkansas Valley Railway, Light & Power Co., Pueblo, will erect about 10 miles 13,000-volt transmission line to serve several large irrigation projects in Arkansas Valley.

Transmission Line—Marshfield, Ore.—H. M. Byllesby & Co., Chicago, Ill., which controls the Oregon Power Co., have approved the expenditure for the construction of an 11,000-volt transmission line from Marshfield to Coquille for the purpose of furnishing electricity to the Coquille River Valley towns.

Transmission Line—Niland, Cal.—Southern Sierras Power Co., Denver, Col., and Riverside, Cal., contemplate constructing transmission line from Niland to head of Alamo Canal near Mexican border to supply electricity to Imperial Irrigation Dist.; cost, about $150,000.

Transmission Line—Kilsyth Ont.—Ontario Hydro-Electric Power Co. contemplates constructing transmission lines from Tara.

BIDS DESIRED.

Garbage Disposal—Fall River, Mass.—Until Dec. 16, by Bd. Health, for collecting and disposing of garbage. Address City Aud.

Rubblestone—Newburyport, Mass.—Until Dec. 15, at U. S. Engr. Office, Boston, Mass., for rubblestone in jetties of Newburyport harbor.

Air Compressors—Pittsburgh, Pa.—Until Dec. 29, at U. S. Engrs. Office, for furnishing and delivering 2 air compressors and 1 water turbine at lock No. 3, Monongahela River; advertised in this issue.

Cranes—Washington, D. C.—Until Dec. 26, at Bureau Yards and Docks, Navy Dept. (F. R. Harris, ch.), for furnishing one 80-ton bridge crane, three 15-ton bridge cranes, twelve 5-ton and eight 3-ton wall cranes in Norfolk, Va., and Philadelphia, Pa., navy yards.

Piles and Walings—New Orleans, La.—Until Dec. 28, at U. S. Engrs. Office, Custom House, for furnishing and delivering piles, walings and lumber on banks or wharves in Southwest Pass, Mississippi River; advertised in this issue.

Garbage Incinerators — Chattanooga, Tenn.—Until Jan. 2, at office Dept. Water and Sewers (E. D. Bass, comr.), Municipal Bldg., Chattanooga, for garbage incinerators; advertised in this issue.

Concrete Retaining Wall—Akron, O.—Until Dec. 26, by J. F. Barnhart, (clk. Bd. Education), for constructing concrete retaining wall along Perkins St. side of new Bowen school building at corner N. Bway. and Perkins St. Harpster & Bliss, archts., Nantucket Bldg.

Retaining Wall—Youngstown, O.—Until Dec. 14, by Dir. Pub. Serv., for constructing retaining wall on Knox St., certified check of $200 with each bid; plans can be had from City Engr.

Rubble Mound Breakwater — Indiana Harbor, Ind.—Until Dec. 15, for constructing rubble mound breakwater. Address U. S. Engr. Office, 508 Federal Bldg., Chicago, Ill.

Boilers—Detroit, Mich.—Until Dec. 26, by Lighthouse Inspector, for constructing boilers for lighthouse tender Marigold; advertised in this issue.

Transmission Line—Hanford, Cal.—Until Jan. 2, by Bd. Superv. (E. F. Pickerell, clk.), for purchase of a 50-year franchise to erect and operate electric transmission lines over roads and highways of Kings Co.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Strandway — Boston, Mass. — Contract awarded by Edw. E. Murphy, comr. pub. wks., to New York State Dredg. Corp., 17 Battery Pl., New York City, at $803,180 for dredging, filling, sewerage work, grading, etc., strandway and old harbor improvement, South Boston. (Bids opened Nov. 1.)

New York, N. Y.—Following are bids opened Dec. 5 by J. T. Fetherston, comr. st. cleaning, for furnishing labor, equipment, and appliances required for removal of snow and ice during winter of 1917: Daniel Rogge, 3071 Perry Ave., 44c.; Model Contr. Co., 53 Chambers St., 46c.; C. Du Marco, 239 E. 17th St., 47c., and Thos. C. Crimmins Contr. Co., 444 E. 69th St., 49½c.; bidders all of New York.

★**Park Development—Philadelphia, Pa.**—Contract awarded to E. H. Vare, Lincoln Bldg., Philadelphia, at $413,137, for development of eastern part of League Island Park.

Riprap — Philadelphia, Pa. — Following are bids opened Nov. 28 by Maj. J. C. Oakes, Corps. Engrs., U. S. A., for furnishing and placing riprap at Artificial Island in Delaware River, in all about 71,000 tons: D. L. Taylor Co., 1515 Fidelity Bldg., Baltimore, Md., $1.86; Coast & Lakes Contr. Corp., 25 Broad St., New York City, $2.385; C. R. Simpson, 170 Bway., New York City, $2.57; price given per ton.

Jib Crane—Pearl Harbor, T. H.—Following are bids opened Nov. 11 by Bureau Yards and Docks, Navy Dept., Washington, D. C., for furnishing one locomotive jib crane, 50 gross tons capacity, at Naval Station, Pearl Harbor; (a) electric crane, (b) steam crane: McMyler Interstate Co., New Bedford, O., (a) $159,385, (b) $155,552; Victor R. Browning & Co., 17701 Lake Shore Blvd., Cleveland, (b) $94,852.

Proposals

For Proposals Advertised See Pages 43, 44 and 45.

WATER WORKS AND SEWERAGE SYSTEMS.

Close. Bids		Record. See Eng.
Dec. 11.	Lyndhurst, N. J. Adv. Dec. 2, 9.	Dec. 2
Dec. 12.	Detroit, Mich. Adv. Nov. 11.	Nov. 11
Dec. 12.	Stuart, Ia.	Dec. 2
Dec. 12.	Sedan, Kan.	Dec. 9
Dec. 12.	Bloomington, Ill.	Dec. 9
Dec. 13.	Fargo, N. D. Adv. Dec. 2, 9.	Dec. 2
Dec. 13.	Portland, Ore.	Dec. 9
Dec. 14.	Lima, O. Adv. Nov. 25 to Dec. 9.	Nov. 25
Dec. 14.	Greenville, O.	Dec. 9
Dec. 15.	Clayton, N. C.	Dec. 2
Dec. 16.	Berwyn, Ill.	Dec. 2
Dec. 16.	Pocatello, Idaho	Dec. 9
Dec. 16.	Clover, N. C.	Dec. 9
Dec. 18.	Winnipeg, Man. Adv. Nov. 18 to Dec. 9.	Nov. 18
Dec. 18.	Yonkers, N. Y.	Dec. 9
Dec. 18.	Tulsa, Okla.	Dec. 9
Dec. 18.	Cuyahoga Falls, O.	Dec. 9
Dec. 18.	Moran, Kan.	Dec. 9
Dec. 19.	El Dorado Springs, Mo.	Dec. 9
Dec. 19.	Tracy, Cal.	Dec. 9
Dec. 19.	Waterford, Cal.	Dec. 9
Dec. 19.	Shaker Heights (P. O. Cleveland), O.	Dec. 9
Dec. 21.	New Orleans, La.	Nov. 4
Dec. 26.	Indianhead, Md.	Dec. 9
Dec. 27.	Philadelphia, Pa. Adv. Dec. 9.	Dec. 9
Jan. 2.	Rock Island, Ill.	Dec. 9
Feb. 5.	Rockwell City, Ia.	Dec. 9
Jan. 8.	Webster City, Ia.	Dec. 9
Jan. 16.	Toronto, Ont.	Dec. 9
Mar. 6.	Chilton, Wis.	Dec. 2

STRUCTURAL STEEL WORK

Dec. 12.	Molino, Fla.	Dec. 2
Dec. 12.	Seattle, Wash.	Dec. 2
Dec. 14.	Miami, Fla. Adv. Nov. 25 to Dec. 9.	Nov. 25
Dec. 15.	Laredo, Tex.	Dec. 9
Dec. 15.	St. Paul, Neb.	Dec. 9
Dec. 18.	New Hampton, Ia.	Dec. 2
Dec. 20.	Malta, Mont.	Dec. 2
Dec. 21.	Memphis, Tenn. Adv. Dec. 9.	Dec. 9
Dec. 27.	Rochester, N. Y. Adv. Dec. 9.	Dec. 9
Jan. 1.	Newton, Ia.	Nov. 18
Jan. 1.	New Castle, Pa.	Nov. 18
Jan. 1.	Mitchell, S. D.	Oct. 7

REINFORCED CONCRETE.

Dec. 14.	Lake Charles, La.	Nov. 25
Dec. 15.	Potter, Wis.	Nov. 18
Dec. 20.	Ellsworth, Kan.	Dec. 2
Dec. 21.	Waterford, Cal.	Dec. 9
Dec. 23.	Quincy, Ill. Adv. Dec. 9.	Dec. 9
Dec. 27.	Fort Wayne, Ind.	Dec. 9
Dec. 27.	Paola, Kan.	Dec. 9
Jan. 1.	Manhattan Beach, Cal.	Nov. 25

ROADS AND PAVING.

Dec. 12.	Pasadena, Cal.	Nov. 25
Dec. 12.	Owensboro, Ky.	Dec. 9
Dec. 12.	Kansas City, Mo.	Dec. 9
Dec. 13.	Somerville, N. J.	Nov. 25
Dec. 14.	Indiana	Dec. 2
Dec. 14.	Washington, D. C.	Dec. 9
Dec. 14.	Youngstown, O.	Dec. 9
Dec. 14.	Whitesburg, Ky.	Dec. 9
Dec. 15.	Greenville, S. C.	Nov. 4
Dec. 15.	Grove Hill, Ala.	Oct. 28
Dec. 15.	Ventura, Cal.	Dec. 9
Dec. 16.	Luverne, Ala.	Nov. 25
Dec. 18.	Cleveland Heights (P. O. Cleveland, O.)	Nov. 18
Dec. 18.	Galveston, Tex.	Dec. 9
Dec. 18.	Monroe, La.	Nov. 25
Dec. 18.	Ft. Scott, Kan.	Dec. 9
Dec. 19.	Amboy, Ill. Adv. Nov. 25, Dec. 2.	Nov. 25
Dec. 20.	Butte, Mont.	Dec. 2
Dec. 20.	Storm Lake, Ia.	Dec. 9
Dec. 23.	Pinesville, W. Va.	Dec. 9
Jan. 1.	Sidney, O.	Nov. 4
Jan. 2.	Los Angeles, Cal.	Dec. 9
Jan. 3.	Keyport, N. J.	Nov. 18
Jan. 8.	Moulton, Ala. Adv. Dec. 9.	Dec. 9
Jan. 10.	Independence, Ia.	Nov. 18
Feb. 1.	Cedar Rapids, Ia.	Nov. 18

RAILWAYS

Dec. 14.	New York, N. Y.	Dec. 9
Dec. 15.	Brooklyn, N. Y.	Dec. 9
Dec. 20.	Lawrence, Mass. Adv. Dec. 9.	Dec. 9

BUILDINGS.
Public and Private.

Dec. 12.	Charleston, W. Va.	Dec. 9
Dec. 14.	Cape Charles, Va.	Nov. 18
Dec. 15.	Tucson, Ariz.	Oct. 14
Dec. 15.	Danville, Ill.	Nov. 11
Dec. 15.	Leighton, Ala. Adv. Nov. 25, Dec. 2.	Nov. 25
Dec. 15.	Hendricks, Minn.	Nov. 25
Dec. 15.	Austin, Tex.	Dec. 9
Dec. 15.	Richmond Borough, S. I.	Dec. 9
Dec. 15.	Cleveland, O.	Dec. 9
Dec. 16.	Springfield, Mass.	Dec. 9
Dec. 18.	Beaumont, Tex.	Dec. 9
Dec. 18.	Washington, D. C.	Dec. 9
Dec. 19.	Farrell, Pa.	Nov. 25
Dec. 20.	St. George, S. I., N. Y.	Dec. 2
Dec. 20.	Jersey City, N. J.	Nov. 25
Dec. 20.	Waterbury, Conn.	Dec. 9
Dec. 20.	Maryland	Dec. 9
Dec. 20.	Waconia, Minn.	Dec. 9
Dec. 21.	Bonne Terre, Mo.	Nov. 4
Dec. 21.	Nacogdoches, Tex. Adv. Nov. 25, Dec. 2.	Nov. 25
Dec. 22.	Bakersfield, Cal.	Dec. 2
Dec. 22.	East St. Louis, Mo.	Oct. 28
Dec. 22.	Portsmouth, O.	Dec. 2
Dec. 23.	Jacksonville, Fla.	Dec. 9
Dec. 26.	Frederick, Md. Adv. Nov. 25, Dec. 2.	Nov. 25
Dec. 26.	Mt. Carmel, Ill.	Dec. 2
Dec. 26.	Maquoketa, Ia.	Dec. 9
Dec. 27.	Laconia, N. H. Adv. Dec. 2, 9.	Dec. 2
Dec. 27.	Albany, N. Y.	Dec. 9
Dec. 30.	Sullivan, Ind.	Nov. 18
Jan. 1.	Webster, S. D.	Sep. 16
Jan. 10.	St. Jean de Dieu, Que.	Dec. 9
Jan. 18.	Marion, S. C. Adv. Nov. 25, Dec. 2.	Nov. 25
May 1.	Minneapolis, Minn.	Nov. 25

FOUNDATIONS, PIERS AND DAMS.

Dec. 14.	Wheeling, W. Va. Adv. Nov. 18 to Dec. 9.	Nov. 18
Dec. 15.	Indiana Harbor, Ind. Adv. Nov. 25 to Dec. 9.	Nov. 25
Dec. 15.	Yuma, Ariz.	Nov. 25
Dec. 19.	Cincinnati, O. Adv. Nov. 25 to Dec. 9.	Nov. 25
Dec. 21.	Philadelphia, Pa. Adv. Dec. 2, 9.	Dec. 2
Dec. 30.	Wheeling, W. Va. Adv. Dec. 2, 9.	Dec. 2
Jan. 1.	San Dimas, Cal.	Nov. 18
Jan. 2.	Santa Fe, N. M. Adv. Nov. 18.	Nov. 18

EXCAVATION, DREDGING AND DRAINAGE.

Dec. 12.	Sibley, Ia.	Nov. 25
Dec. 12.	St. Peter, Minn.	Nov. 9
Dec. 15.	Tracy, Cal.	Nov. 25
Dec. 15.	Belvidere, Ill.	Dec. 2
Dec. 16.	Fargo, N. D.	Dec. 2
Dec. 16.	El Centro, Cal.	Dec. 9
Dec. 18.	Mexicali, Mex.	Dec. 9
Dec. 18.	Benson, Minn.	Dec. 9
Dec. 19.	Erie, Pa. Adv. Nov. 18 to Dec. 9.	Nov. 18
Dec. 19.	Moorhead, Minn.	Dec. 2
Dec. 20.	Duluth, Minn.	Nov. 25
Dec. 20.	Oakland, Cal.	Nov. 25
Dec. 22.	Glencoe, Minn.	Nov. 2[illegible]
Dec. 29.	Wilmington, Del. Adv. Dec. 9.	Dec. 9

MISCELLANEOUS.

Dec. 12.	Needle Valves, Washington, D. C. Adv. Nov. 4.	Nov. 4
Dec. 14.	Retaining Wall, Youngstown, O.	Dec. 9
Dec. 15.	Rubble Mound Breakwater, Indian Harbor, Ind.	Dec. 9
Dec. 15.	Rubble Stone, Newburyport, Mass.	Dec. 9
Dec. 16.	Garbage Disposal, Fall River, Mass.	Dec. 9
Dec. 18.	Transmission, Bremerton, Wash.	Dec. 2
Dec. 20.	Gates-Washington, D. C. Adv. Nov. 25.	Nov. 25
Dec. 26.	Concrete Retaining Wall, Akron, O.	Dec. 9
Dec. 26.	Screw Gears, Washington, D. C. Adv. Dec. 2.	Dec. 2
Dec. 26.	Cranes, Washington, D. C.	Dec. 9
Dec. 26.	Boilers, Detroit, Mich. Adv. Dec. 9.	Dec. 9
Dec. 28.	Piles, Etc., New Orleans, La. Adv. Dec. 9.	Dec. 9
Dec. 29.	Air Compressors, Pittsburgh, Pa. Adv. Dec. 9.	Dec. 9
Jan. 2.	Transmission Line, Hanford, Cal.	Dec. 9
Jan. 4.	Transmission Line, Weaversville, Cal.	Oct. 21
Jan. 10.	Garbage Incinerator, Chattanooga, Tenn. Adv. Dec. 9.	Dec. 9

SEARCHLIGHT SECTION

Official Proposal Announcements

Price, $2.40 an inch.—Copy can be received until Wednesday, 5 p. m. for issue mailed the next day

Bids open December 19, 1916.

MILL CREEK IMPROVEMENT PROJECT FOR FLOOD CONTROL

ERIE, PA.

Sealed proposals will be received by the Council of the City of Erie, Pa., until 10.30 a. m., Standard Eastern Time, December 19, 1916, when they will be publicly opened and read, for the construction of flood control works at Erie, Pa.

The project involves the construction of approximately two miles of reinforced concrete tube, 18 ft. by 22 ft. inside dimensions, and the principal items of construction are:

Earth excavation	107,000 cu. yd.
Rock excavation	132,000 cu. yd.
Reinforced concrete	56,600 cu. yd.
Reinforcing steel	800 tons
Structural steel	60 tons
Cast-iron pipe and specials	90 tons

A certified check for seventeen thousand ($17,000.00) dollars will be required with the proposal.

Information for bidders, form of proposal and contract, plans and specifications, may be obtained on the deposit of a certified check for one hundred ($100.00) dollars, from Farley Gannett, consulting engineer, Telegraph Building, Harrisburg, Pa., or from his Erie office, 508 Palace Hardware Building.

The City Council reserves the right to reject any or all bids.

FARLEY GANNETT,
Consulting Engineer

FAULKNER G. LYNCH,
City Engineer.

November 18, 1916.

Bids received until December 11, 1916.

SEWAGE DISPOSAL WORKS

TOWNSHIP OF UNION, N. J.

Sealed proposals will be received by the Board of Commissioners of the Township of Union, Bergen County, New Jersey, at the Commissioners' meeting room, Odd Fellows' Hall, 505 Valley Brook Ave., Lyndhurst, N. J., on Monday, December 11, 1916, at 8 p. m., there to be publicly opened and read by the Clerk, for furnishing all material and doing all work necessary to complete the construction of a Sewage Disposal Works for the Township of Union, Bergen Co., N. J., in accordance with plans and specifications on file with the Township Clerk, 505 Valley Brook Avenue, Lyndhurst, N. J.

Each proposal must be accompanied by a certified check on some solvent bank for at least five per cent (5%) of the amount of the bid, made payable to the "Board of Commissioners, Township of Union," conditioned that if the bid is accepted, the contract will be entered into within five (5) days after the awarding of the same and the performance of the same secured. In case bid is rejected, or contract entered into, check will be returned.

Copies of plans and specifications may be seen, and form of proposal obtained, at the office of the Township Clerk, 505 Valley Brook Avenue, Lyndhurst, N. J. Copies of plans and specifications may be procured from Thomas F. Bowe, C. E., East Rutherford, N. J., by prospective bidders upon payment of $15, of which $12 will be refunded if they are returned within ten days after the opening of bids, complete and in good condition.

Bidders must furnish satisfactory evidence of their experience, and ability to construct work of the character required.

The right is reserved to reject any or all bids, to waive any informality in the bid received, and to accept any bid which is deemed to be the most favorable to the interests of the Township.

By order of the Board of Commissioners.

JOHN F. WOODS,
Township Clerk.

Bids open December 14, 1916.

VIADUCT AND CAUSEWAY

MIAMI, FLA.

Sealed bids will be received by the Board of County Commissioners, Dade County, Fla., at the office of the Clerk of the Board of County Commissioners, Miami, Fla., up to 10 a. m., December fourteenth, nineteen hundred and sixteen, and then publicly opened, for the construction of the Miami Causeway across Biscayne Bay connecting the City of Miami and the Town of Miami Beach.

Bids shall be plainly marked on the envelope "Proposal for Miami Causeway."

The structure will consist of approximately 13,000 lin. ft. of embankment and approximately 4000 lin. ft. of viaduct.

The embankment portion will be composed of sand and will be protected and retained by either a creosoted timber bulkhead or a concrete wall on each side. Bids will be received on both types of construction and the type to be constructed will be selected after the bids are opened. This portion of the structure will be 105 ft. wide.

The viaduct portion will consist of a series of reinforced concrete girder spans providing for a roadway 20 ft. wide, a sidewalk 5 ft. wide and an electric railway track outside of the roadway.

The principal quantities in the structure are approximately as follows:

Concrete	23,000 cu. yd.
Structural steel	660,000 lb.
Rails and fastenings	761,000 lb.
Reinforcing steel	900,000 lb.
Asphalt pavement	8,000 sq. yd.
Broken stone pavement	155,000 sq. yd.
Sand fill	260,000 cu. yd.
Round piling	56,000 lin. ft.
Creosoted sheet piling	725 M. B. M.

Bids will be considered covering the furnishing and delivery of steel stringers, electric railway rails and connections as one contract; for the construction complete of the embankment portion, including laying the electric railway track as one contract; for the erection of the metal work and construction complete of the viaduct portion as one contract; or for any or all of the above three items as one contract.

Plans and specifications may be obtained on and after November 20, by applying to the Engineers, and upon payment of twenty-five dollars ($25.00), of which amount twenty dollars ($20.00) will be returned when the plans and specifications are returned in good condition.

The contractor will be paid in cash on monthly estimates amounting to 90 per cent of the work done.

All proposals or bids must be accompanied by a certified check drawn on a responsible bank or trust company and made payable to Z. T. Merritt, Clerk of the Board of County Commissioners, Dade County, Fla., for a sum not less than 10 per cent of the aggregate of the proposal.

The successful bidder will be required to furnish a performance bond in the sum of 50 per cent of the contract price.

The right is reserved to reject any or all bids and to waive informalities.

Z. T. MERRITT,
Clerk of the Board of County Commissioners, Dade County, Fla.

KLYCE & KACKLEY,
Civil and Consulting Engineers,
Real Estate Bldg., Miami, Fla.

November 11, 1916.

LOCK GATES.—U. S. ENGINEER Office, Wheeling, W. Va. Sealed proposals will be received here until 11 a. m. (Eastern time), December 14, 1916, and then opened, for furnishing and erecting lock gates for Dam No. 21, Ohio River. Information on application.

Bids open December 14, 1916.

IMPROVED WATER WORKS, PUMPING STATION AND FILTRATION PLANT

CONTRACT No. 1.

LIMA, OHIO.

Sealed proposals will be received at the office of the Director of Public Service, City Hall, Lima, Ohio, until twelve o'clock noon, central standard time, of the fourteenth day of December, 1916, and then publicly opened and read, for the construction of improvements to the water works, Contract No. 1.

The work to be done under Contract No. 1 covers the construction of improvements and additions to the present pumping station, a railroad siding, an eight million gallon filtration plant, a steel wash water tank and tower, and other appurtenances.

The work includes 8700 cu. yd. of earth excavation, 3700 cu. yd. of reinforced concrete, two brick buildings, 77 tons of cast-iron pipe, valves and filter equipment.

Copies of the plans, proposal forms, specifications and forms of bonds and contract can be seen at the office of the Director of Public Service, Lima, Ohio, or at the office of the Engineering News and of Engineering Record, New York, and Engineering and Contracting, Chicago, or may be obtained at the office of either of the consulting engineers, R. Winthrop Pratt, Hippodrome Building, Cleveland, Ohio, and Wm. G. Clark, Spitzer Building, Toledo, Ohio. A deposit of twenty-five ($25.00) dollars will be required for each set of plans and specifications, which sum will be refunded if plans are returned in good condition within ten (10) days after the award of the contract. Extra copies of the specifications may be obtained upon payment of two ($2.00) dollars for each copy, which sum will be refunded if returned copies are in good condition. All checks shall be made payable to the Director of Public Service of the City of Lima, Ohio.

The bid bond will be for ten (10) per cent of the amount of the proposal.

The performance bond will be for seventy-five (75) per cent of the amount of contract.

The Director of Public Service reserves the right to reject any or all bids.

A. L. METHEANY,
Director of Public Service.

Bids open December 18, 1916.

TENDERS FOR CONSTRUCTION OF 9.5 MILES OF 5′ 6″ REINFORCED CONCRETE PRESSURE PIPE

GREATER WINNIPEG WATER DISTRICT,

WINNIPEG, MANITOBA, CANADA.

Sealed tenders addressed to the undersigned will be received up to noon of Monday, 18th December, 1916, for the construction of 9.5 miles of 5′6″ reinforced concrete pressure pipe.

Plans, Specifications and Form of Tender can be secured on application to the District accompanied by certified check for twenty dollars, payable to the District, which deposit will be returned upon submission of tender or return of documents.

The lowest or any tender not necessarily accepted.

R. D. WAUGH,
Chairman of Commissioners.

901 Boyd Building,
Winnipeg, Man., Can.,
4th November, 1916.

Bids open December 14, 1916.

IMPROVED WATER WORKS LOST CREEK RESERVOIR AND AUXILIARY PUMPING STATION

CONTRACT No. 3

LIMA, OHIO.

Sealed proposals will be received at the office of the Director of Public Service, City Hall, Lima, Ohio, until 12 o'clock noon, central standard time, on the fourteenth day of December, 1916, and then publicly opened and read, for the construction of improvements to the water works, Contract No. 3.

The work to be done under Contract No. 3 will consist of the construction of a large storage reservoir in Lost Creek Valley, concrete spillway, auxiliary pumping station, force main and all appurtenances.

The work will include the construction of dikes containing approximately 300,000 cu. yd. of earth work, the material for dikes to be secured from the excavation for a new creek channel and from borrow pits. The work also includes 40,000 sq. yd. of slope protection work, 2500 cu. yd. of concrete, 340 tons of cast-iron pipe, valves and two small brick buildings.

Copies of the plans, proposal forms, specifications and forms of bonds and contract can be seen at the office of the Director of Public Service, Lima, Ohio, or at the office of Engineering News and Engineering Record, New York, and Engineering and Contracting, Chicago, or may be obtained at the office of either of the consulting engineers, R. Winthrop Pratt, Hippodrome Building, Cleveland, Ohio, and Wm. G. Clark, Spitzer Building, Toledo, Ohio. A deposit of twenty-five ($25.00) dollars will be required for each set of plans and specifications, which sum will be refunded if plans are returned in good condition within ten (10) days after the award of the contract. Extra copies of the specifications may be obtained upon payment of two ($2.00) dollars for each copy, which sum will be refunded if returned copies are in good condition. All checks shall be made payable to the Director of Public Service of the City of Lima, Ohio.

The bid bond will be for ten (10) per cent of the amount of the proposal.

The performance bond will be for seventy-five (75) per cent of the amount of the contract.

The Director of Public Service reserves the right to reject any or all bids.

A. L. METHEANY,
Director of Public Service.

Bids open December 13, 1916.

PROPOSALS FOR SEWER

FARGO, N. D.

The City Auditor of the City of Fargo, N. D., will receive, until the hour of 10 o'clock a. m., the 13th day of December, 1916, sealed proposals, upon the basis of cash payment, for the furnishing of all materials for, and the construction of a 24-in., 22-in., 18-in. and 15-in. sewer on Tenth Avenue South extending from Sixth to Eleventh Streets South in Sewer District No. 3 of said city, according to the plans and specifications therefor on file in the office of the City Auditor.

The successful bidder will be required to begin the construction of said sewer not later than January 1, 1917, after signing contract, and to complete the same not later than April 1, 1917.

Each bid shall be accompanied by a certified check as required by law and in accordance with the specifications.

Each bid shall be securely sealed and shall have endorsed upon the outside thereof a statement of the work such proposal is for.

The City Commission reserves the right to reject any and all bids.

Dated, Fargo, N. D., November 23, 1916.

A. R. WATKINS,
City Auditor.

United States' Part in Reconstruction of Europe

Capital, Tools and Materials Will be Needed, Says Foreign Commerce Head—Result May Well Be to Continue High Prices Here for Construction Materials

THE RISING cost of construction materials has kept many owners in a state of uncertainty as to whether to build or wait, and has made it increasingly desirable for contractors to cover their material requirements fully in bidding on work. It is evident that as long as money continues to pour into the country because of our growing foreign trade balance, high price levels are more than likely to be maintained in most lines. On this basis, sound judgment would indicate that construction which is justifiable under present conditions should go forward, and that those who carry out this construction are safe in covering their material requirements with contracts. Even during recent months, however, the declaration of peace has begun to be discounted by cities and other owners who put off work in the belief that the end of the war will see a great reduction in prices. At the approach of peace—and with the announcement put forth by the German Government on Dec. 12 indications of it have become marked enough to be discounted by the stock market—contractors will be confronted with the question of whether it will be better to continue buying on long-term agreements or to live from hand to mouth so that any decline in the material markets can be taken advantage of at once. Any answer to these questions depends to a large extent on the value and character of our exports after the war. For example, should the volume of exports continue large, sustaining domestic activity, favoring residential building and making new lines of manufacture profitable, building would be active and common building materials could not be expected to drop greatly in price. On the other hand, even should our general foreign trade decline, if the foreign demand for motor trucks, machine tools, railway materials and steel products should continue to absorb our surplus steel output, no great drop in the price of structural materials could be expected.

The form our trade with Europe is expected to assume after the war has recently been outlined in an address before the Southern Commercial Congress by Dr. E. E. Pratt, head of the Bureau of Foreign and Domestic Commerce, which bureau doubtless has access to more complete and accurate information on European conditions than any agency in this country. Dr. Pratt foresees a great demand for American capital after the war. However, while capital from this country will be needed to restore industry in parts of Europe, no extension of credit which would shut down development in this country should occur, as our own production and transportation facilities must be kept up in order to assist in restoring normal conditions abroad. Russia, Belgium and France will require a great quantity of reconstruction and replacement of fixed capital actually destroyed by military operations. Railway equipment, iron and steel, machine tools, timber and raw materials, says Dr. Pratt, will be needed by these countries. All of the countries at war, especially the central powers, will need raw materials or products now shut off by blockade or imported in subnormal quantities by reason of necessary economies for the period of the war. Because of the loss of man power, which has heretofore been far cheaper in Europe than in this country, labor-saving machinery, in the development of which this country is pre-eminent, will undoubtedly be called for in large quantities. In short, products which this country alone can produce in quantity will be needed, and this country alone is likely to emerge with a surplus of capital to finance their sale.

Accepting these conclusions, it may be argued the lumber exports will increase after the war to to an extent which will make the prospect of a recession in lumber prices remote; that direct exports of steel, railway supplies, machine tools and steel products, and the continued demand for steel vessel construction in our own shipyards will prevent the likelihood of much lower prices for structural material and bars; that a continuation of large exports and imports will maintain a demand for water terminal and transportation construction; and that there is at least a probability of prolonged general activity which would work against great recession in the prices of any construction supplies.

Going further, it may be argued that contractors' equipment and supplies could not be purchased on much better terms after the war than now. Steel would be considered in the same position, as would cement, while lumber at present prices would be regarded as attractive. So also would glass, metal products and hardware. Local construction materials, however, such as brick, sand, stone and clay products, would vary with local activity. And it should always be borne in mind that, whatever the underlying conditions that will govern our markets as things settle down, public apprehension is liable to cause sudden declines if circumstances on the announcement of peace should cause widespread temporary distrust of the future. For this reason, contractors, like other business men, cannot lose by having eyes open and their affairs well in hand so that advantage can be taken of any conditions that may arise.

Buildings

Building work noted in this issue is summarized in the following table:

Contract awarded:	Kind	Cost
Philadelphia, Pa.	Hospital building	$198,000
Bid Desired:		
Los Angeles, Cal.	Hospital buildings	330,000
Proposed Work:		
Jersey City, N. J.	Freight terminal	10,000,000
Trenton, N. J.	Hotel	500,000
Trenton, N. J.	School building	250,000
Atlantic City, N. J.	Apartment house	300,000
Asbury Park, N. J.	High school	300,000
Chicago, Ill.	Club building	1,000,000
Grand Forks, N. D.	Packing plant	200,000
Fargo, N. D.	High school	000,000
Butte, Mont.	Y. M. C. A. building	200,000
Libby, Mont.	Ore mill	10,000,000
Seattle, Wash.	School buildings	875,000
Seattle, Wash.	Paint factory	250,000
Dallas, Tex.	Mercantile building	350,000
Ottawa, Ont.	City hall	300,000
Vancouver, B. C.	Shipbuilding plant	5,000,000

Roads and Paving

A contract has been awarded at $109,000 for constructing gravel roads at Monroe, La. Lisbon, Ohio, was unable to let the road work advertised for Dec. 4 and estimated to cost $149,000, no bids being received. It is reported that new bids will be asked. The State of Ohio will open bids Dec. 21 for highway construction estimated to cost $610,000. Road work throughout the country will receive an additional impetus of considerable proportions if the large number of bond issues coming up during the next month are voted and sold. A considerable number of such elections involving upward of $500,000 are noted in this issue. Other proposed work of some size noted is summarized in the following table:

	Kind	Cost
Ocean City, N. J.	Boulevard	$900,000
Penn Yan, Pa.	Highways	119,000
Bedford, Va.	Macadam	255,000
Youngstown, Ohio	Street widening	225,000
Centerville, Tenn.	Bonds sold	225,000
Arkansas	Highway	110,000
Louisiana	Good roads	5,000,000
Mackay, Idaho	Highways	200,000
The Dalles, Ore.	Highways	260,000
Bakersfield, Cal.	Bonds sold	500,000

Waterworks and Sewers

Bids are desired for the first actual construction work on the new $25,000,000 water supply for Providence, R. I. The work consists of a diversion channel to become part of the dam to be built at Scituate. Waterworks and sewer construction noted in this issue includes the following:

Contracts awarded:	Kind	Cost
Hagerstown, Md.	Sewer	$70,000
Knoxville, Tenn.	Pumps	87,000
Cleveland, Ohio	Filter basins	320,000
Ironton, Ohio	Waterworks (5 contracts)	375,000
Kansas City, Mo.	Sewer	86,000
Vancouver, B. C.	Disposal plant	98,000
Proposed Work:		
Bernardsville, N. J.	Sewer	80,000
Wooster, Ohio	Waterworks	80,000
Indianapolis, Ind.	Sewer	80,000
St. Louis, Mo.	Sewer	450,000
Astoria, Ore.	Waterworks	200,000
Spokane, Wash.	Sewer	150,000
Honolulu, T. H.	Waterworks	480,000
Hamilton, Ont.	Reservoir	600,000
Ford, Ont.	Sewer system	113,000
Vancouver, B. C.	Sewer	100,000

Miscellaneous Headings

The lowest bid received at Philadelphia for constructing the second section of the new subway in that city was $848,000. A dredging contract amounting to $718,000 has been awarded at the same city. The construction for the U. S. Government of an inland waterway from Norfolk to Beaufort Inlet, S. C., has been contracted for at $720,000. A drainage contract amounting to $218,000 has been awarded at Jacksonville, Fla. A reinforced-concrete bridge to cost $180,000 has been contracted for at Des Moines, Iowa. Oklahoma City has awarded a contract for constructing two dams and a waterworks system for which $1,500,000 is available. A contract for jetty work to cost $268,000 has been awarded at Sabine Pass, Tex. Railway construction to cost $150,000 has been contracted for at Three River, N. M. Bids will be received Dec. 22 for constructing a $175,000 reinforced-concrete bridge over the Des Moines River at Des Moines, Iowa.

The construction of a bridge to cost $200,000 is proposed at Watsontown, Pa. A railway extension near Tamaqua, Pa., to cost $250,000 has been surveyed. Railroad improvements valued at $750,000 are to be made at Roanoke, Va. A new $1,000,000 bridge across the gorge below Niagara Falls is proposed. It is reported that a $2,000,000 amusement park will be built at Cleveland. It is reported from Toledo, Ohio, that a proposed $4,000,000 railway extension in that state includes a bridge over the Ohio River. Chicago is considering the expenditure of $6,500,000 for bridge construction in the near future. A company at Oklahoma City contemplates constructing a $1,000,000 hydroelectric plant. Transmission lines, the construction of which is proposed at Yuma, Ariz., will cost $300,000. News of railway improvements, aggregating between $3,000,000 and $4,000,000, is reported from Portland, Ore. The electrification and extension of a railroad near Turlock, Cal., at a cost of $600,000, is under consideration. It is reported that the Southern Pacific Railroad contemplates building a $250,000 bulkhead at Oakland, Cal.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Providence, R. I.—City Council has adopted resolution of Water Supply Bd. condemning property in Scituate, Foster and Johnston for site of new $12,000,000 water supply. Land condemned includes not only that necessary for storage reservoir, but also that needed for aqueduct from reservoir to Pettaconsett, for 8 new highways to replace those which are to be abolished and new layout for Providence & Danielson Ry. In addition to passing condemnation resolution, City Council also approved Water Bd.'s plan for diverting north branch of Pawtuxet River, near Kent, on site of big dam. The river diversion project is first actual construction step which will be taken in development of new supply. The aqueduct and reservoir will cost $25,000,000.

Bayonne, N. J.—City Comrs. appointed Geo. A. Johnson as engr. to rearrange sewage system.

Bernardsville, N. J.—City with private citizens, including Richard V. Lindabury, considering constructing sewer; cost about $80,000.

Fort Hancock, N. J.—No bids were received Dec. 5 by U. S. Quartermaster's Dept. here for repairing 50,000-gal. water tank and tower.

Newark, N. J.—A supplemental contract has been sent by order of Passaic Valley Sewerage Comn. (J. H. Quigg, secy.) to 15 municipalities in trunk sewer project and to 5 additional municipalities that have made applications for entry; the latter municipalities, provided they sign with consent of those already in agreement, will bring to commission enough to enable resumption on idle construction section. Added communities are: Haldon, $32,109; Prospect Park, $17,015; Orange, $524,013; Bloomfield, $220,927, and Glen Ridge, $118,507. If East Orange enters it is said that this would practically complete needed funds on a cost estimate of $13,500,000 for the complete sewer.

Orange, N. J.—State Bd. Health recommends installing filtration plant at city reservoir, Milburn.

Skillman, N. J.—Legislature will be asked to appropriate $35,000 for additional water supply at State Village for Epileptics.

South Orange, N. J.—State Bd. Health considering plans submitted by township (F. O. Runyon, chmn. comn.) for installing sewage disposal plant at Milburn Union Twp.

Trenton, N. J.—City considering constructing sewage disposal plant on Hutonwood Island.

Franklin, Pa.—City Council authorized John McK. Snow, city engr., to prepare and submit plans for large trunk sewer to be constructed next summer.

Franklin, Pa.—All bids opened Dec. 2 by city at the office of Morris Knowles, C. E., 2541 Oliver Bldg., Pittsburgh, for reinforced concrete pump well, laying main and installing connections to existing wells, have been rejected, all being too high.

Pittsburgh, Pa.—An ordinance has been passed by Council authorizing construction of sewer in Oakdale St., with branch sewers on Roosevelt Ave., Woodsdale Way, Glenside and other streets; cost, $21,000. J. G. Armstrong, mayor.

Baltimore, Md.—Press reports state new water supply will be installed with improved sanitary arrangements at the Maryland House of Correction, Bridewell; cost, $40,000; most of the work will be done by prison labor under direction of Albert Morse, ch. engr., State Bd. Health.

New Iberia, La.—Sewer bonds for $90,000 will be sold Jan. 11 by Bd. Sewerage Comrs. of First Sewerage Dist. (Chas. N. Provost, secy.); certified check for $1,000 to accompany each bid. Xavier Kramer, Magnolia, Miss., engr.

Rogersville, Tenn.—City considering constructing waterworks plant; cost $25,000. J. N. Ambler, engr., Winston, N. C.; for details apply to T. J. Price, chmn.

Winchester, Ky.—Waterworks improvement bonds for $180,000 will be sold Jan. 5 by City Council.

Cleveland, O.—Ordinance has been passed by Council to proceed with construction of sewers and appurtenances in portions of Booth, Ella, Detroit, Folk Aves. and 158th, 160th and number of other streets. Alex. Bernstein, dir. pub. serv.

Dayton, O.—See "Foundation Piers and Dams."

Ravenna, O.—Director Pub. Service (S. B. Horsfall) writes bids may be called for in January for proposed waterworks improvements.

Sidney, O.—City about to let contract for sanitary sewer extension; cost about $20,000. C. B. De Weese, service dir., has plans on file.

Wooster, O.—City Council has adopted ordinance for sale of $80,000 bonds, to be used for constructing waterworks.

Brazil, Ind.—Reported city planning disposal plant. F. C. Wilson, city engr.

Indianapolis, Ind.—Local press reports state contract soon to be let for proposed 30th St. sewer from Hillside Ave. to School St.; cost, about $80,000. B. J. T. Jeup, city engr.

Lafayette, Ind.—Plans and specifications for sewer laterals ranging from main trunk line of Sixth Ward sewer have been approved by Bd. of Wks. H. C. Overesch, city engr.

Alma, Mich.—Citizens will vote on issuing $60,000 bonds for waterworks and new mains.

Buchanan, Mich.—John W. Toyne, engr., South Bend, Ind., has been engaged by village to prepare plans for a sanitary sewer system, complete with disposal plant. Election for this work will be held in March.

Racine, Wis.—Reported Street Comn. plans extending sewer system; cost about $45,000. P. H. Connolly, city engr.

Sioux City, Ia.—Reported city plans extending water mains and sewer system; cost about $45,000. P. Carlin, supt.

Duluth, Minn.—Reported city planning sewers in portions of Jefferson and Halifax Sts. A. Ayers, city engr.

St. Paul, Minn.—City Council considering constructing sewer in sandrock tunnel from Mississippi River to St. Anthony and University Aves., with numerous branches; same to be known as the Kittsondale Sewer System; cost $285,500.

Richmond, Mo.—Reported city plans extending water mains and installing filter plant; election in the spring for $20,000 bonds for above work.

Richmond, Mo.—City considering constructing water filter and extending mains, etc. Election to issue $20,000 bonds next spring.

St. Louis, Mo.—Construction of Winstanley sewer being considered; cost, about $450,000. E. E. Eversull, secy. Winstanley Improvement Assoc.

Ballinger, Tex.—Plans being prepared for extensive improvements and additional treatment of sewage; address Mayor.

Beggs, Okla.—City considering installing waterworks system to cost $40,000, and sewer system, $18,000. McIntosh Walton, engr., Oklahoma City; C. J. Brane, town clk.

Big Springs, Tex.—City considering constructing sewer system; work will be started about January, after which the city will take up street paving.

Checotah, Okla.—City Council considering constructing waterworks.

Crescent, Okla.—City considering constructing waterworks and sewer system.

Miami, Okla.—Waterworks and electric light bonds amounting to $25,000 reported sold by city.

Tahlequah, Okla.—City considering constructing waterworks; cost $30,000; election early in 1917. W. A. Thompson, city clk.

Wetumka, Okla.—Bonds reported sold by city for sewer system and waterworks improvements.

Camas, Wash.—L. B. Wickerson, engr., Chamber Commerce Bldg., Portland, has been selected to prepare plans and superintend construction of proposed waterworks; cost, about $50,000.

Ellensburg, Wash.—Ellensburg Gas & Water Co. (W. W. Seymour, pres.), Room 324 Tacoma Bldg., Tacoma, plan installing filtration plant for water supply system here.

Seattle, Wash.—Reports and estimates filed with Bd. Pub. Wks. by Engr. Dept. for sewers, sidewalks, grading, etc.; cost $14,561. A. H. Dimock, city engr.

L. B. Youngs, supt. water bd., recommended to Council the reconstruction of entire water supply in Ballard Dist. with the use of iron rather than wooden mains, also installing iron mains in portions of Kilbourne St.

Spokane, Wash.—Reported Pub. Wks. Dept. considering constructing trunk sewer of brick and concrete in downtown districts in the spring to replace Main Ave. trunk sewer; cost $150,000. Morton Maccartney, city engr.

Astoria, Ore.—Plans being prepared for constructing high service reservoir for water system, including tunnel from headworks, rebuilding 4 miles of steel conduit service lines; cost about $200,000. Olof Anderson, city aud.

Santa Ana, Cal.—Election may be called by city to vote $60,000 bonds for constructing outfall sewer to ocean, about 10 miles.

Santa Ana, Cal.—City considering constructing outfall sewer; cost about $60,000.

Salt Lake City, Utah.—Reported contracts soon will be let by City Comn. for outlet to sewer system; cost about $60,000.

Ford, Ont.—Reported Town planning sewer system; cost about $112,915. T. A. Murray, engr., 303 Lumsden Bldg., Toronto.

Hamilton, Ont.—Reported Council plans constructing 20,000,000-gal. reservoir; cost about $601,660. J. Bauer, supt.

Trail, B. C.—Reported city preparing to install sewer system covering the city.

Vancouver, B. C.—Reported city will let contracts for sewer in west end section; cost $100,000.

Honolulu, T. H.—Bd. Supervs. will be asked to issue $480,000 bonds to improve waterworks and sewer system for city.

BIDS DESIRED.

Providence, R. I.—See "Found Piers and Dams."

Erie, Pa.—Until Dec. 24 by Street Dir., Kinney, for constructing storm water sewer system to relieve Parade and Division Sts. subway; cost about $24,112.

Pittsburgh, Pa.—Until Dec. 19, at office of City Controller, Municipal Hall, for laying water pipe lines on Whitesides Rd., Grant Boule., Colescott St., and numerous other streets; bond of $2,500 to accompany bid; specifications obtained upon deposit of $5 at Dept. Pub. Wks.; Joseph G. Armstrong, mayor.

Baltimore, Md.—Reported desired until Dec. 27, by Jas. A. Wetmore, superv. archt., Treasury Dept., Washington, D. C., for constructing septic tank and iron drains at U. S. Immigration Station, Baltimore.

Roanoke, Va.—Reported desired until Dec. 26, by F. L. Gibboney, city engr., for constructing sewers; certified check for $100; bond for 50 per cent to accompany each bid; specifications may be obtained at office of engineer.

Independence, La.—Until Jan. 9, by city (W. H. Wilson, mayor) for constructing waterworks to include pumps, steel tower and tank, reservoir pumping station, fire hydrants, valves and water pipe; specifications may be obtained at office of mayor or X. A. Kramer consult. engr., Magnolia, Miss.

Cincinnati, O.—Until Dec. 21, by Chas. F. Hornberger, dir. pub. serv., City Hall, separate bids for improvement by constructing sewers on portions of Verne Ave., Schoedinger Ave. and Mason St.; plans and specifications may be obtained at office of Ch. Engr. Bond or certified check of $150 must accompany each proposal.

Cleveland, O.—Until Dec. 20 at office of comr. Purchases and Supplies, city hall, for valves for Dept. Public Utilities, Division of Water; specifications may be obtained from Comr. of Water, room 211, city hall.

St. Clair Heights, Mich.—Until Dec. 20, by village of St. Clair Heights (W. H. Chevalier, clk.) for furnishing and installing 100 fire hydrants, to be Detroit standard 6 and 8-in. plugs.

Berwyn, Ill.—Until Dec. 19, separate bids by Bd. Local Imp. (Oscar N. Lindahl, secy.) for constructing cast-iron water supply pipe in Riverside Parkway, W. 26th and other streets, cost $15,741; lead water service pipes in Elmwood Ave., cost $2,037; vitrified tile pipe sewer in W. 22nd St., Home Ave. and other street, $20,803; vitrified tile pipe house drains in Elmwood Ave., $1,314; plans and specifications may be obtained at office City Clerk or Alex. E. Nelson, city attorney, 1714 Tribune Bldg., Chicago, Ill.; certified check for 10 per cent to accompany each bid.

Dardanelle, Ark.—Until Dec. 19, by Bd. Comrs. Waterworks Imp. Dist. No. 3 (J. F. Stevenson, secy.) for rebuilding plant and additions; specifications at office of secretary or W. P. Halladay, McAlester, Okla. engr.

PRICES AND LETTINGS.

★Indicates award of contract.

Long Island City, N. Y.—Following are the lowest bids received Dec. 1 by Maurice E. Connolly, boro. pres., Queens Subway Bldg., 68 Hunters Point Ave., on following jobs: (a) Item 3, for constructing sewers and appurtenances in portions of Grand Ave., Butler and Curtis Sts.; (b) Item 7, portions of Robinson Ave., Narcissus St.; (c) Item 8, Forest Parkway, Ferry and Ashland Sts.; (d) Item 10, portions of Kimball Ave., Chestnut St., etc.; (e) Item 11, Maure and Jamaica Aves.; (f) Item 14, portions of Benedict Ave.; (g) Item 15, Hatch and Jamaica Aves.; (h) Item 16, portions of Jamaica Ave. E. W. Fitzpatrick, 128 Third Ave., Astoria, L. I., N. Y., (a) $23,766; Green Cont. Co., Flushing, L. I., (b) $11,958; J. H. Johnson, L. I. City, (c) $9,963; (d) $8,622; (f) $7,238; (g) $9,853; J. C. Schrade, 88 Newtown Ave., L. I. City, (e) $68,852; Peace Bros, 20 Main St., Flushing, L. I., N. Y., (h) $8,892.

★Sonyea, N Y.—Contract awarded by Percy L. Lang, pres. bd. mgrs., Craig Colony for Epileptics, for additions and alterations to water supply to Clarence A. Foote, Mt. Morris, N. Y., $20,683.

Bridgeton, N. J.—Following are lowest bids opened Dec. 5 by Pub. Wks. Dept. (C. E. Parson, engr.) for item (a) iron pipe: Central Foundry Co., 90 West St., New York, $20,398; item (b) valves; Rensselaer Valve Co., 50 Church St., New York, $1,113, and Eddy Valve Co., Waterford, N. Y., $1,113; item (c) hydrants; R. D. Wood & Co., 400 Chestnut St., Philadelphia, Pa., $1,186; item (d) pig lead; Nathan Trotter & Co., 36 N. Front St., Philadelphia, Pa., 7.85 cts. per lb.; item (e) coagulation basin; P. A. Hennessey, Haddonfield, N. J., $6,293. J. B. Jones, city clk.

★Philadelphia, Pa.—Contracts awarded Dec. 4 by City for constructing sewers as follows: 20th St. sewer to O'Neil Co., 7811 Germantown St., $11,000; Germantown Ave. to David McMahon Estate, Main & Chester Sts., $46,500; Susquehanna Ave. to D. J. Perna, $10,000; Torresdale Ave. to Robert Lombardi, 733 Fulton St., $12,700. Bidders all of Philadelphia.

★Hagerstown, Md.—Contract awarded by City Sewerage Comn. for sewer work to Thos. Connor & Sons, Greensburg, Pa., $70,860.

★Washington, D. C.—Contract awarded, Nov. 27, by Olive P. Newman, secy. bd. pub. wks., to Cranford Paving Co., for restoring street railway tracks to grade on 1st St. east from B St., south to B St. north, at actual cost of labor and material, plus 38 per cent.

★Knoxville, Tenn.—Contract awarded by City Comn. (J. W. Flenniken, Comr.) to Hoover Owens, Rentschler Co., Hamilton, O., for horizontal pump; cost, $87,000.

★Canton, O.—Contract awarded by Dept. Pub. Serv. for 1005 ft. 12- and 24-in. vitr. sewer pipe, manholes, catch basins in 2d St., to Wise Bros., at $21,076.

★Shaker Heights (P. O. Cleveland, O.).—Contract awarded by Carl A. Palmer, village clk., to S. A. Haddad Co., Cleveland, at $40,000, for constructing 6 and 8-in. water mains, sanitary sewers, grading, curbing, paving with brick and laying sidewalks on portions of N. Moreland Blvd., Warwick, Kemper and Fairmount Roads.

★Troy, O.—Contract awarded by L. A. Pool, supt. water wks. (bids opened Dec. 6), to Pittsburgh Meter Co., Pittsburgh, for 1000 water meters, at $9.40 for ⅝-in. meters.

Long Island City, N. Y.—Following are unit figures of bids opened Dec. 1 by Maurice E. Connolly, Pres. Queens Boro., 68 Hunters Point Ave., for Item No. 4, sewer and appurtenances in portions of Nott Ave., First Ward: (a) Alfred Decker, 7805 Ridge Boule., Brooklyn, N. Y., $44,318; (b) Peace Bros., 20 Main St., Flushing, L. I., $72,805.

	(a)	(b)
143 lin. ft. 5 ft. 6 in. wood stave pipe sewer	$30.00	$60.00
168 lin. ft. 5 ft. 6 in. reinforced concrete sewer on crib	33.00	35.00
782 lin. ft. 5 ft. 6 in. reinforced concrete sewer on piles	24.00	35.00
147 lin. ft. 5 ft. 6 in. reinforced concrete sewer	23.00	35.00
4 manholes, complete	50.00	100.00
1 junction chamber at Vernon Ave. and Nott Ave., complete	350.00	2,000.00
1 junction chamber at Hancock St. and Nott Ave., complete	350.00	2,000.00
1 cleaning shaft, complete	150.00	2,000.00
50 six-inch spurs, 24 ft. long, on concrete sewer	.50	1.00
1 basin manhole, complete	50.00	200.00
3 inlets, complete	50.00	50.00
70 lin. ft. 12-in. vitri. pipe for basin connections	2.00	5.00
30 lin. ft. 10-in. vitri. pipe for basin connections	1.50	2.00
60 lin. ft. 6-in vitri. pipe for house connections	.50	2.00
13,000 lin. ft. of piles	.50	1.00
37,000 ft. Bd. measure timber for foundation	45.00	100.00
10,000 ft. Bd. measure timber for bracing and sheet piling	45.00	....
50 cu. yd. rock, excavated and removed	10.00	....
1,000 lb. structural steel, including bolts, nuts, spikes and washers, exclusive of structural steel shown on plan	.07	....
100 lb. reinforcement steel, exclusive of steel shown on plan	.06	....
200 cu. yd. Class "A" concrete, exclusive of concrete shown on plan	8.00	9.00

Long Island City, L. I., N. Y.—Following are detail figures of 4 lowest bids received Dec. 1 by Maurice E. Connolly, Pres. Queens Boro., L. I. City, for Item 5, constructing sewer and appurtenances in portions of Hull Ave., Willow Ave., Hamilton Pl., Grand St., Second Ward: (a) Ajax Drainage Cont. Co., Times Bldg., New York City, $70,335; (b) Peace Bros., 20 Main St., Flushing, L. I., $81,389; (c) Richard Carvel, 408 Jackson Ave., Maspeth, L. I., $86,711; (d) Lupfer & Remick, Buffalo, $112,753.

	(a)	(b)	(c)	(d)
974 lin. ft. 6-ft. 0-in. reinforced concrete sewer	$15.00	$19.00	$19.00	$18.84
525 lin. ft. 5-ft. 6-in. reinforced concrete sewer	11.00	14.00	16.00	17.73
686 lin. ft. 5-ft. 0-in. reinforced concrete sewer	11.26	12.00	14.66	17.07
245 lin. ft. 3-ft. 9-in. plain concrete sewer	8.53	9.50	8.55	12.37
265 lin. ft. 3-ft. 6-in. plain concrete sewer	9.53	10.00	9.30	13.50
380 lin. ft. 3-ft. 3-in. plain concrete sewer	8.00	9.00	9.00	15.66
1,250 lin. ft. 3-ft. 0-in. plain concrete sewer	6.92	7.00	9.00	11.44
1,050 lin. ft. 2-ft. 6-in. plain concrete sewer	7.08	8.00	9.00	13.95
49 lin. ft. 24-in. vitr. pipe sewer	10.00	6.00	4.00	8.28
296 lin. ft. 22-in. vitr. pipe sewer	4.23	5.50	4.00	9.35
380 lin. ft. 18-in. vitr. pipe sewer	3.52	5.00	3.50	8.60
57 lin. ft. 12-in. vitr. pipe sewer	6.00	3.00	1.90	6.68
39 manholes, complete	65.00	60.00	60.00	105.00
1 cleaning shaft, complete	150.00	200.00	100.00	322.00
23 basin manholes (New type), complete	79.00	125.00	75.00	105.00
35 inlets (New type), complete	35.00	40.00	30.00	52.50
575 lin. ft. 12-in. vitr. pipe for basin connections	1.25	1.50	1.50	1.58
510 lin. ft. 10-in. vitr. pipe for basin connections	1.00	1.50	1.50	1.31
272 6-in. spurs, 24-in. long, on concrete sewers	0.50	0.50	1.00	0.73
13 6-in. spurs on 22-in. vitr. pipe sewers	4.20	3.00	4.00	3.15
24 6-in. spurs on 18-in. vitr. pipe sewers	4.50	3.00	3.00	2.10
36 lin. ft. risers	2.00	1.00	1.00	0.90
2,674 lin. ft. 6-in. vitr. pipe for house connection drains	1.25	0.75	1.50	1.05
5,000 lin. ft. piles	0.01	...	0.01	0.53
15,000 ft. bd. measure foundation timber	30.00	...	0.01	63.70
2,000 lb. structural steel, includ. bolts, nuts and washers	0.06	...	0.04	0.08
2,000 ft. bd. measure timber for sheeting and bracing	30.00	...	35.00	55.00
25 cu. yd. Class "A" concrete, not shown on plan	7.00	...	11.00	8.40
1,000 lb. reinforcing steel, not shown on plan	0.06	...	0.04	0.055
6,000 cu. yd. fill for sewer embankment	0.10	0.50	0.50	0.65
1,500 lin. ft. wooden fence	0.50	0.50	0.40	0.37
1 junction chamber at Willow Ave. and Hull Ave. (South)	332.74	400.00	500.00	507.00
1 junction chamber at Willow Ave. and Hull Ave. (North)	302.00	400.00	400.00	507.00
1 junction chamber at Willow Ave. and Jay Ave.	228.00	400.00	400.00	410.00
1 junction chamber at Willow Ave. and Maspeth Ave.	322.00	400.00	300.00	507.00
1 drop chamber at Hull Ave. and Remsen Pl.	253.69	400.00	200.00	378.00
1 junction chamber at Hull Ave. and Hamilton Pl.	325.00	400.00	300.00	445.00
1 junction chamber at Hamilton Pl. and Grand St.	335.00	400.00	200.00	410.00
1 junction chamber at Grand St., near Willow Ave.	238.20	400.00	300.00	410.00
60 lin. ft. 24-in. corrugated culvert pipe	5.00	3.00	2.50	4.50

★**Cleveland, Ohio**—Following are unit figures of bids opend Dec. 6 by Comr. Purchases and Supplies for repair of filter basins at Filtration Plant: (a) John F. Casey, Oliver Bldg., Pittsburgh, Pa., awarded contract at $328,317; (b) F. W. Marks Constr. Co., Leader-News Bldg., Cleveland, $331,708; Masters & Mullen, Electric Bldg., Cleveland, $330,457.

	(a)			(b)			(c)		
	Material	Labor	Total	Material	Labor	Total	Material	Labor	Total
400 cu. yd. general excavation	$0.50	$1.50	$800.00	....	$1.00	$400.00	$1.725	$1.725	$690.00
10,800 cu. yd. excavation for top-fill and embankment	0.25	0.75	10,800.00	....	1.00	10,800.00	0.95	0.95	10,260.00
2,800 ton mi. rolling top-fill and embankment	0.05	0.05	280.00	....	0.70	1,960.00	0.305	0.305	854.00
450 cu. yd. removal of concrete	2.00	4.00	2,700.00	....	11.25	5,062.50	22.00	22.00	9,900.00
27,000 bbls. Portland cement	0.20	1.50	45,900.00	$2.00	....	54,000.00	2.25	2.25	60,750.00
6,150 cu. yd. concrete in floor	3.00	4.00	43,050.00	5.90	3.00	54,735.00	5.98	5.98	36,777.00
5,780 cu. yd. concrete in roof	3.00	3.00	34,680.00	3.90	4.00	45,662.00	5.92	5.92	34,217.60
4,320 cu. yd. concrete in side and division walls	4.00	7.00	47,520.00	7.90	4.00	51,408.00	12.20	12.20	52,704.00
1,190 cu. yd. concrete in column jackets	5.00	10.00	17,850.00	8.90	4.00	15,351.00	22.40	22.40	26,656.00
380 cu. yd. concrete in reinforced conduits	5.00	10.00	5,700.00	8.90	4.00	4,902.00	16.65	16.65	6,327.00
140 cu. yd. all other concrete	5.00	10.00	2,100.00	8.65	4.00	1,771.00	14.65	14.65	2,051.00
1,840,000 lb. steel reinforcement	0.04	0.02	10,400.00	0.03	0.01½	78,200.00	0.046	0.046	84,640.00
37,100 lb. special metal work	0.10	0.05	5,565.00	0.05	0.02	2,597.00	0.09¼	0.09¼	3,431.75
32,400 lb. bituminous filling	0.02	0.01	972.00	0.05	0.10	4,860.00	0.037	0.037	1,198.80

(a) Time for first basin, 136 days; second, 228 days; penalty, $500 a day for average of 182 days would be $91,000, making the bid, including the time basis, $419,317.

(b) Time for the first basin, 90 days; second, 130 days; penalty at $500 a day for average of 110 days would be $55,000, making the bid with time estimated at $386,708.

(c) Time for first basin, 160 days; second, 280 days; penalty at $500 a day for average of 220 days would be $110,000, making the bid with time estimated at $440,457.

★**Ironton, O.**—The Supreme Court has approved $375,000 waterworks bonds and improvements will begin at once. J. F. Witmer Co., engrs., Buffalo, N. Y.; A. J. Hannan, mayor.

Contracts have been awarded for five divisions of work, as follows:

Div. 1, brick pumping station, pump well, intake and tunnel for electric equipment, to Disiderio & Sattler, Rochester, N. Y., at $65,000.

Div. 2, force and supply mains, to Scherer, Mountain & Grimes, of Ironton and Portsmouth, at $65,500.

Div. 3, concrete reservoir, 4,000,000 gal. capacity, to Merydith Constr. Co., Marietta.

Div. 4, filtration plant, to New York Continental Jewell Filtration Co., 15 Broad St., New York, at $103,357.

Div. 5, pumping machinery, to Epping-Carpenter Pump Co., Pittsburgh, Pa., at $39,758.

★**Cuba, Wis.**—Contract awarded for sewer system to E. H. Hardin, Racine, Wis., at $25,000.

★**Fayette, Ia.**—Contract awarded (bids opened Nov. 28) for constructing sewers to Comstock & Hanson, Cedar Rapids, at $18,211, and for disposal plant to O. G. Kringle, Cedar Rapids, at $3,650. S. H. Bishop, engr., Oelwein.

★**Eveleth, Minn.**—Contract awarded Dec. 5 for 14,000 lin. ft. 16 c. i. water main to Lawrence McCann Co., Pierce St., at $89,400. C. H. Williams, city clk.

★**Winthrop, Minn.**—Contract awarded for waterworks and sewerage system, 75,000-gal. tank, tower and pump house, to Gaylord Hardware Co., Winthrop.

★**Kansas City, Mo.**—Contract awarded by Bd. Pub. Wks. to W. C. Mullins, 1230 Montgall St., for cement sewer in 33rd and Elmwood Ave., at $86,000.

★**Walnut Ridge, Ark.**—Contract awarded by city to Morango & Burkham, Syndicate Trust Bldg., St. Louis, Mo., for constructing water and sewer system, at $80,000. Hiram Phillips, engr., International Life Bldg., St. Louis, Mo.

★**Hamilton, Tex.**—Contract awarded by city for waterworks system to W. E. Henderson, Sweetwater, at $31,400.

★**Quanah, Tex.**—Contract awarded by City for constructing sewer system and disposal plant to Winslett Eldridge, Dallas, at $24,358. R. H. Spiller, city engr.

★**Oklahoma City., Okla.** — Contract awarded by city to Ambursen Constr. Co., 61 Bway., New York, for constructing two Ambursen dams, flood control works, emergency dam, brick and steel gate houses, feed control system, 500 ft. reinforced concrete conduit, etc. City recently sold $1,500,000 bonds for new waterworks system which includes above work. Guy V. McClure, city engr.

Whittier, Cal.—Lowest bid opened Dec. 5 by City Trustees for furnishing water pipe was from National C. I. Pipe Co. (Blair & Co., agts., Sheldon Bldg., San Francisco), as follows: 2624 ft. 10-in., 2656 ft. 8-in., 1568 ft. 6-in. class "B" c. i. pipe at $45.10 per ton; 4964 ft. 4-in class "B" c. i. pipe, $48.10 per ton, and c. i. pipe fittings at $72.60 per ton.

★**Ogden, Utah.**—Contract awarded (bids opened Dec. 5) by city to Reed & Gibbons, Salt Lake City, Utah, for storm sewer, monolithic construction, at $23,607. J. M. Tracy, city engr.

★**Sherbrooke, Que.**—Contract awarded by Council to Canadian Fairbanks-Morse Co., 84 St. Antoine St., Montreal, at $21,000, for waterworks pump and turbine.

★**London, Ont.**—Contract awarded by City for 10-in. sanitary sewers to Goodman McCallum & Judge, 643 William St., London, at $17,000.

★**Vancouver, B. C.**—Contract awarded by Council to H. Peterson, Clark St., for disposal plant, at $98,000.

Panama.—Following are lowest bids opened Dec. 4 by General Purchasing Officer, Panama Canal, Washington, D. C., for (a) 2500 ft. 30-in., and (b) 2500 ft. 36-in. vitri. sewer pipe: L. W. May, (a) $2.8665, (b) $4.41; Wm. Messler Co., (a) $3.11, (b) $4.49; American Sewer Pipe Co., 15 Broad St., Akron, O., (a) $3.85, (b) $5.75; W. S. Dicky Clay Mfg. Co., 200 N. Y. Life Bldg., Kansas City, Mo., (a) $3.90, (b) $5.08.

STRUCTURAL STEEL WORK

PROPOSED WORK.

Providence, R. I.—Common Council has under consideration construction of bridge over river at Market and Postoffice Squares, Washington Row, and Canal St.; estimated cost, $50,000. M. H. Bronsdon, city engr.

Little Falls, N. Y.—City Council has received report of Walter C. Hemingway of American Bridge Co., 30 Church St., New York City, which states that to repair Ann St. bridge will cost $12,000, to construct new steel bridge with wood block pavement $21,000, and reinforced concrete bridge $26,000.

Niagara Falls, N. Y.—Ontario & Niagara Connecting Bridge Co., care Dudley & Gray, Niagara Falls, intends constructing $1,000,000 reinforced concrete and steel bridge over Niagara River, 3 miles from here, for steam and electric railroads, vehicles and pedestrians.

Rochester, N. Y.—Bd. Supervs. have appropriated $55,000 additonal, recommended by J. Y. McClintock, co. engr., for alteration in foundation plans of Stetson St. bridge that it may rest on rock foundations.

Baden, Pa.—Estimated cost of proposed bridge from here to Aliquippa or Ambridge placed at $1,000,000. Address Co. Clk., Beaver.

Birdsboro, Pa.—County has under consideration construction of new canal bridge in Robeson township, near here. Address Co. Clk., Reading.

Mont Clare, Pa.—Contract will probably be let in January for $15,000 canal bridge to be constructed here. Roy A. Hatfield, comr., Norristown, Pa.

Oil City, Pa.—Pennsylvania RR. (Alex. C. Shand, ch. engr., Broad St., Philadelphia, Pa.) intends constructing $2,300,000 steel and concrete bridge over Allegheny River in conjunction with elimination of grade crossings in Oil City by elevation of tracks. Bridge will require 3000 tons of steel and 50,000 cu. yd. of concrete.

Pennsylvania.—State Water Supply Comn. approved following applications for constructing bridges:

Adams County (Gettysburg, co. seat), over Bermudian Creek in Huntingdon township.

Chester County (West Chester, co. seat), over Stoney Run in East Vincent township.

Columbia County (Bloomsburg, co. seat), over Little Briar Creek on Benton Road, in Briar Creek township.

Fayette County (Uniontown, co. seat), over Galley Run, double 17-ft. span bridge, near Broadford, in Upper Tyrons and in Connellsville townships. Over Georges Creek, 20-ft. double arch bridge, near Smithfield, in Georges township. Over stream 1 mile s.w. of McClure, 20-ft. I-beam span bridge, in Bullskin township.

Northhampton County (Easton, co. seat), over Poke Valley Creek, near Hellertown Boro, in Lower Saucon township.

Cambria & Indiana RR. (E. S. Jencks, ch. engr., Ebensburg, Pa.), (a) over and to make change in channel of Williams Run, near point where it enters into Blacklick Creek, Cambria township, (b) over Evans Run, near where Ebensburg and Nant-y-Glo roads cross said run, Blacklick township, Cambria County.

Reading, Pa.—Pennsylvania RR. (Alex. C. Shand, ch. engr., Broad St., Philadelphia) intends constructing in spring $150,000 bridge over Schuylkill River.

Tuckerton, Pa.—Reading Ry. (S. T. Wagner, ch. engr., Philadelphia) will eliminate grade crossing here by bridging tracks.

Watsontown, Pa.—Cost of constructing proposed $200,000 bridge over Susquehanna River here will be borne by Northumberland and Union Counties. Address Co. Engr., Mt. Carmel.

Baltimore, Md.—City officials and Baltimore & Ohio RR. (R. N. Begien, ch. engr., Baltimore and Charles Sts., Baltimore) and Western Maryland RR. (H. R. Pratt, ch. engr., Continental Bldg., Baltimore) have under consideration constructing Hanover St. over B. & O. tracks at Winder St. and over W. M. tracks at Donaldson St. by 2 viaducts with fill between. Baltimore & Ohio RR. also has under consideration eliminating all other grade crossings on Hanover St.

Washington, D. C.—Appropriation of $6,000 has been made to secure plans for constructing bridge over Rock Creek at Calvert St. Daniel E. Garges, ch. clk., engr. dept., Comrs. Dist. Columbia.

Rustburg, Va.—Plans being prepared by G. P. Coleman, state highway engr., Richmond, for 2 steel span bridges with reinforced concrete abutments, in Deneca district of county. J. T. McKinney, chmn. co. bridge comrs., Rustburg.

West Palm Beach, Fla.—See "Paving and Roads."

Akron, O.—Tentative plan of Wilbur J. Watson Co., engrs., Leader-News Bldg., Cleveland, O., and Edw. W. Paul, surv., Akron, on possible cost of constructing North Hill viaduct, including land required for right-of-way, has been submitted to Co. Comrs. U. G. High, clk.

Canton, O.—Cost of constructing 80-ft. span over creek, which is part of proposed $70,000 viaduct, 1077 ft. long, to be constructed by Wheeling & Lake Erie RR. (W. H. Rohbock, ch. engr., Electric Bldg., Cleveland, O.) to eliminate 3 grade crossings, will be borne by county.

Columbus, O.—Bonds of $750,000 for reconstructing bridges and their approaches over Scioto River at Broad and Mound Sts. and Clickmanger road, swept away by 1913 flood, can be issued by Co. Comrs. without popular sanction. When channels of Scioto and Olentangy rivers are widened, other bridges will have to be reconstructed at estimated cost of $1,250,000. Address Co. Clk.

Cost to reconstruct Town St. bridge will be borne by city of Columbus. H. Maetzel, city engr.

Lima, O.—Cost to construct $90,000 viaduct over Lake Erie & Western RR. (J. K. Conner, ch. engr., La Salle St. Station, Indianapolis, Ind.) tracks on Wapakoneta road, will be borne as follows: City, $15,750; county, $15,750; RR. $68,500.

Toledo, O.—Chesapeake & Ohio RR. (F. I. Cabell, ch, engr., Richmond, Va.) intends constructing bridge over Ohio River on $4,000,000 extension to Toledo coal docks from Portsmith, Ky.

Chicago, Ill.—Bd. Pub. Wks. has under consideration expenditure of $6,500,000 for construction of bridges in immediate future. John Ericson, city engr.

Grand Rapids, Wis.—County intends constructing $60,000 bridge over Wisconsin River during 1917.

Milwaukee, Wis.—Plans being prepared by Alfred Class, engr., 520 Colby-Abbott Bldg., for steel and reinforced concrete bridge, 200 ft. long by 80 ft. wide, with 200-ft. approaches.

Marshalltown, Ia.—County sold $50,000 bridge bonds.

St. Paul, Minn.—Plans being prepared by Chicago & Great Western RR. (W. K. Calvin, asst. engr., Commerce Bldg., St. Paul) to repair bridge over tracks by reinforcing floor beams, stringers, and columns.

Webb City, Mo.—Cities of Webb City and Carterville considering constructing of 2100-ft. long steel or concrete bridge between cities. L. E. Briggs, city, engr., Webb City.

Kansas City, Mo.—City officials of Kansas City, Mo., and Kansas City, Kan., and officials of following railroads considering reconstruction of Seventh St. viaduct over tracks, also reconstructing James St. viaduct: Kansas City Rys. Co. (J. M. Eagan, pres., 1500 Grand Ave., Kansas City, Mo.), Kansas City Terminal Co. (J. V. Hanna, ch. engr., Kansas City, Mo.), Union Pacific RR. (R. L. Huntley, ch. engr., Omaha, Neb.), Chicago, Rock Island & Pacific RR. (C. A. Morse, ch. engr., Chicago, Ill.), Missouri Pacific RR. (E. A. Hadley, ch. engr., St. Louis, Mo.) will bear expense of Seventh Ave. viaduct.

Balling, Tex.—County has under consideration construction of concrete causeway over Colorado River.

Nowata, Okla.—County intends constructing number of bridges in county during 1917; bonds have been sold.

Toledo, Wash.—Surveys being made by R. M. Gillis, state highway engr., Olympia, for proposed bridge over Cowlitz River.

San Francisco, Cal.—Wm. Hood, ch. engr., Southern Pacific RR., Flood Bldg., estimates cost of converting present railroad trestle over lower bay between Dumbarton Point and Alameda County, into highway bridge, at $105,000 without and $200,000 with roadway. Harlan D. Miller, Oakland, estimates cost of constructing new bridge at $600,000, half of which Federal Government would be asked to pay.

Challis, Idaho—Bridge bonds for $100,000 will be sold Jan. 1 by Co. Comrs. (Jonathan Job, chmn.). E. J. Michael, clk.

Middleton Township, Ont.—Plans being prepared by Guy R. Marston, Simcoe, Ont., for $15,000 steel and concrete bridge to be constructed here.

Prince George, B. C.—Provincial Pub. Wks. Dept. estimate cost of constructing proposed bridge over Fraser River at $150,000.

BIDS DESIRED.

Albany, N. Y.—Until Dec. 27, by W. W. Wotherspoon, supt. pub. wks., for contract No. 145, Erie Canal, Sec. 2, raising bridge across Mohawk River at Schenectady, N. Y.; cost, about $5,092; advertised in this issue.

Huntington, W. Va.—Reported desired until Jan. 4 by Cabel Co. Court, for constructing superstructure of Four Pole Bridge; cost about $50,000. Oliver and Maupin, Huntington, co. engrs.

Flomaton, Ala.—Reported desired until Dec. 22, by Co. Clk., for constructing 400-ft. steel or concrete bridge across Big Escambia Creek.

Ashland, O.—Until Jan. 5, by Bd. Co. Comrs. (Geo. Brubaker, clk.), for construction and permanent replacement of following bridges: Hostetler Bridge in Mifflin Twp., consisting of 156-ft. solid riveted truss, 18-ft. roadway, wood block floor; Keever Bridge in Milton Twp., consisting of 40-ft. solid riveted Warren truss, 16-ft. roadway, with concrete floor; draft or certified check of $100 payable at sight to H. C. Westover, co. aud., to accompany bid.

Stanton, Neb.—Reported desired until Dec. 20, by W. F. Fullner, clk., for constructing bridges during 1917; cash or certified check for $500 to accompany bid; bond for $1,000.

Fargo, N. D.—Reported desired until Dec. 20 by Andrew Blewett, co. aud., for constructing one steel pile bridge with steel joists, 32-ft. span, across Beaver Creek, 2 miles west of Montpelier; one steel pile bridge with wood cover, 20-ft. span, Twp. 137; pile approaches to bridge across James River, 4 miles northeast of Pingree at head of Jim Lake, and pile approaches to bridge across James River on county line at north end of Arrowwood Lake.

Jamestown, N. D. — Reported desired until Dec. 20, for constructing 1 steel pile bridge, steel joists, 32-ft. span across Beaver Creek; 1 steel pile bridge with wood cover, 20-ft. span; pile approaches to bridge across James River on co. line. Andrew Blewett, co. aud.

Mt. Ida, Ark.—Reported desired until Dec. 29, at public outcry, by Bridge Comrs., for constructing 4 steel bridges, to be built in Montgomery Co.; length 140 to 220-ft. spans. J. B. Kelly, co. judge, Ogden, Ark.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Boston, Mass.**—Contract awarded by Boston & Albany RR. (W. Shepard, engr., South Station, Boston) to Straus Bascule Bridge Co., 104 Michigan Ave., Chicago, Ill., for drawbridge over Chelsea Creek, East Boston; contracts for abutments will be let in spring.

Cape May, N. J.—Lowest bid received by Bd. Freeholders for constructing bridge over Corson's Inlet was from Joseph G. Champion, 5135 Knox St., Philadelphia, at $127,393.

★**Philadelphia, Pa.**—Contracts awarded by Bureau Highways (W. H. Connell, chief) to M. & J. B. McHugh, 892 N. Markoe St., at $21,421, and to American Pipe & Constr. Co., 211 S. 9th St., at $28,221, for repairing bridges; bids opened Oct. 28.

★**Chillicothe, O.**—Contracts awarded by Baltimore & Ohio RR. (R. N. Begein, ch. engr., Baltimore, Md.) for constructing steel bridge on concrete foundations, as follows: To Fort Pitt Bridge Co., House Bldg., Pittsburgh, Pa., for superstructure; to Sheosley & Janey Constr. Co., Johnstown, Pa., for substructure.

★**Shoals, Ind.**—Contract awarded by County to Vincennes Bridge Co., Vincennes, Ind., for constructing three steel bridges.

★**Flint, Mich.**—Contract awarded by city (bids opened Dec. 1) to McClinton-Marshall Co., Pittsburgh, Pa., for 185½ tons structural steel for subway beneath Marquette RR. tracks in north end of city. Ezra C. Shoecraft, city engr.

Hobart, Okla.—Contract awarded by county to Oklahoma Bridge Co., 515 Patterson Bldg., Oklahoma City, for constructing 33 bridges and culverts.

★**Seattle, Wash.**—Contract awarded by Bd. Pub. Wks. to Swenson & Co., Arcade Bldg., Seattle, at $10,855, for constructing concrete and steel approach to Fremont Ave. bridge on north side of Lake Washington Canal and to Minneapolis Steel & Machinery Co., Plymouth Bldg., Minneapolis, Minn., at $15,563, for constructing steel portion of bridge.

REINFORCED CONCRETE

PROPOSED WORK.

Jamestown, N. Y.—Bd. Estimate and Review has recommended that $70,000 bonds be issued to construct 2 new concrete or concrete and steel bridges, one at Sprague St., 85 ft. long by 50 ft. wide, estimated cost $24,000; other at Harrison St., 87 x 50 ft., $25,000; to lay 8-in. sewer pipe in portions of 3 streets, $8,500; to erect nurses' home, $15,000.

Oil City, Pa.—See "Structural Steel."

Pennsylvania.—State Water Supply Comn., Harrisburg, approved following applications of Pennsylvania RR. (Alex. C. Shand, ch. engr., Broad St., Philadelphia, Pa.), lessee of Western New York and Pennsylvania Ry., to construct two 30-ft. span concrete slab bridges, (a) over Dawson Run in Harmony township, Forest County, (b) over Stewart Creek in President township, Venango County.

Philadelphia, Pa.—Ferguson Carpet Co., Wayne & P. & R. Ry., will erect 1-story concrete 65 x 281-ft. factory at Wayne Junction.

Wilkesbarre, Pa.—City intends constructing concrete retaining walls and concrete and steel bridges at Franklin, Regent and Waller Sts. B. K. Finch, city engr.

Grafton, W. Va.—Contracts will soon be let by county for constructing 8 concrete bridges, located as follows: Over White Day Creek, near Wm. Corrother's residence; over Wickwire Creek, near Haymond Church; over same creek, near Dick Woods' residence; over Tucker Run, near Wm. Tucker's residence; over Plum Run, near Mahaffrey's place; over Glady Creek, near Lough's residence; over Swamp Run, near Walter Rogers' residence, and near John Ross' residence.

Birmingham, Ala.—Contract will soon be awarded by city and Birmingham Ry., Light & Power Co. (Lee C. Bradley, gen. mgr., 2100 1st Ave.) for constructing $160,000 reinforced concrete viaduct at 21st St.; railroad will pay 80 per cent of cost. Julian Kendrick, city engr.

Cleveland, O.—Reported A. E. Koblitz, 1333 E. Blvd., will erect 4-story, 100 x 200 ft., brick and concrete store and apartment bldg. at 3224 Prospect Ave.; cost, $95,000.

Miamisburg, O.—Plans are being prepared by Victor Smith, engr., Dayton, O., for constructing reinforced concrete bridge over Great Miami River. Walter A. Aszling, co. clk., Dayton.

Richmond, Ind.—County Comrs. appropriated $185,000 to construct concrete bridge over Whitewater River, also $180,000 for one at Main St.

Pontiac, Ill.—Contract will probably be let in February for construction of reinforced concrete bridge with three 90-ft. spans, 42 ft. wide, over Vermillion River; estimated cost, $90,000. R. W. Osborne, supt. highways.

Des Moines, Ia.—Contracts will shortly be let for constructing new bridge at Court Ave. Marsh Engr. Co., engrs., Masonic Temple, Des Moines.

Ballinger, Tex.—Comrs. Court intend constructing concrete viaduct over Colorado River.

Gallup, N. M.—Plans have been prepared for erecting concrete and brick passenger station, freight depot, dining room and hotel bldg., and employee's clubhouse; cost about $150,000, for Atchison, Topeka & Santa Fe Railway (G. W. Harris, chief engr).

Dallas, Tex.—Plans for constructing two concrete bridges over Turtle Creek, one at Lemmon Ave. other at Fairmount St., will shortly be made by city because of changes in grade of Missouri, Kansas & Texas RR. Otto H. Lang, acting mayor.

Seattle, Wash.—A. J. Capron, Ainsworth Bldg., Portland, representative of Gohee Mfg. Co., Canton, O., reports 4-acre site of S. Waterway has been obtained by his company for erecting $250,000 paint factory, to include four main plant buildings of concrete and separate office structure. Work to begin Jan. 1.

Salem, Ore.—Polk Co. has appropriated $41,271 as its share to construct reinforced concrete bridge between here and Marion Co. Address Asa Robinson, Jr., co. clk., Dallas, Ore.

Colusa, Cal.—County intends constructing concrete bridge at Rocky Point. R. Rahm, supv. Also concrete bridge near Kilgore Place. C. J. Westcott, supv.

Los Angeles, Cal.—Hugh Bryson, with F. O. Engstrum Co., contractors, 5th and Seaton Sts., plan erecting 200-room concrete apartment house in Wilshire Dist.

Plans being prepared by J. M. Cooper and Douglas Lee, archts., 635 Marsh-Strong Bldg., for erecting 8-story and basement 200-room, 103 x 75-ft., reinforced concrete hotel on 6th St. near Flower St., for John M. Cooper.

Plans were prepared by W. J. Dodd and William Richards, archts. and engrs., 609 Brockman Bldg., for erecting 10-story and basement reinforced concrete, 146 x 40-ft. department store at Grand Ave. and 7th St. for New York Store. J. J. Haggerty, mgr., 303 Fifth Ave., New York City.

London, Ont.—Plans being prepared by Tromanhauser & Sons, Temple Bldg., Toronto, for erecting mills and grain elevator, reinforced concrete, cost $125,000, for Hunt Brothers Flour Milling Co., Talbot St.

BIDS DESIRED.

Grafton, W. Va.—Until Dec. 22, at office of C. T. Bartlett, clk. co. court, for erecting 9 bridges of reinforced concrete arch, with handrails not less than 3 ft. high, with capacity 150 lb. per sq. ft.; length of spans ranging from 10 to 60 ft.; certified check for 10 per cent. of bid; bond for double sum to be furnished on award of contract.

Carroll, Ia.—Reported desired until Dec. 28, by Bd. Educ. (W. R. Smith, secy.), for constructing 2-story and basement brick, reinforced concrete fireproof building; separate bids for heating and plumbing; cost, about $100,000; certified check for $1,000, $500 for heating, and $200 for plumbing. C. A. Dieman & Co., Cedar Rapids, archts.

Des Moines, Ia.—Reported desired until Dec. 22, by city (Horace Susong, clk.) for constructing reinforced concrete bridge over Des Moines River on Court Ave.; cost, about $175,000. Marsh Eng. Co., engrs.

San Rafael, Cal.—Until Dec. 22, by E. W. Smith, city. clk., for erecting 2-story reinforced concrete fire-department bldg.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Rahway, N. J.**—Contract awarded Turner Constr. Co., 11 Bway., New York, for erecting first three structures of new plant, to consist of six reinforced concrete buildings, at Passaic Ave., Kearney Meadows, Kearney. Egyptian Lacquer Co., owners.

★**Annapolis, Md.**—Contract awarded by Bureau Supplies and Accounts, Navy Dept., Washington, D. C., to Dorsey & Miller Co., 205 Corcoran Bldg., Washington, D. C., at $68,219, for reinforced concrete seawall anchored to wood piles at U. S. Naval Academy. (Bids opened Nov. 27.)

★**Cleveland, O.**—Contract awarded by Terminal Building Co., 613 Marion Bldg., to R. C. Clark, Chicago, for erecting 4-story brick and concrete 80 x 132-ft. warehouse at 2436 Ontario St.; cost $155,000.

★**Des Moines, Ia.**—Contract awarded by city (bids opened Nov. 29) to James Horrabin, Iowa City, Ia., at $180,000, for constructing reinforced concrete bridge over Des Moines River at Grand Ave. Horace Susong, clk.; D. E. Thomas, asst. city engr.

★**Beaumont, Tex.**—Contract awarded by E. L. Wilson Hardware Co. to J. S. Meriweather, local contractor, for erecting 2-story reinforced concrete brick and fireproof warehouse. Babib & Beck, archts., Beaumont; cost, about $70,000.

★**Pawhuska, Okla.**—Contract awarded by city (bids opened Dec. 4) to Western Bridge Co., Harrisonville, Mo., at $32,600, for constructing 510 ft. long reinforced concrete bridge over Bird Creek. Other bidders: Omaha Structural Steel Works, Omaha, Neb., $33,466; Sell & Koller, Pana, Ill., $34,800; Plummer Adams Co., Springfield, Mo., $38,000. J. M. Buckley, city engr. and street comr.

Portland, Ore.—Bids opened Dec. 6 by the city and the Oregon-Washington RR. & Navigation Co. (R. L. Huntley, ch. engr., 15th and Dodge Sts., Omaha, Neb.) for constructing 8 reinforced concrete viaducts on East Side, to eliminate grade crossings, as follows: Porter Bros., Ry. Exchange Bldg., Portland, $542,800; Pearson Constr. Co., Times Square, Seattle, Wash., $561,282; Warren Constr. Co., Journal Bldg., Portland, $575,379; Grant Smith & Co., Portland, $576,413.

Los Angeles, Cal.—Contract will be let early in new year by Frank L. Stiff, archt., 1102 Van Nuys Bldg., for erecting 10-story and basement 80 x 154-ft. reinforced concrete loft building on Los Angeles St., between 7th and 8th Sts., for M. J. Connell.

★Contract awarded Leonard & Peck, H. W. Hellman Bldg., for erecting 5-story and basement, 75 x 140 ft., reinforced concrete and brick store and loft building at Hewitt and Traction Sts., for Joannes Bros. Tea & Coffee Co.; cost, about $75,000. John Parkinson, archt., Title Insurance Bldg.

★**Santa Barbara, Cal.**—Contract awarded A. H. Avery, Santa Barbara, at about $60,000, for erecting 2 and 3-story reinforced concrete school building, for Prince Hopkins of Boyland private school. J. Corbley Pool, archt., Santa Barbara.

ROADS AND PAVING

PROPOSED WORK.

East Rochester, N. Y.—Plans being prepared by R. E. Gaskin, Triangle Bldg., Rochester, N. Y., for paving various streets in village; estimated cost, $20,000. Max Danras, clk.

Gowanda, N. Y.—Village intends paving 3d St. with concrete from proceeds of $14,000 bond sale. Franklin J. Herzog, village clk.

Hinsdale, N. Y.—Town has under consideration $14,000 road and bridge work.

New York, N. Y.—Special Com. (Jefferson de Mont Thompson, chmn.) care Borough Pres. Marcus M. Marks, investigating advisability of paving Broadway from Vesey to 23d Sts., about 2 miles, with asphalt or granite blocks.

Penn Yan, N. Y.—County Bd. Supervs. intend improving following highways: Penn Yan-Potter Center, 10 miles, estimated cost $100,000; Penn Yan-Willow Grove, on east side of Lake Keuka, 2.7 miles, $15,000; Italy Hollow-Naples, $4,000.

Burlington, N. J.—Township intends issuing $10,000 road improvement bonds. Samuel M. Ridgeway, clk.

Collingswood, N. J.—Boro. intends spending $140,000 on street repairs.

Hackensack, N. J.—Bd. Freeholders sold $608,000 road improvement bonds.

Jersey City, N. J.—Bd. Blvd. Comrs. (Edw. Cahill, pres.) rejected all bids received Aug. 2 for paving with Warrenite and Uvalde, Boulevard from Newark Ave. to Central RR. tracks; also for construction of bridge. Thos. J. Wasser, co. engr.

Millburn, N. J.—Township (Milton R. Silance, clk.) intends improving portions of Hobart, Highland and Prospect Aves. and 7 other streets.

Newark, N. J.—See "Foundations, Piers and Dams."

Ocean City, N. J.—Bd. Freeholders intend constructing $917,000 boule. and numerous bridges on this road from here to Cape May, through Avalon and Wildwood Crest.

West Orange, N. J.—Town (Geo. W. Foster, clk.) intends grading, paving with asphalt macadam, laying concrete curbs and gutters on portions of Oxford Terrace and Orange Heights, Tremont and Gregory Aves.

Wildwood, N. J.—Contracts will soon be let for constructing concrete curbs and gutters in number of streets; estimated cost, $20,000. J. E. Whitesell, city clk.

Beaver, Pa.—County considering improving 14 miles of desert road on Lincoln Highway from here to Smith's Ferry at approximately $300,000, or $12,000 per mile.

Conemaugh, Pa.—Plans being prepared by O. P. Thomas, engr., Leader Bldg., Johnstown, Pa., for grading and paving various streets in township; estimated cost, $50,000. John Heldig, superv.

Philadelphia, Pa.—Bd. Pub. Wks. (Geo. E. Datesman, dir.) intends laying out parkways, parking places and business avenues in southwest Philadelphia, about 5000 acres. Penrose Ave., main highway, will be 248 ft. wide; primary streets, such as Woodland and Eastwick Aves., will be 80 ft. wide; Essington, 148 ft.; Passyunk Ave., 120 ft.; Pennypacker Ave., 108 ft.

Pittsburgh, Pa.—City intends grading, paving and curbing portion of South Side Ave., at estimated cost of $19,000. Jos. G. Armstrong, mayor.

Scranton, Pa.—Dept. Pub. Wks. contemplates grading, curbing and paving with sheet asphalt and stone block on concrete base Columbia and Delaware Sts. and Irving Ave.; estimated cost, $54,589. E. Kelly, city clk.

Bedford, Va.—Plans being prepared by G. P. Coleman, state highway engr., Richmond, for macadamizing roads in Central and Forest districts of county; estimated cost, $225,000. S. F. Patterson, chmn. road com., Bedford.

Franklin, Va.—City intends issuing $40,000 road improvement bonds. Address W. O. Bristow, Municipal Bldg.

Richmond, Va.—Estimated cost of grading, graveling, curbing and guttering Roseneath Road from Broad St. to Grove Ave. placed at $29,871, by Chas. E. Bolling, city engr.

Salem, Va.—Election Jan. 16 in Cave Spring Magisterial Dist. to vote $125,000 bonds to construct 16 miles of road.

Burgaw, N. C.—Contracts will probably be awarded in January for constructing 50 miles of roads; $30,000 available. Address N. H. Lockhart, Rocky Point, N. C.

Kingston, N. C.—Petition being circulated in county to call election in February to vote $250,000 good road bonds.

Florida.—At least $10,000,000 more road bonds will be sold by State Highway Comn., Tallahassee, during next 2 years.

Key West, Fla.—Election will shortly be called by Bd. Comrs. to vote bonds for completing Cape Sable highway and constructing additional roads.

Portage, Fla.—Contract will be awarded in February by city for 40,000 sq. yd. paving with brick, concrete, asphaltic concrete or bitulithic, and 23,000 lin. ft. concrete curb and gutters. H. V. Tennant, city engr.

West Palm Beach, Fla.—Road bonds for $80,000 will be sold Dec. 19, by Palm Beach County (George O. Butler, clk.); certified check of 2 per cent to accompany each bid.

Bessemer, Ala.—Paving of 16 blocks on 19th St. being considered by city.

Mobile, Ala.—County sold $100,000 road bonds recently voted.

Wylam, Ala.—County intends readvertising plans for construction of 15-mile road, 35 ft. wide, with 30-ft. embankment, extending from here to Warrior River near mouth of Deer Creek or Fish Trap branch. Geo. H. C. Clark, co. engr., Birmingham, Ala.

Colfax, La.—Election Jan. 2, 1917, to vote $300,000 good road bonds; address Secy. Police Jury.

★**Kansas City, Mo.**—Following are unit figures of four lowest bids opened by Bd. Park Comrs. for constructing reinforced concrete bridge over Blue River in Swope Park at Seventy-first Street: (a) Horton Concrete Constr. Co., Reliance Bldg., Kansas City, $144,943 (awarded contract); (b) Concrete Constr. Co., Empire Bldg., Pittsburgh, Pa., $149,423; (c) List-Gifford Constr. Co., N. Y. Life Bldg., Kansas City, $149,533; (d) Winston Bros. Co., Globe Bldg., Minneapolis, Minn., $150,211:

	*(a)	(b)	(c)	(d)
1,270 cu. yd. concrete in slabs, curbs and fascia guards	$9.40	$11.00	$13.42	$12.00
840 cu. yd. concrete in cross guards, cross beams and spandrel guards	9.40	11.00	13.42	15.20
180 cu. yd. concrete in spandrel colums	9.40	11.00	13.42	11.90
680 cu. yd. concrete in arch ribs	9.40	11.00	15.42	11.50
1,420 cu. yd. concrete in piers above plinths	9.40	10.00	8.92	8.00
2,900 cu. yd. concrete in piers below plinths	9.40	9.60	7.15	6.60
960 cu. yd. concrete in pier bases	9.40	9.50	6.90	6.50
730 cu. yd. concrete in abutments	9.40	10.00	9.42	9.65
100 cu. yd. concrete in end monuments	9.40	12.00	16.00	12.75
1,370 lin. ft. concrete handrails	1.50	3.00	2.75	1.55
370,000 lb. reinforcing metal ¾ in. or over	0.045	0.045	0.0425	0.044
260,000 lb. reinforcing metal under ¾ in.	0.0475	0.0475	0.044	0.046
2,200 lb. lead sheet for expansion joints	0.10	0.12	0.10	0.15
7,000 lb. wrought-iron drainage pipes	0.05	0.06	0.05	0.075
3,000 lb. cast-iron inlet drops	0.05	0.05	0.05	0.05
18,000 lb. expansion plates, name plates, etc	0.10	0.08	0.07	0.063
16 lamp posts	15.00	25.00	60.00	30.00
1,430 lin. ft. pipe conduits	0.20	0.25	0.40	0.26
1,430 lin. ft. cables for lighting systems	0.20	0.25	0.40	0.16
3,110 sq. yd. creosoted wood block paving	2.00	2.50	2.50	2.80
1,250 sq. yd. macadam paving on approaches	1.00	1.25	1.50	1.80
560 lin. ft. concrete curb on approaches	0.40	0.40	0.40	0.45
3,920 cu. yd. dry excavation for pier bases	2.00	1.25	1.90	3.25
1,840 cu. yd. wet excavation for pier bases	4.00	1.75	2.75	3.70
650 cu. yd. excavation for abutments	2.00	1.25	1.10	2.00
4,000 cu. yd. earth embankment	0.25	0.50	0.30	0.26
Removal of debris, etc	10.00	100.00	500.00	500.00

Crowley, La.—Election Dec. 30 to vote $400,000 good-road bonds and $100,000 drainage bonds; address Secy. Police Jury.

Kinder, La.—Special election will shortly be held in Road Dist. No. 2 to vote upon $750,000 bonds for constructing roads and bridges. C. Lindsay, secy. police jury.

Louisiana.—Legislative Comn., Baton Rouge (J. Wallace Alexander, chmn., Rapides, La.) will spend $5,000,000 on good roads between now and opening of general assembly in 1918.

New Augusta, Miss.—Bd. Supervs. sold $200,000 road bonds which will be used in conjunction with federal aid to construct 4 county roads, 2 extending north and south, and 2 east and west.

Port Gibson, Miss.—Town intends paving various streets with concrete; estimated cost, $20,000.

Waynesboro, Miss.—Bd. Supervs. sold $25,000 good road bonds.

Centreville, Tenn.—County sold $225,000 road bonds.

Knoxville, Tenn.—City intends selling $28,669 road improvement bonds to pay cost of paving in Dists. 123—4-5-6. R. P. Williams, city clk.

Mountain View, Tenn.—Election will be held in spring to vote bonds for macadamizing and guttering all streets in city. Contracts will shortly be let for grading and macadamizing Bernon Ave. and Park Row; surveys are being made to pave Taine St. and River Road. H. H. Satery, mayor.

Hazard, Ky.—City intends spending $50,000 for laying curbs, gutters and sidewalks in various streets.

Jenkins, Ky.—Contract will soon be let by City for improving various streets; estimated cost $40,000.

Pineville, Ky.—Contracts will be awarded in spring for grading and surfacing with water-bound macadam 30 miles of State Aid roads. S. M. Bryant, co. road engr.

Prestonsburg, Ky.—Contracts will be let in January for improving various streets for which bonds have been voted; estimated cost $35,000.

Williamsburg, Ky.—Co. Comrs. sold $100,000 road bonds.

Cleveland, O.—Surveys being made along Euclid Creek and Rocky River for proposed county boulevard; probable length, 15 miles. W. M. Freer, landscape archt.

Columbus, O.—Election in January to vote $400,000 street improvement bonds; some of streets to be improved are 3d, 4th, Main and Broad Sts. F. W. Hawkins, city clk.

Defiance, O.—City intends issuing $64,000 bonds to resurface portions 3rd, Jackson, Juliet and 1st Sts.

East Palestine, O.—Road improvement bonds for $42,585 will be sold Dec. 20 by Co. Comrs., for improvement of E. Palestine-New Waterford road, distance about 3 miles, to cost about $27,785, and $14,800 worth of bonds to be issued for E. Palestine-Negley road, about one-half length of former.

Lisbon, O.—Road improvement bonds for $10,800 will be sold Dec. 20 by Bd. Co. Comrs. (H. R. Dickey, clk.).

No bids were received by Bd. Co. Comrs. Dec. 4 for paving 6 miles with brick and 1 mile with concrete on Lincoln Way Road in Madison Twp.; estimated cost, $149,000; new bids will be asked.

Marysville, O.—County sold $29,000 road bonds.

Middletown, O.—City (John Kunz, clk.) intends paving with one-course reinforced concrete Park Drive from 3d St. to Middletown Hospital and laying tile storm and sanitary sewer in 3d St. from Highland Ave. to Park Drive.

Woodsfield, O.—Village intends grading, sewering, curbing and paving with vitrified brick portions of Home Ave. Geo. P. Dort, clk.

Youngstown, O.—City Council voted to widen West Federal St. from Spring Common to Deibel's Corner at estimated cost of $225,000. Frank M. Lillie, city engr.

South Bend, Ind.—Contracts will soon be let by Park Bd. for paving boule. system between Howard and Leeper Parks.

Detroit, Mich.—Bd. Supervs. appropriated $200,000 in addition to automobile tax of $300,000 for road work. Edw. N. Hines, comr. estimates direct tax of ¼ mill will raise $177,000 extra.

Jackson, Mich.—City Comn. (C. H. Vedder, clk.) intends paving and repairing total of 31,758 lin. ft. of streets in 1917 at estimated cost of $277,797; some of which are Washington, 4860 lin. ft.; Page, 5950 lin. ft.; Lansing, 3200 lin. ft. A. W. D. Hall, city engr.

Grand Haven, Mich.—Bd. Supervs. appropriated $91,400 for county road work.

Michigan.—Following is tentative plan of Frank F. Rogers, state highway comn., Lansing, for distribution of federal road funds among counties: Dickerson (Iron Mountain, co. seat), 80 miles; Alger (Munising, co. seat), 76 miles; Baraga (L'Anse, co. seat), 75 miles; Chippewa (Sault Ste. Marie, co. seat), 128 miles; Delta (Escanaba, co. seat), 100 miles; Gogebic (Bessemer, co. seat), 93 miles; Houghton (Houghton, co. seat), 87 miles; Iron (Crystal Falls, co. seat), 101 miles; Keeweenaw (Eagle River, co. seat; Carl G. Smith, engr.), 47 miles; Luce (Newberry, co. seat), 77 miles; Mackinac (St. Ignace, co. seat), 89 miles; Marquette (Marquette, co. seat), 150 miles; Menominee (Menominee, co. seat), 87 miles; Ontonagon (Ontonagon, co. seat), 111 miles; Schoolcraft (Manistique, co. seat), 102 miles.

Clinton, Ind.—Contracts will soon be let for paving with brick 6851 sq. yd. and laying 4761 lin. ft. concrete curb and gutters. W. Lemoa, city engr.

Waseca, Mich.—County plans to construct 100 miles of concrete roads to link highways of adjoining counties.

Bloomington, Ill.—Bd. Supervs. favor submitting to voters $1,400,000 bond issue to pave 234 miles of roads with brick or concrete, and will soon let contracts for improving road from Tazewell Co. line to Cropsey. County has $97,000, including $24,196 State Aid, with which to hard-surface roads in spring.

Chicago, Ill.—Plans have been prepared by G. Quinlan, co. engr., County Bldg., for paving 8 miles of 95th St. with concrete.

Grayville, Ill.—Plans have been completed for paving 3 miles of streets. Paul R. Blood, pub. engr.

Joliet, Ill.—County will raise $100,000 in addition to regular road and bridge taxes.

Kankakee, Ill.—Election Jan. 14 for $750,000 county road bonds.

La Salle, Ill.—City intends paving Grove Coeur St. and portions of 11th St. and Bucklin Ave.; estimated cost, $55,466. E. J. Byrne, city engr.

Mt. Carmel, Ill.—Survey of state-aid road being made. Bd. Supervs. have appropriated $23,000 towards constructing same. E. F. Motsinger, co. supt. highways.

Streator, Ill.—Contract will soon be let by city for paving with brick 16,200 sq. yd. on Bronson St.

Woodstock, Ill.—Contracts will probably be awarded in March by Bd. Local Improvement for paving with concrete Calhoun, South, Lawrence and other streets; also for 20,000 lin. ft. curbing; estimated cost $50,000. Hugh M. Price, engr., 8 S. Dearborn St., Chicago.

Appleton, Wis.—Entire bond issue apportionments of villages of Greenville and Hortonville and large part of bond issue apportionment of city of Appleton will be used to construct concrete highway from here through these villages to New London. Address Co. Clk., Appleton.

Chilton, Wis.—Election will shortly be held to vote $500,000 for constructing concrete roads. Jacob Roell, city clk.

Dodgeville, Wis.—Bridge and Road Com. recommends that $14,336 be spent on roads and $12,935 on bridges during 1917.

Rhinelander, Wis.—County will have approximately $43,000 available for road work during 1917. John Verage, co. aud.

Ft. Dodge, Ia.—County will have $75,000, including federal aid fund, providing campaign to raise $25,000 is successful, for road work.

Griswold, Ia.—City considering paving whole length of Main St.

Washington, Ia.—City intends repaving 20 blocks with brick and Tarvia. S. J. Kellogg, clk.

Long Prairie, Minn.—County intends spending $25,000 on roads during 1917. E. M. Berg, co. aud.

Mankato, Minn.—County will spend $100,000 for road work during 1917.

City intends grading and graveling portions of May, Lewis, Mulberry and 7 other streets. Address City Clk., 211 S. Front St.

St. Paul, Minn.—City considering paving portions of Fairfield Ave. (estimated cost, $18,773, or $7.81 per sq. ft.); Randolph St. ($65,019, or $5 per sq. ft.); East Maryland St. ($81,240, or $5.58 per sq. ft.); Jessie St. ($31,409); Sheridan Ave. $6,280).

Wadena, Minn.—County considering constructing highways with $25,000 federal aid. Eugene Boss, co. aud.

Winona, Minn.—Contracts will shortly be let for paving 10 blocks; during 1917 30 additional blocks will be paved. W. Werner, purchasing agent.

Grafton, N. D.—County will construct 4 highways with federal aid; $14,000 county funds available. W. C. Treumann, co. aud.

Nebraska City, Neb.—Plans are being prepared by C. A. Shannon, city engr., for paving number of streets; contracts will probably be awarded after Jan. 1.

Salem, Mo.—Road bonds for $160,000 will be sold Jan. 1. Jas. H. McDonald, clk. co. bd.

St. Louis, Mo.—Estimated cost of opening and widening 12th St. placed at $161,000; city's share will be $35,000.

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The Best Contracting News Service

Arkansas.—Plans have been completed by State Highway Comn., Little Rock., for constructing 19-mile road from Conway to Faulkner County line, through Beryl and Vilona; estimated cost $110,-371 or $5,855 per mile.

Helena, Ark.—County considering constructing concrete road from here to Marvell.

Little Rock, Ark.—There are still 245 miles of roads to be improved in county. C. G. Doyle, co. engr.

Big Springs, Tex.—See "Water and Sewerage Systems."

Bonham, Tex.—Road improvement bonds for $195,000 approved by attorney general, Austin, as follows: Road Dist. No. 3, $135,000; Dist. No. 12, $35,000; Dist. No. 14, $25,000. S. F. Leslie, co. judge.

Canyon, Tex.—Election will shortly be held in county to vote $100,000 road bonds.

Dallas, Tex.—City intends paving portions of Carroll, Maple, Fitzhugh and two other streets, partly with bitulithic and vibrolithic.

Denton, Tex.—Contracts will shortly be let for paving with asphalt macadam 15,000 sq. yd. of paving. J. S. Neibert, city engr.

El Paso, Tex.—Election Dec. 19 to vote $40,000 paving bonds. Geo. Espy, city engr.

Galveston, Tex.—Contracts will soon be awarded by County (John M. Murch, aud.) for 48,700 sq. yd. asphalt paving and for labor only on 2300 sq. yd. brick paving. Contractor may furnish his own specifications and submit alternate bid on whole job.

Hereford, Tex.—City considering paving 12 blocks in business dist. in spring. Wm. M. Knight, mayor.

McKinney, Tex.—City intends paving 1½ miles of streets in new paving dist. and all alleys on each side of this dist. Chas. Schmultz, city engr.

Mt. Vernon, Tex.—Dist. No. 1 road improvement bonds for $75,000 approved by attorney general, Austin; address County Judge.

San Angelo, Tex.—City considering issuing $25,000 bonds to repave with wood block number of streets. Geo. J. Bird, mayor.

San Antonio, Tex.—Property owners along 2 miles of Jones Ave. intend having street improved by paying portion of cost. O. O. Luter, secy. Jones Ave. Imp. Com.

San Marcos, Tex.—Election Jan. 6 in Buda Precinct No. 6 to vote $75,000 good-road bonds; address co. clk.

Snyder, Tex.—City intends paving Public Square and principal streets.

Anadaiko, Okla.—Election will soon be held to vote bonds for constructing 11 miles hard-surfaced roads. Address Co. Clk.

Arapaho, Okla.—Election Jan. 15 in county to vote $300,000 bonds to construct 109 miles of road as part of State Highway and Ozark Trail systems.

Clinton, Okla.—Election Jan. 15 to vote $800,000 good road bonds. Address Clerk, Custer Co.

Holdenville, Okla.—Wetumka Township sold $50,000 good road bonds and $33,000 bridge bonds; address Co. Clk.

McAlester, Okla.—Election will shortly be held to vote $600,000 good road and bridge bonds; address Co. Clk.

Muskogee, Okla.—City has under consideration $60,000 bond issue for resurfacing downtown streets.

Oklahoma City, Okla.—Good road bond issue of $1,000,000 under consideration. Address Co. Clk.

Tahlequah, Okla.—Election will shortly be held to vote $50,000 good road bonds and $50,000 bridge bonds; address Co. Clk.

Tulsa, Okla.—City intends paving, draining, laying gutters, etc., on portions of several streets. J. H. Simmons, mayor.

Waurika, Okla.—Election Dec. 27 in Wray Twp. to vote $25,000 good road bonds. Address Co. Clk.

Woodward, Okla.—Liberty Twp. voted $20,000 road improvement bonds. Address Co. Clk.

Boulder, Col.—City intends spending about $65,000 to pave portions of Pearl, 12th and three other streets (15 blocks in all) with concrete and laying 7800 lin. ft. of 8-in. x 24-in. concrete curbs and gutters; also 116,000 sq. ft. concrete sidewalks, 5200 sq. ft. reinforced concrete sidewalks and 2800 sq. yd. vitrified brick paving along car tracks; bids will probably be advertised in March. Geo. R. Joslyn, city engr.

Bellingham, Wash.—City considering paving Cornwall Ave., 42 ft. wide, from Champion to Kentucky Sts., and 31 ft. wide from Kentucky to North Sts. Wm. N. North, city engr.

Spokane, Wash.—Contracts for about 23 miles of asphaltic concrete or macadam highways will be let in 8 or 9 sects. Chas. A. McClung, ch. deputy co. engr.

Seattle, Wash.—Park Bd. (Roland Cotterill, secy.) and city of Seattle will grade and pave 1½ miles of Cheasty Boule.

City intends reconstructing sewers and water mains, paving with asphalt on concrete foundations and laying curbs on portion of Bailey St. A. H. Dimock, city engr.

Astoria, Ore.—City Road Dist. appropriated $17,000 to grade and pave road leading from city around Smith's Point.

Eugene, Ore.—Federal Forestry Service (B. F. Finch, Sr., highway engr.) intends spending $10,000 to improve McKenzie Pass Road.

Hillsboro, Ore.—Total of $55,000 voted by 30 county road dists. for work during 1917. Edw. C. Luce, clk.

Lakeview, Ore.—County budget for 1917 calls for $30,000 for bridges and roads. F. W. Payne, clk.

Roseburg, Ore.—County budget calls for $15,642 for road work in 1917. E. H.

The Dalles, Ore.—County Court Advisory Bd. has appointed J. A. Elliott, Rowena, Ore., engr., to prepare plans for proposed 1917 road work; $260,000 bonds for which will shortly be sold.

Tillmook, Ore.—County budget for road and bridge work during 1917 amounts to $170,000. J. C. Holden, clk.

Bakersfield, Cal.—County sold $500,000 bonds, the remaining portion of $2,500,000 county highway bond issue.

Contracts will soon be let for paving portions of 23rd and Sumner Sts., with asphalt 1½ in. thick, on concrete base; also constructing concrete curbs and culverts and cement sidewalks. R. G. Balhach, city clk.

Baltimore, Cal.—After Jan. 2 Harbor Bd. contemplates paving, repaving and resurfacing sects. of 3d, Woodall, Clement and Clemm Sts. and Key Highway; after Feb. 15 sects. of 45 other streets will be paved or repaved. Address Paving Comn., 214 E. Lexington St.

Burlingame, Cal.—Contract will soon be let by Bd. Supervs. for macadamizing portions of number of roads in First Twp. Lennox, clk.

Hanford, Cal.—City intends paving with asphaltic concrete 1½ in. thick on hydraulic cement concrete base, 4 in. thick, and constructing curbs on portions of Harris, Park, Ivy and 7 other streets; also constructing reinforced concrete storm sewer in portions of Pouty, Ivy, Bush and other streets. D. C. Williams, city clk.

Manhattan, Cal.—Contract will soon be let by Bd. Supervs. (A. M. McPherrin, clk.), Los Angeles, for paving with bituminous on 5-in. concrete, 20 ft. wide, also constructing corrugated iron culverts, guard fences, etc., on Coast Boule., The Strand and Highland Ave.

Martinez, Cal.—Plans being prepared by Ralph Arnold, co. surv., for constructing chains of concrete highways throughout county.

Mackay, Idaho.—County has $200,000 for road work, one-half of which was recently voted, other half is federal aid.

Lacolle, Que.—Contracts will be let in spring by Provincial Dept. Pub. Wks. for constructing highway between here and Knowlton. M. Larivière, engr., Quebec.

Toronto, Ont.—Toronto Hydro-Electric System (F. A. Gaby, ch. engr.) intends improving streets on which its poles are situated, at estimated cost of $25,000

BIDS DESIRED.

Freehold, N. J.—Until Jan. 10 by Bd. Freeholders for building 2-mile section of Keyport-Red Bank Road with Warrenite and for improving ½-mile section of Brighton Ave., Long Branch, with amiesite, and for building Cox's Corner—New Canton Road, 3 miles, with gravel.

Stone Harbor, N. J.—Until Dec. 18 by Borough Council (Leo F. McCraven, clk.) for constructing sidewalks on eight streets.

Baltimore, Md.—Until Dec. 20 by Bd. of Awards, care of Richard Gwinn, city register, City Hall, for constructing cement footways in various parts of city; certified check for $100 must accompany each bid.

Roanoke, Va.—Reported desired until Dec. 28, by F. L. Gibboney, city engr., for constructing 5-ft. granolithic sidewalks and concrete culverts; specifications may be obtained at office of engineer; certified check of 50 per cent to accompany bid: M. D. Moss, asst. city clk.

Lexington, Miss.—Reported desired until Jan. 1, by J. H. Fuqua, clk. Co. Highway Comrs., 5th Road Dist., Holmes Co., for constructing Tchula-Cruger highway, about 19½ miles long; specifications at office pres. Highway Comn., Lexington, or at office L. Cully, engr., Jackson, Miss.

Hazard, Ky.—Until Dec. 22 by city, for paving Lower Main St.; estimated cost $30,000. Address the Mayor.

Cleveland, O.—Grade-crossing bonds (4½ per cent.) for $600,000 will be sold Jan. 8, at office of C. J. Neal, dir. finance, City Hall. B. H. Dayton, city treasurer.

Matamoras, O.—Reported desired until Dec. 23, by D. R. Bradfield, village clk., for paving, curbing, curbs, catch basins and other improvements for various streets; specifications may be obtained at office of clerk; certified check for $100 to accompany bid. C. L. Heddleston, mayor.

Ohio.—Until Dec. 21, by Clinton Cowen, state highway comr., Columbus, for constructing following roads, bridges and culverts:

Brown Co., Sect. B, Ripley-Hillsboro Road, Jackson Twp., with waterbound macadam and providing necessary drainage structures; length 5.49 miles; width, pavement 14 ft., roadway 20 ft.; estimated cost $25,331.

Butler Co., Sect. A, Carthage-Hamilton Road, Fairfield Twp., length 5.97 miles, width, pavement 16 ft., roadway 26 ft.; estimated cost: waterbound macadam $54,360, reinforced concrete $91,374, bituminous concrete $91,374, monolithic brick $119,414, sheet asphalt $116,610, bituminous concrete $99,786, bituminous macadam $77,353.

Butler Co., Sect. I, Hamilton-Middletown Road, length 3.18 miles; width, pavement 16 ft., roadway 26 ft.; estimated cost: waterbound macadam $36,359, reinforced concrete, $54,840, bituminous concrete $46,202, monolithic brick $69,744, sheet asphalt $68,253, bituminous concrete $59,311, bituminous macadam $47,388.

Butler Co., Sect. J, Hamilton-Middletown Road, Lemon Twp., length 3.54 miles; width, pavement 16 ft., roadway 26 ft.; cost: waterbound macadam $37,563, reinforced concrete $58,201, bituminous concrete $59,865, monolithic brick $74,173, sheet asphalt $78,173, bituminous concrete wearing surface $63,194, waterbound macadam with bituminous top $49,879.

Butler Co., Sect. C, Hamilton-Scipio Road, Ross Twp., length 1.44 miles; width, pavement 16 ft., roadway 26 ft.; cost, about: waterbound macadam $20,784, reinforced concrete $33,243, bituminous concrete $31,559, monolithic brick $39,977, sheet asphalt $41,661, bituminous concrete foundations $34,085, bituminous macadam $27,350.

Clinton Co., Sect. B, Wilmington-Xenia Road, Liberty Twp.; steel bridge, span 107 ft. and 18-ft. roadway over Anderson's Fork; cost, about $8,601.

Clinton Co., Sect. F, Cincinnati-Chillicothe Road, Marion Twp.; for grading and paving with waterbound macadam; length 0.34 mile; width, pavement 16 ft., roadway 26 ft.; cost, about $2,532.

Fayette Co., Sect. A, Dayton-Chillicothe Road, Union Twp., grading, paving with monolithic brick and building drainage structures; length 1.95 miles; width, pavement 16 ft., roadway 26 ft.; cost, about $36,079.

Hamilton Co., Sect. A, Cincinnati-Hamilton Road; length 4.83 miles; width, pavement 20 ft., roadway 30 ft.; estimated cost: brick, grout filler and concrete curb $167,818; brick, mastic filler and concrete curb $170,645; brick, grout filler and granite curb $175,168; brick, mastic filler and granite curb $177,995.

Hamilton Co., Sect. A, Carthage-Hamilton Road, Springfield Twp.; length 4.19 miles; width, pavement 20 ft., roadway 30 ft.; estimated cost: brick, grout filler and granite curb $129,026; brick, mastic filler and granite curb $130,029; brick, grout and concrete curb $122,604; brick, mastic filler and concrete curb $124,939.

Harrison Co., Sect. J, Bridgeport-Cadiz Road, Creek Twp.; repairing shoulders and ditches, repairing old roadbed, resurfacing with waterbound macadam; length 2.36 miles; width, pavement, 12 ft.; cost, about $14,197.

Jefferson Co., Sect. L, Steubenville-Cambridge Road, Wayne Twp.; constructing bridges and culverts, grading roadway and repairing roadbed; length 3.96 miles; width, pavement 16 ft., roadway 26 ft.; cost, about $37,094.

Noble Co., Sect. H, Noble Twp.; for grading, constructing drainage structures and paving with reinforced concrete; length 0.78 mile; width, pavement 14 ft., roadway 26 ft.; cost, about $18,336.

Ravenna, O.—Reported desired until Dec. 20, S. E. Horsfall, Dir. Pub. Serv., City Hall, for paving Lake Ave. with about 1700 sq. yd. brick, slag base stone or concrete curb.

Indiana.—By Co. Comrs. for constructing following roads:

Dec. 28—Anderson, 7 gravel or stone roads in Lafayette, Monroe, and Green Twps.

Dec. 30—Spencer, crushed stone road in Harrison and Montgomery Twps.

Jan. 1—Brownstown, tarvia-macadam road in Carr Twp.

Jan 2—Jeffersonville, crushed stone road in Charlestown Twp.

Berwyn, Ill.—Until Dec. 19, separate bids, by Bd. Local Imp. (Oscar N. Lindahl, secy.) for constructing concrete combined curb and gutters and paving on portions of Kenilworth Ave. with asphaltic concrete, cost $20,289; portions of Grove Ave. with asphaltic concrete, $21,-051. Plans and specifications may be obtained at office City Clk.; certified check for 10 per cent must accompany each bid.

Fond du Lac, Wis.—Reported desired until Jan. 1 by city for cement and concrete paving; cost about $19,835. J. S. McCullough, city engr.

Riverside, Cal.—Reported desired until Dec. 19 by H. C. Cree, city clk., for improvement of North Market St.

Bakersfield, Cal.—Until Dec. 26, by R. G. Ballagh, city clk., for grading and construction of asphalt pavement, concrete curbs, gutters, and sidewalks on 20th St.

PRICES AND LETTINGS.

★Indicates award of contract.

★**Audubon, N. J.**—Contract awarded F. Fries Constr. Co., Haddon Heights, N. J., at $200,000 for paving various streets.

Salem, N. J.—Following bids were opened by Bd. Freeholders for which contracts will be awarded Dec. 13, for constructing Sect. 2, Malaga-Pennsgrove Road: Fox & Powell, Ocean City, N. J., $15,696; John L. La Compte, Trenton, N. J., $18,706; J. S. Fisher & Son, Clayton, N. J., $18,923; Jos. F. Burke Co., Plainfield, N. J., $20,044; C. M. Weatherby, Clarksboro, N. J., $20,289.

★**Lewisburg, W. Va.**—Contract awarded by Co. Comrs., to Sands & Cline, Weyers Cave, Va., for constructing 7 miles of 14-ft. concrete highway.

★**Monroe, La.**—Contract awarded by Co. Comrs. to Wetzel & Co., Monroe, La., at $109,634, for constructing 13 miles of gravel roads.

★**Knoxville, Tenn.**—Contract awarded by City (R. P. Williams, recorder) to Murray Constr. Co., Knoxville, at $20,-000 for paving with asphalt Circle Park, Pruett Place and Caswell St.

★**Ashland, Ky.**—Contract awarded by city to Hunt-Forbes Constr. Co., Gaylord Bldg., Ashland, at $40,000, for grading and paving various streets.

★**Marion, O.**—Contracts awarded by Co. Comrs. for paving roadways of 41 bridges with creosoted wood blocks, as follows: To Modern Constr. Co., Fremont, O., for 25 bridges; to Standard Engr. Co., Toledo, O., for 10 bridges; to Ohio Concrete Supply Co., Fremont, for 6 bridges, $36,-000 bridge upkeep bonds were recently sold for this work.

★**Norwalk, O.**—Contract awarded by Co. Comrs. to Modern Constr. Co., Fremont, O., at $98,808, for constructing 5 miles of New Medina highway through townships of Norwalk, Townsend and Hartland.

★**Indianapolis, Ind.**—Contract awarded by city to S. M. Timberlake, 1434 Bway., at $52,995, for constructing parkway along Pogues Run between Brookside and Jefferson Aves.

★**Kokomo, Ind.**—Contract awarded by county to James W. Watson & Co., Kokomo, Ind., at $11,771, for constructing stone road in Howard township. Wm. L. Benson, aud.

★**Rensselaer, Ind.**—Contract awarded by County (bids opened Dec. 6) to I. W. Moneyhun & Son, Monticello, Ind., at $48,524, for constructing stone road in Union Township. Herbert Hammond, deputy aud.

★**Illinois.**—Contract awarded Dec. 28 by State Highway Comn., Springfield, to John Brogen, Eldred, Ill., at $36,155, for constructing sects. C, D and E, oiled earth road in Woodford County.

★**Dallas Tex.**—Contract awarded by city to Texas Bitulithic Co., Dallas, at $19,785, for paving portion of San Jacinto St.

Contracts awarded by city to Standard Engr. & Contr. Co., at $56,469, for paving portion 12th St. with Uvalde rock asphalt, and at $11,333 for paving portion Harrison Ave.

★**Bakersfield, Cal.**—Following are bids opened Dec. 6 by Bd. Supervs., for grading, paving, and constructing culverts on 5.75 miles of Bakersfield-Taft Road, Division No. 7, Sect. 3, including 23,500 cu. yd. excav., 30,300 lin. ft. grading, 50,470 sq. yd. concrete pavement, 97 cu. yd. "B" concrete in culverts, 736 ft. corrugated iron pipe and 1,000 lin. ft. guard fence: Geo. S. Henson & Sons, Stimson Bldg., Los Angeles (awarded contract), $47,721; Rogers Bros. Co., Hibernian Bldg., Los Angeles, $50,190; W. A. Kettlewell & Son, Bakersfield, $59,374.

Berkeley, Cal.—Lowest bid received by city for improving University Ave. was from Covault Co., Stockton, $62,206.

Daly City, Cal.—Following are bids received by City Trustees for improving Vista Grande tract No. 2: Ransome-Crummey Co., First Natl. Bank Bldg., Oakland, $15,874; McGillivray Constr. Co., 717 Capitol Natl. Bank Bldg., Sacramento, $16,181.

Los Angeles, Cal.—Bd. Pub. Wks. rejected all bids received for grading, paving and otherwise improving portion of 8th St. Lowest bid was from Los Angeles Paving Co., Wilcox Bldg., at $34,-594.

★Contract awarded by Bd. Pub. Wks. to Fairchild-Gilmore-Wilton Co., Pacific Elec. Bldg., at $26,844, for 131,708 sq. yd. bitulithic paving, 12,310 sq. ft. cement sidewalks 2486 lin. ft. concrete curbs and sanitary sewer, in portion of 12th St.; and at $6,681 for 24,630 sq. ft. paving on 1st St., both in San Pedro section.

★**San Francisco, Cal.**—Contract awarded by city to Federal Constr. Co., Sharon Bldg., at $16,946, for paving portions of Clayton St., Corbett and Caselli Aves.

★**Piru, Cal.**—Following are bids opened Dec. 5 by Co. Bd. Supervs., Ventura, for constructing 6 miles of road in Division No. 4, from here to county line, including 36,300 cu. yd. excav., 464 cu. yd. concrete, and 25,360 lb. reinforcing steel in culverts: Mesmer & Rice, March-Strong Bldg., Los Angeles (awarded contract), at $14,266; next bidder, Isbell Constr. Co., San Diego, $14,754.

★**San Diego, Cal.**—Contract awarded by city to Fairchild-Gilmore-Wilton Co., Pacific Elec. Bldg., Los Angeles, at $24,063, for paving 200,875 sq. ft. on Stockton Drive and Lewis Sts. with asphaltic oil surface on concrete pavement, including reinforced concrete culverts and catch basins. Next lowest bidder, California-Arizona Constr. Co., 1700 E. Washington St., Los Angeles, at $25 273.

★Contract awarded by City to Geo. R. Daley, 405 McNeece Boule., San Diego, at $16,360, for paving 151,021 sq. yd. on Madison Ave., with oiled screenings, surface on concrete base, also constructing cement curbs, and sidewalks.

★**Santa Ana, Cal.**—Contract awarded by Bd. Supervs. for constructing Coast Highway Division No. 2, Sect. No. 4, northwesterly 3 miles from Huntington Beach, including 25,000 cu. yd. sand excav., 7500 cu. yd. clay surfacing, and 1168 ft. pile trestle, to Leigh G. Garnsey, 314 Central Bldg., Los Angeles.

Following are two lowest bids received Dec. 6 by Br. Supervs., paving 2.53 miles of highway between Brea and Olinda with concrete, 18 ft. wide: M. T. Shafer, 220 W. 33d St., Los Angeles, $12,201; Max L. Huberman, Santa Ana, $13,999.

★**Santa Cruz, Cal.**—Contract awarded by city to A. P. Brady, Humboldt Bank Bldg., San Francisco, at $54,317, for improving King St.

Upland, Cal.—Following are 4 lowest bids opened Nov. 28 by City Trustees for paving 14 blocks of Mountain Ave. with 4-in. concrete, screenings and asphalt surface: Crown Constr. Co., Culver City, Cal., $26,000 (10.5 cts. per sq. ft. for paving and 15 cts. per lin. ft. for curbs); W. C. Cline and E. Robins, Upland, Cal. (10.4 cts. and 17 cts.); Geo. H. Oswald, Johnson Bldg., Los Angeles (10.5 cts and 17 cts.); Johnson-Shea Co., Riverside (12 cts and 19 cts.).

★**Lewiston, Idaho.**—Contract awarded by Lewiston Highway Dist. to Geo. H. Kester, Lewiston, at $26,532, for surfacing Lewiston-Hill highway.

RAILWAYS
Steam and Electric

PROPOSED WORK.

Niagara Falls, N. Y.—Niagara River & Eastern Ry. has authorized the directors to renew application to Pub. Service Comm. for Second Dist., New York, for permission to construct a double-track electric line from Lockport, N. Y., to the Devil's Hole, near Niagara Falls, N. Y.

Oil City, Pa.—See "Structural Steel."

Stroudsburg, Pa.—Reported Slate Belt Electric St. Ry. (L. H. Mountney, gen. mgr. Pen Argyl) plans constructing line 15 miles long between Wind Gap and Stroudsburg.

Tamaqua, Pa.—Wilkesbarre & Hazleton RR. (A. Markle, pres, Hazleton) has completed surveys for proposed line to this place, to connect with Philadelphia & Reading RR. New line will pass through Black Ridge, Cranberry and McAdoo; cost, about $250,000.

Baltimore, Md.—See "Structural Steel."

Hagerstown, Md.—Hagerstown & Frederick Ry. (M. A. Pooler, gen. mgr., Frederick) considering extending its line at Hagerstown.

Roanoke, Va.—Virginia Ry. (E. H. Birchfield, gen. agt.) will spend about $750,000 for improvements, including additions to Roanoke yard, tracks and shops, increase capacity of coal dumping plant at Sewell's Point, etc.

Fairmont, W. Va.—Monongahela Valley Traction Co. (Smith Hood, gen. mgr.), plans constructing 17 miles of track during 1917.

Princeton, W. Va.—A. W. Hecker, Pittsburgh, Pa., and H. E. De Jarnette, Princeton, W. Va., have asked council for franchise to construct a line about 6 miles, to be operated by either steam, electricity, or horse power, from Princeton to Athens.

Gunberry, N. C.—Reported Northampton & Hertford Ry. Co. (J. F. Pennewell, gen. supt.) plans constructing 35-mile line from Jackson to Ahoskie, N. C.; also 7-mile line from this city to Pleasant Hill.

Charleston, S. C.—Isle of Palms Traction Co. (W. W. Fuller, ch. engr.) plans constructing 1½ miles of track during 1917.

Columbia, S. C.—Surveys being made by Columbia Ry. & Navigation Co. (G. A. Guinard, pres.) to construct railway about 70 miles long to be operated by electricity, from Columbia to Greenwood.

Atlanta, Ga.—Contract will soon be let by Geo. O. Vanderbilt, Princeton, N. J., for constructing 50 miles of railway in Georgia.

Christie, La.—Peary-Wilson Lbr. Co., Shrevesport, La., organized with $1,000,000 capital and will construct railroad from Long Leaf to Christie, on the Kansas City & Southern RR.

Oakdale, La.—Reported Atchison, Topeka & Santa Fe Ry. (R. A. Rutledge, ch. engr., Topeka, Kan.) plans constructing 150-mile line from Oakdale to New Orleans.

Shelbyville, Ky.—C. E. Coon Co. (C. E. Coon, pres., McConnellsville, Pa.) has completed inspection of proposed right of way between Frankfort and Shelbyville over which it will construct an electric Ry. to connect with Louisville Interurban Ry. and Kentucky Traction Co.

Alliance, O.—Reported Stark Electric R. R. Co. (Jno. M. Yost, ch. engr.) planning constructing 6-mile line between Alliance and Marlboro during 1917.

Lima, O.—Ohio Electric Ry. (A. Benham, gen. mgr., Springfield, O.) has asked City Council for franchise to extend its tracks on East Grand Ave. to Cincinnati, Hamilton & Dayton Ry.

Lockwood, O.—Cleveland & Sharon Rapid Transit Co. (C. A. Black, pres.), Cleveland, has applied to Ohio Pub. Utilities Comn. for permission to issue $100,000 capital stock and $200,000 first mortgage bonds for constructing a line between Middlefield and Lockwood.

Tiffin, O.—Plans being considered for constructing an electric railway from Gibsonburg to Tiffin via Helena, Millerville, Burgoon, Bettsville, and Maple Grove, and from Tiffin to Marion via McCutchenville, Upper Sandusky, and Harpster. Owen A. Charles, secy., Chamber of Commerce, Tiffin, reported interested.

Youngstown, O.—Plans being prepared by Youngstown & Suburban Ry. Co. for double track to extend from South Side Park to Kyles Corners.

Logansport, Ind. — The Pennsylvania Lines considering plan for double-tracking Richmond division between Cincinnati and Logansport. Geo. Le Boutillier, gen. supt., Richmond.

Averyville, Ill.—Peoria & Chillicothe Electric Ry. has been granted a 48-year franchise from the Village Council to construct a line here.

Duluth, Minn.—Reported Street Railway Co. (Herbert Warren, gen. mgr.) plans extending line from Duluth to Proctor.

Commerce, Mo.—Oklahoma & Interstate Ry. Co. (J. R. Rose, pres., Oklahoma, Okla.) has asked City Council for franchise to construct line.

Dallas, Tex.—Texas & Pacific Ry. C. H. Chamberlin (ch. engr., Dallas) intends spending $1,000,000 to elevate tracks on Pacific Ave. and construct double reinforced concrete viaduct in East Dallas.

Oklahoma City, Okla.—Ringling & Oil Fields RR. Co. granted charter with $300,000 capital to construct 120-mile line from Ringling to Oklahoma. John Ringling and Jake L. Hamon principal incorporators; the latter in charge of preliminary arrangements, has established offices in Chicago.

Ringling, Okla.—Atchison, Topeka & Santa Fe RR. (C. F. W. Felt, ch. engr., Chicago) plans constructing line from Ringling to Wichita Falls, Tex.

Seattle, Wash.—Seattle & Rainier Valley Ry. plans constructing electric line to Renton; cost about $100,000.

Election recently held for issuing $450,000 bonds for constructing belt line along water front to serve Port Comn's docks was defeated.

Klamath Falls, Ore.—City Council instructed city engineer to prepare plans for constructing railroad to be built and equipped by city to extend from lower end of Upper Klamath Lake through city to Sprague River; cost $300,000. This is a step toward proposed Strahorn RR.

Prineville, Ore.—N. G. Wallace, member of City Council, writes bonds for $225,000 will be sold Dec. 28 to be used for railroad to connect with Oregon Trunk Ry. near Redmond. H. A. Kelley, engr.

Portland, Ore. — Reported Oregon-Washington RR. & Navigation Co. (S. Murray, ch. engr.) planning expenditure of between $3,000,000 and $4,000,000 during 1917 in taking out grades, rebuilding stations, installing sidings and straightening curves in its lines in Washington and Oregon.

Turlock, Cal.—Tidewater Southern RR. Co. (J. H. Wallace, ch. engr., Stockton) reported considering issue of $600,000 in stock to be used to electrify road from Modesto to Turlock and extension to Twin City.

Ogden, Utah—Reported Ogden, Logan & Idaho Ry. (R. W. Armstrong, ch. engr., Ogden) states that the company is constructing 9 miles of line south from Kent.

Victoria, B. C.—Pease River, McKenzie, Copper Mine River Ry. Co. of Canada, plans constructing 500 miles of railway in the far north; company has applied for an act of incorporation.

PRICES AND LETTINGS.
★*Indicates award of contract.*

★**Three Rivers, N. M.**—Contract awarded by El Paso & Southwestern RR. Co. for reconstructing and grading considerable portion of the tracks in this vicinity, to W. J. Harris Constr. Co., El Paso; improvement will cost about $150,000.

★**Campo, Cal.**—Contract awarded by San Diego & Arizona RR. to Twohy Bros. Co., 603 Hobart Bldg., San Francisco, for constructing 20 miles of uncompleted section of road.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Hartford, Conn.—Underwood Computing Machine Co., which is allied with Underwood Typewriter Co., will erect 3-story, 35 x 317 ft., brick factory.

Jersey City, N. J.—Lehigh Valley Harbor Terminal Co. (subsidiary of Lehigh Valley RR.), foot of Washington St., has purchased property at foot of Chapel St., on which to erect freight and shipping terminal; cost, about $10,000,000.

Millville, N. J.—Plans prepared for erecting brick and steel glass factory for Whitehall-Tatum Co., Millville; cost about $75,000.

Philadelphia, Pa.—West Philadelphia Stock Yards Co., 30th and Market Sts., will erect 3-story and basement brick and steel 62 x 125-ft. packing plant. C. B. Comstock, 110 W. 40th St., New York, archt.

Philadelphia, Pa.—See "Reinforced Concrete."

Wilmington, Del.—Wilmington Leather Co., Wilmington, will erect fireproof addition to plant; cost $60,000.

Mobile, Ala.—Reported packing plant will be erected at Mobile for A. D. Davis Packing Co.; cost $60,000.

Cincinnati, O.—Corcoran Mfg. Co., 4634 Spring Grv., plans erecting factory bldg., containing 133,000 sq. ft. of floor space, at Ammen Ave. and the B. & O. S. W. RR. tracks; cost, about $125,000.

Cleveland, O.—Reported Steel Car Co. (Richard Inglis, Cuyahoga Bldg., secy.) will build a factory at Bliss and Chardon Roads and Nickel Plate RR.; cost, about $50,000.

Reported American Box Co., 1932 W. 3d St., will erect $50,000 box and shook manufacturing plant here.

Cleveland, O.—Reported Ohio State Telephone Co., Electric Bldg., will erect garage and warehouse at Payne Ave., E. 40th St. and the Pennsylvania RR.; cost, $60,000.

East Palestine, O.—Plans being prepared for erecting 200 x 55-ft. concrete, steel, brick and glass factory for Palestine Rubber Co. (Evert L. Lyon, pres.).

Springfield, O.—Plans prepared by Concrete Steel Constr. Co. and bids being taken for erecting 5-story, 100 x 280-ft. concrete and steel factory building for Dr. S. E. Greenwalt; cost about $150,000.

Chicago, Ill.—Plans being prepared by F. R. Shock for erecting 2 and 1-story building, comprising an ice cream plant, a garage and barn; cost about $100,000. Chapell Ice Cream Co., 2500 Fullerton St., owners.

Minneapolis, Minn.—Plans are prepared and work to begin in the spring on 10-story storage warehouse for Flour City Fuel & Transfer Co. at Blaisdell Ave. and Lake St.; cost $150,000.

Grand Forks, N. D.—Plans being prepared by Gardner & Lindberg, 140 S. Dearborn St., Chicago, for erecting packing plant; cost $200,000. Northern Packing Co., owner. M. F. Murphy, pres., Grand Forks.

Libby, Mont.—Reprted J. H. Ehlers, Spokane, principal owner of Sylvanite Mines, plan erecting $10,000,000 pulp mill near here.

Beaumont, Tex.—Texas Steel Co., incorporated with capital stock $2,500,000, plans erecting 300-ton open-hearth blast furnace and 200-ton pipe plant in the near future.

El Paso, Tex.—El Paso Sash & Door Co. will erect 4 mill bldgs.; cost, $100,000.

Port Angeles, Wash.—Reported Whalen Bros., Mills Creek, B. C., will erect sulphide paper plant here, first unit to have daily capacity of 60 tons; cost $750,000.

Seattle, Wash.—See "Reinforced Concrete."

Seattle, Wash.—Herman Meyers of Carstens Packing Co., Seattle, states erection of linseed oil plant will begin shortly after first of year. One 500-ft. brick bldg. and other structures will be erected; cost, $250,000.

Huntingdon Park, Cal.—Contract soon to be let by Axelson Machine Co., 1406 N. San Fernando Road, Los Angeles, for erecting plant for manufacturing pumps and lathes on 10-acre site, consisting of 126 x 375-ft. machine shop, 35 x 86-ft. pattern shop, 25 x 86-ft. storage house, 33 x 120-ft. office, 30 x 50-ft. lavatory, and 100 x 155-ft. garage, of brick and corrugated iron.

Los Angeles, Cal.—Baker Iron Works plan erecting steel and corrugated iron, 100 x 300-ft. addition, equipped with two 25-ton electrically driven traveling cranes, to its plant on N. Broadway and Castelar St.; cost, about $65,000.

San Bernardino, Cal.—Contract about to be let by Atchison, Topeka & Santa Fe Ry. Co. (G. W. Harris, ch. engr., Kerckhoff Bldg., Los Angeles) for erecting brick and steel, 135 x 275 ft., car shop bldg., and brick and steel, 80 x 200 ft., planing mill bldg.

Weiser, Idaho.—Reported Weiser Milling & Elevator Co. will erect 300-bbl. flour mill; cost, $125,000.

Arnprior, Ont.—Deputy Reeve Havey interested in company which plans to equip new pulp mill, to cost $100,000.

Delhi, Ont.—Plans being prepared for erecting brick and concrete mitt and glove factory. All new machinery to be purchased; cost, $70,000. Bruce Whiteside preparing plans.

Elmira, Ont.—Plans to be prepared for branch factory here; cost $50,000; for Consolidated Rubber Co., Kitchner, Ont.

Hamilton, Ont.—Canadian Desmond Stephen Mfg. Co., 44 Market St., plans erecting new factory for manufacturing steam injectors; cost $50,000.

London, Ont.—See "Reinforced Concrete."

Owen Sound, Ont.—Keenan Woodenware Co. plan erecting two brick factory buildings; cost, $50,000.

Winnipeg, Man.—Plans being prepared by Fingland & Hanford, Enderton Bldg., Winnipeg, for erecting brick and mill factory; cost, $50,000. R. A. Lister & Co., Galt Bldg., owners.

Saskatoon, Sask.—Plans to be prepared for erecting branch factory for Saskatchewan-Adams Brothers, harness manufacturers, McDermott Ave., E., Winnipeg, Man.; cost, $125,000.

Vancouver, B. C.—Amalgamated Engineering & Dry Dock Co. plans equipping $5,000,000 plant for ship-building and engineering on Burrard Inlet.

PRICES AND LETTINGS.
★*Indicates award of contract.*

Cleveland, O.—See "Reinforced Concrete."

Beaumont, Tex.—See "Reinforced Concrete."

BUILDINGS
Public and Private

PROPOSED WORK.

Holyoke, Mass—Reported Lucien Chretian will erect 6-story, 75 x 110 ft., brick apartment block at Appleton and Linden Sts.; owner to build.

Williamstown, Mass.—Plans being prepared by Mr. Harding, Pittsfield, Mass., for erecting additions and making alterations to library bldg. of Williams College; cost, about $100,000.

Syracuse, N. Y.—Plans being prepared by M. L. King, 602 Snow Bldg., Syracuse, for erecting 346 x 785 ft. brick and steel Junior School Building; cost about $90,000.

Asbury Park, N. J.—School Bd. plans erecting new high school; cost about $300,000. Amos E. Kraybill, supt.

Atlantic City, N. J.—John O'Reilly, St. Clair Hotel, plans erecting apartment house on S. Pennsylvania Ave.; cost, $200,000.

East Orange, N. J.—All bids received Nov. 27 by Supervising Architect, Treasury Department, Washington, D. C., for erecting U. S. post office, were rejected.

Elizabeth, N. J.—Bd. Freeholders voted to sell, Dec. 21, $87,000 bonds for improvements to Bonnie Burn Sanatorium.

Jersey City, N. J.—See "Excavation, Drainage and Dredging."

Newark, N. J.—Carteret Club, Bergen Ave., Bergen St., Jersey City, N. J., filed plans for erecting 3½-story brick club house at 75 Duncan Ave.; cost, $88,000.

Ocean City, N. J.—Plans being prepared for erecting new hotel building and pier, extending about 800 ft.; cost, $800,000. Hotel Brighton, owners.

Paterson, N. J.—Plans being prepared by Bd. Educ. for erecting junior high school at Monroe, Gregory & Grant Sts.; cost about $150,000.

Toms River, N. J.—Fred A. Nathan, Broad St. Theater, Philadelphia, will erect stone and concrete, with stage 30 x 35 ft., theater to seat 900 people.

Trenton, N. J.—Plans being prepared by Ralph E. White, Pennsylvania Bldg., Philadelphia, for erecting hotel on E. Hanover St.; cost, about $500,000. B. C. Kuser, Trenton House, owner.

Trenton, N. J.—State Bd. Educ., Trenton, plan erecting new normal school in southern part of state; cost $250,000.

Trenton, N. J.—State Dept. Educ. has filed budget with Governor Fielder requesting appropriation of $250,000 for erecting normal school in southern part of state.

Coatesville, Pa.—Plans being prepared by A. A. Richter, Reading, for erecting 3-story brick and stone bldg., for Natl. Bank of Chester Valley; cost $85,000.

Freeport, Pa.—Pennsylvania RR. (A. C. Shand, ch. engr., Philadelphia) has had plans prepared for erecting 2-story brick and steel passenger station, 40 x 115 ft., with platform.

Philadelphia, Pa.—Plans being prepared by Thomas Little & Son, 1713 Moravian St., for erecting 1-story church and rectory on southwest corner Indiana Ave. and Almond St. for St. George's P. E. Church; cost, $64,000.

Philadelphia, Pa.—Musical Art Club, 17th and Walnut Sts., plan erecting new club house; cost about $50,000.

Birmingham, Ala.—Revised plans have been prepared for erecting 3-story 358 x 154-ft. brick and stone court house and post office.

Knoxville, Tenn.—Reported new Y. W. C. A. will be erected shortly, $61,330 already available; cost about $125,000. Rev. Len G. Broughton reported interested.

Cincinnati, O.—Cincinnati Lodge of Elks Temple, 908 Elm St., plans erecting new temple on top of proposed Dixie Terminal Bldg., 4th and Walnut Sts.; cost about $150,000.

Plans submitted by Thies & Thies, Dayton, were accepted by Bd. Trustees of Fenwick Club for Catholic Young Men, 319 Broadway, for erecting combined clubhouse and Catholic Boys' Home; cost, $275,000.

Reported Warren E. Richards, 515 Gwynne Bldg., plans spending $200,000 in building improvements next spring in opening up new residence subdivision between Halpin, Greist and Grace Aves. and Linwood Road, Hyde Park.

Cleveland, O.—Reported H. W. Quimby Co. will spend from $75,000 to $100,000 altering store at 500 Euclid Ave.

Reported Akron Sewer Pipe Co., 600 Schofield Bldg. (The Jos. Laronge Co., 215 Williamson Bldg., acting as agents) will erect distributing [illegible] at Berea Road, W. Park Blvd. and N. Y. C. RR.; cost about $[illegible].

Building permit issued to Crowell-[illegible] Co., [illegible] St., for erecting two buildings [illegible] x [illegible] ft. at [illegible] Broadway, for Standard Oil Co. of Ohio, E. Ohio Gas Bldg.; cost $[illegible].

Atlas Hotel Co., [illegible] Prospect Ave., will erect [illegible]-room addition to Atlas Hotel, Prospect Ave. and E. 14th St.; cost, about $[illegible].

Dayton, O.—Plans being prepared by Schenck & Williams, Ludlow Arcade, for erecting new Grace M. E. Church; cost about $150,000.

Reported Dayton Savings & Trust Co. will erect 9-story, 50 x 179 ft. brick, stone and steel bank bldg., interior of marble. Schenck & Williams, archts., Dayton, O.

Lakewood, O.—Reported Jos. Novogroder, 1791 E. 63rd St., Cleveland, will start work in spring on store and apartment building at Detroit Ave. and Wyandotte St.; cost, about $75,000.

Middletown, O.—Contract soon to be let by Werner & Adkins, archts., 1206 Mercantile Library Bldg., Cincinnati, for foundation and superstructure of new office and administration building to be erected for American Rolling Mill Co.; cost over $100,000.

Norwood, O.—Plans being prepared by Harry Hake, Telephone Bldg., Cincinnati, for erecting 4-story, 60 x 344 ft., fireproof factory bldg. for Pfau Mfg. Co., Menter and Husten Aves.; cost, about $160,000.

Rocky River, O.—Building bonds for $75,000, for erecting high school building, will be sold Dec. 28 at office of clk. Bd. Ed., C. H. Dean.

South Bend, Ind.—Reported plans being prepared for erecting new conservatory of music and auditorium for St. Mary's College and Academy. Over $50,000 available; cost about $100,000.

Sparta, Mich.—Plans being prepared by Osgood & Osgood, Widdicomb Bldg., Grand Rapids, for erecting Carnegie Library.

Chicago, Ill.—Reported Loyal Order of Moose will erect bldg., to contain dining room, meeting room, club facilities and hundreds of offices; cost about $1,000,000. Rodney Brandon of Mooseheart, secy.

Milwaukee, Wis.—Contract soon to be let by H. J. Rock, 485 11th Ave., for erecting office building and auto truck factory; 1-story 70 x 70-ft. office building; 2-story 60 x 60-ft. factory, cement block, concrete foundation, mill construction; cost $50,000. R. E. Oberst, archt., 355 National Ave.

Des Moines, Ia.—Plans being prepared by Keither & Jones, 610 Youngerman Bldg., for erecting 3-story day school at 34th and College Sts. Cost, about $50,000. A. L. Coinice, secy., Bd. Educ., 1623 Centre St.

Reported bids will be received about Jan. 1 by Herman Lodge No. 275 A. F. & A. M., care I. W. Harpster, 905 Main St., Grinnell, Ia., for erecting 3-story and basement Masonic Temple; cost $55,000. Frank E. Wetherell, archt., 202 Youngerman Bldg.

Sioux City, Ia.—Contract soon to be let for erecting 2-story and basement, buff colored, terra cotta, fireproof Orpheum theater building; cost $100,000. Geo. Rapps, archt.; T. S. Martin, owner.

Plans being prepared by W. L. Steele, 502 United Bank Bldg., for erecting 1-story and basement church at 13th and Nebraska Sts.; cost $75,000. H. L. Wood, chmn., First Cong. Church.

Mankato, Minn.—Plans being prepared by C. T. McElroy, 416 Essex Bldg., for erecting 7-story and basement hotel, store and office bldg., to cost $250,000. McMichael Investment Co., 354 Plymouth Bldg., owner.

Beatrice, Neb.—Plans being prepared by R. W. Grant, 109 N. 5th St., for erecting garage and county jail; brick-stone trim, fireproof construction, gravel roof, 2-story and basement; cost $50,000. J. C. Penrod, co. clk.; Gage Co., owners.

Columbus, Neb.—Plans being prepared by Chas. Wurdeman, 313½ 13th St., for erecting 1-story and basement brick and stone church; cost $50,000. Owners, Polish Catholic Congregation, care Rev. Fr. Check.

Neodasha, Kan.—Plans being prepared by Smith, Rea & Lovitt, Finance Bldg., Kansas City, Mo., for erecting 2-story fireproof high school building; cost, $85,000. A. K. Reppert, Clk. Bd. Educ.

Fargo, N. D.—Plans being prepared for erecting high school building; cost about $500,000; movement inaugurated by Fargo Commons Club.

Butte, Mont.—Reported plans being prepared for erecting Y. M. C. A. bldg. here; cost $200,000.

Great Falls, Mont.—Northwestern Trustee Co. (L. Newman, pres.) will erect apartment house on corner 2nd Ave., N., and 8th St.; cost, $50,000.

Livingston, Mont.—Plans being prepared to rebuild Corwin Hot Springs Hotel, recently destroyed by fire, valued at $100,000. C. S. Hefferling, owner.

Brownwood, Tex.—Election to be held early in January for voting on question of issuing $110,000 bonds for erecting city hall; address the Mayor.

Dallas, Tex.—Butler Brothers plan erecting 8-story addition with 340-ft. frontage to present building; cost, about $350,000. A. M. Mason, mgr.

El Paso, Tex.—Bond election for $450,000 for completing court house carried; address county clerk.

Ft. Worth, Tex.—Masonic Grand Lodge of Texas voted to erect addition to Orphans' Home at Ft. Worth; cost, $100,000; building will be boys' dormitory.

Gallup, N. M.—See "Reinforced Concrete."

Bremerton, Wash.—Plans were prepared by Steinman & Colvin for erecting 3-story fireproof office and business building which will also house the Bremerton branch of Navy Y. M. C. A. at Front and Washington Sts.; cost, $60,000.

Mount Vernon, Wash.—Plans being prepared by Stephen & Stephen, New York Blk., Seattle, for erecting high school building. As soon as school board disposes of $60,000 in bonds recently voted bids will be called.

Prosser, Wash.—Benton Co. Comrs. authorized issuance of $125,000 for erecting new county court house. L. L. Lynn, co. aud.

Seattle, Wash.—Reuben W. Jones, secy. Seattle School Bd., reports at recent school election bonds voted in sum of $1,080,000, for purchase of sites and erecting new school buildings. Seven buildings are planned as follows: Seward, Whitworth, Columbia, Dunlap and Interbay, to cost between $75,000 and $100,000 each; two high schools to cost $250,000 each. Edgar Blair, school archt., 1426 Jackson St.

Enterprise, Ore.—City will vote at an early date on $70,000 for erecting school building.

Klamath Falls, Ore.—Klamath Co. set aside $60,000 in county budget for erecting county court house. C. R. De Lap, county judge.

Portland, Ore.—See "Railways."

Portland, Ore.—Preliminary plans completed by architects Whitehouse & Fouilhoux, Railway Exchange Bldg., Portland, for erecting county medical building; $100,000 has been appropriated in county budget.

Los Angeles, Cal.—See "Reinforced Concrete."

Los Angeles, Cal.—Preliminary plans being prepared by J. Pierpont Davis and Walter S. Davis, 626 Exchange Bldg., for erecting 2-story and basement reinforced concrete and brick store bldg., at n.w. cor. 6th Ave. & B'way, for O. H. Churchill Co. and Rowan Estate, Title Insurance Bldg.

Plans being prepared by Atlas Bldg. Co., 912 Hass Bldg., for erecting 4-story and basement, 110-room, 150 x 136 brick apt. house on Coronado St., nr. Wilshire Blvd., for Wilshire Hotel Co.; probable cost $125,000 (E. J. Eisenmeyer, president).

Plans to be prepared for erecting 4-story bldg. on Olive St., near 9th St., for Edwin J. Bowes, Jr., 1014 Trust & Savings Bank, Los Angeles; cost $70,000.

Santa Barbara, Cal.—See "Reinforced Concrete."

Visalia, Cal.—Contract to be let early in the year by Swartz & Swartz, archts., Rowell Bldg., Fresno, for erecting 3-story and basement brick store ad lodge building at Main and Locust Sts., for Visalia Lodge 1298, B. P. O. E.; cost, about $80,000.

St. Andrews, N. B.—Plans being prepared for erecting brick addition to Algonquin Hotel; cost, $65,000. Canadian Pacific Ry., owners; head office, Montreal.

Ottawa, Ont.—Plans are under consideration by Bd. Control, Mayor Porter, Chmn., for enlarging City Hall; cost, about $300,000.

Toronto, Ont.—Plans being prepared by Bd. Educ. for erecting brick, stone and steel school building; cost, $125,000. Address Clk. Bd. Educ.

BIDS DESIRED.

Boston, Mass.—Reported desired until Dec. 20, by United Fruit Co. (Andrew Preston, pres., 131 State St., Boston, for constructing sugar refining plant (6 buildings) cost, about $2,000,000. Wm. Higginson, 13-21 Park Row, New York City, archt.

Newport, R. I.—Until Dec. 26, by Bureau Yards and Docks, Navy Dept. (F. R. Harris, chief), Washington, D. C., for erecting three 1-story brick buildings, including heating, plumbing, etc., at Naval Hospital Reservation.

New York City, N. Y.—Until Jan. 3 by Public Service Comn. for 1st Dist., 120 Broadway, for constructing station finish for 6 stations on Seventh Ave.-Lexington Ave. Rapid Transit RR. beginning under E. 138th St. about 150 ft. east of center line of Alexander Ave., thence under E. 138th St. to point over Whitlock Ave. about 130 ft. south of southerly building line of Bancroft St.

Morgantown, W. Va.—Until Jan. 1, by University of West Virginia, for erecting two 4-story bldgs., to be brick and limestone, 45 x 180 ft. and 60 x 150 ft., respectively; total cost, about $300,000.

Lima, O.—Reported desired until Jan. 15, by city, for erecting South Side Technical High School; cost about $75,000.

Charlotte, Mich.—Until Jan. 19, by Jas. A. Wetmore, superv. archt., Washington, D. C., for erecting U. S. post office building; specifications may be obtained from custodian at Charlotte or from architect.

Casey, Ill.—Until Jan. 4, by Bd. Ed. (H. C. Leggett, secy.), for erecting and completing Twp. High School building; separate bids for plumbing, heating, ventilation and electric wiring; certified check for 3 per cent of amount must accompany each bid; plans may be had from secretary or from Louis H. Osterhage, archt., Second National Bank, Vincennes, Ind., by sending certified check for $10; surety bond for half amount required if work is awarded.

Grinnell, Ia.—Until Dec. 28, by W. G. Ray, secy. Bd. Ed. Independent School Dist., for erecting fireproof school building; certified check for 5 per cent to accompany each bid; bond for two-thirds of amount if work is awarded. Reimer & Herlin, archts., Marshalltown, Ia.

West Minneapolis, Minn.—Until Jan. 2, by Village Council, for municipal gas plant, consisting of brick and concrete building for water-gas apparatus, water-gas machine, 10,000 and 30,000 cu. ft. water holders in steel tanks, steel purifiers, etc.; certified check for 5 per cent to accompany bid. E. A. Close, village recorder.

Cameron, Mo.—Reported desired until Jan. 1 by Missouri Weslyan College for rebuilding Liberal Arts Bldg. destroyed by fire with loss of $65,000. M. S. Martin, archt.

Sapulpa, Okla.—Until Dec. 22, at office of W. M. Griffith & Son, archts., Casteel Bldg., for erecting and completing 2-story and basement store and apartment block for Monning Bros.

Chehalis, Wash.—Reported desired until Feb. 1 by C. E. Troutman, archt., Electric Bldg., for erecting hotel, 4 story, 112 x 180 ft.; cost about $60,000.

Los Angeles, Cal.—Until Jan. 8, by Bd. Supervs. (A. H. McPherrin, clk.), for erecting 2-story and basement dining hall and maternity building and 5 one-story tuberculosis ward buildings, all of brick and concrete, at County Hospital, Mission Road and Workman St.; cost, about $330,000. John Schulz, engr., Old Court House Bldg.

Richfield, Utah.—Until Jan. 22, by Jas. A. Wetmore, superv. archt., Washington, D. C., for constructing U. S. post office; specifications may be obtained from custodian at Richfield or from architect.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Rumford, Me.**—Contract awarded by superv. archt., Washington, D. C., to Newport Contracting & Engineering Co., Newport News, Va., for erecting post office, at $52,700.

★**Newport, R. I.**—Contract awarded by Superv. Archt., Washington, D. C., to M. Yeager & Son, Danville, Ill., for erecting post office.

New York City, N. Y.—Following are four lowest bids received Dec. 4 by Dept. of Education, Park Ave. and 59th St., for general construction of addition to public school No. 32 on the southerly side of E. 183d St., bet. Cambreleng and Beaumont Aves.: Jas. MacArthur Co., $142,000; L. A. Clarke Co., $146,000; John Kennedy & Co., $148,000, and The Connors Bros. Co., Inc., $168,450. All bids rejected.

Rahway, N. J.—See "Reinforced Concrete."

★**Philadelphia, Pa.** — Contract awarded by St. George's Mission to Thomas Little & Son, 1713 Moravian Ave., Phila., for erecting Mission Bldg.; cost about $63,200. sion Bldg.; cost about $63,200.

★Contract awarded F. E. Wallace, 1210 Samson St., Philadelphia, for erecting church at 59th St. & Baltimore Ave. for Protestant Episcopal Congregation; cost about $85,000.

★Contract awarded Warren-Moore Co., Comm. Trust Bldg., Philadelphia, for erecting nurses' home addition to city hospital at 34th and Pine Sts.; cost, about $198,000.

★**Monticello, Pa.**—Contract awarded by John McDonald Memorial Hospital (H. S. Richards, secy.) to A. H. Newman & Co., 519-520 Hubbell Bldg.; cost $60,000. Frank Wetherell, archt., Youngerman Bldg.

★**Wellsville, O.**—Following are four lowest bids received Dec. 6 by Bd. Educ. (F. H. Eckfeld, clk.) for erecting fireproof high school and grade school: Chas. A. Vorhes, Nelsonville, O., $86,980 (awarded contract); Cullen & Vaughn Co., Columbus, O., $99,900; Chas. D. Keyser, Bellaire, O., $107,500; Forbes & Smith, Wellsville, O., $108,331.

★**Antigo, Wis.**—Contract awarded by supervising archt., J. A. Wetmore, Treasury Dept., Washington, D. C., to W. D. Lovell, 1415 S. E. 8th St., Minneapolis, Minn., for erecting 1-story and basement postoffice bldg. at Clermont St.; cost, $70,000.

★**Milwaukee, Wis.**—Milwaukee Athletic Club, erecting $700,000 clubhouse. Supervising contrs., Foster Constr. Co., Caswell Blk.; Armand Koch, archt., Wells Bldg.

★**Des Moines, Ia.**—Contract awarded by A. L. Clinite, secy. bd. educ., to W. F. Kueharo, Hubbell Bldg., for erecting Nash school; cost $57,000.

★**Duluth, Minn.**—Contract awarded to Farnam Bros., 408 Columbia Bldg., for erecting Creamery Bldg. at 11th Ave. and Michigan St., for Bridgeman & Russel Co. John R. DeWaard, archt., Glencoe Bldg., Duluth; cost, $150,000.

★**Paris, Tex.**—Following are four lowest bids received Nov. 27 by Bd. Educ. for erecting 2-story and basement high school: Foster & Varner, Paris, Tex., $85,000 (awarded contract); Walter White, Paris, Tex., $106,295; Buchanan & Guilder, Ft. Worth, Tex., $106,785; Holmboe Co., Okla. City, Okla., $107,980.

★**Vancouver, Wash.**—Contract awarded by Superv. Arch., Wash., D. C., to Campbell Bldg. Co. Salt Lake City, Utah, for erecting post office.

★**Astoria, Ore.**—Following are four lowest bids received by Bd. Educ. for erecting school: Astoria Constr. Co., Astoria, $56,400 (awarded cont.); Sound Constr. Co., Portland, $58,835; Geo. Isackson, Portland, $59,000; J. M. Dougan Constr. Co., Portland, $59,486.

★**Portland, Ore.** — Contract awarded Litherland & Abrey, Beck Bldg., Portland, for erecting 3-story and basement Hexter & Strauss Bldg. at W. Park and Morriston Sts.; cost, about $60,000.

★**Livermore, Cal.**—Contract awarded W. G. Thornally, 3027 E. 16th St., for erecting tuberculosis hospital, at $104,690.

★**San Diego, Cal.**—Contract awarded H. P. Shields, San Diego, for erecting 100 x 100 ft. fireproof store building; cost about $50,000. John B. Lyman, Timken Bldg., arch.

Los Angeles, Cal.—See "Reinforced Concrete."

★Contract awarded J. M. Cartwright, 214 Bailey St., for erecting three hollow-tile and concrete hospital buildings on Boyle Heights for Seventh Day Adventists; cost about $60,000.

★Contract awarded Weymouth Crowell, 2026 W. 9th St., at about $175,000 for erecting 6-story and basement, steel, concrete and brick, 95 x 150-ft. department store building at 9th St. and Broadway, to be occupied by Blackstone Dry Goods Co., 3d St. and B'way, for Arthur Fleming. John Parkinson, archt., 421 Title Insurance Bldg.

Twin Falls, Idaho.—Following are four lowest bids received by Superv. Arch., Treasury Dept., Washington, D. C., Dec. 6, for erecting complete U. S. post office. Proposal A, facing bldg. with brick except where stone is required and using light-colored limestone except where granite is required; proposal B, using light-colored sandstone; proposal C, facing the bldg. with stone and using light-colored limestone; proposal D, using light-colored limestone: W. D. Lovell, Minneapolis, Minn., proposal A $81,300, B $80,700, C $84,750, D $84,150; C. R. Aldrich, Seattle, Wash., proposal A $82,-000, B $79,700, C $85,900, D $81,900; Welch Bros. & Hannaman, Kalispel, Mont., proposal A $83,338; B $83,589, C $87,146, D $86,452; Sound Construction & Engineering Co., Seattle, Wash., proposal A $83,-433, B $90,397, C $81,278, D $93,297.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Brooklyn, N. Y.—All bids opened Nov. 4, by Bureau Yards and Docks, Navy Dept., Washington, D. C., for dredging at navy yard have been rejected.

All bids opened Dec. 2, by U. S. Engrs., Army Bldg., New York City, for dredging in Newton Creek have been rejected.

Jersey City, N. J.—Grymes Eng. Co., Ft. Morris, Jersey City, negotiating with City Comn. for lease of property consisting of 8 acres in South Cove Dist., for erection of marine and shipbuilding plant; company proposes an initial payment of $100,000 for dredging and bulkhead work.

Raleigh, N. C.—Norfolk Southern Farms incorporated with capital of $1,000,000 to develop 45,000 acres eastern North Carolina farm land, to include 175 miles drainage ditches, lateral ditches, etc. Edw. C. Bailly, White Plains, N. Y., Richard S. Coe, New York City, N. Y., among incorporators.

Marshall, Minn.—City contemplates constructing following ditches in the spring: County Ditch No. 26, cost about $20,000; Ditch No. 28, $22,000; Ditch No. 29, $5,000; Ditch No. 30, $25,000; Ditch No. 32, $11,000; Ditch No. 33, $4,000; Ditch No. 24, $4,000; Ditch No. 35, $35,000; Ditch No. 36, $4,000; Ditch No. 37, $3,000; Ditch No. 28, $10,000; Judicial Ditch No. 14, about $8,000; Judicial Ditch No. 16, $150,000; and two new ditches, about $50,000 each. O. H. Sterk, drainage engr.

Beaumont, Tex. — Surveys have been completed by Lieut. Col. W. J. Barden, Federal Bldg., Dallas, and Col. J. C. Sanford, Custom House, New Orleans, La., with view of recommending to Congress that an appropriation be made for removal of portion of harbor island and deepening of channels on south and west side of island.

Seattle, Wash.—Comrs. Snohomish and King counties have decided to form drainage district, consisting of 2500 acres in Snoqualmie Valley; cost, $37,000. Perry Niles, drainage engr., will probably be in charge of work.

Drewsy, Ore.—John H. Lewis, state engr., Salt Lake City, has approved application of Arthur S. Beede & Sons, Drewsy, for constructing reservoir for storage of 3,800 acre ft. of water for irrigating 1,596 acres of land, to include canal 6 miles long and dam 3 ft. high; cost about $20,000.

Chowchilla, Cal.—Chowchilla Reclamation Dist. will submit plans to Bd. Co. Supervs. for constructing irrigation district; cost about $400,000. H. S. Wanzer, dir.

Tracy, Cal.—West Side Irrigation Dist. voted in favor of issuing $295,000 bonds for constructing irrigation system to irrigate about 12,000 acres, water to be taken from Old River, a branch of the San Joaquin; construction to start immediateely.

Utah.—Applications have been filed with State Engr., Salt Lake City, for permission to divert water for irrigation purposes:

Artemus Stavalamudakis of Price, for 2.2 ft. of water from Coal Creek to irrigate 160 acres.

Andrew G. Tangren, Moab, for 2.2 ft. of water from Coyotte wash to irrigate 320 acres.

F. O. McDaniels, Alpine, for 2.2 ft. of water from unnamed spring to irrigate 200 acres.

Felix A. Wade, Watson, for 2.2 ft. of water from Rathole Creek to irrigate 140 acres.

BIDS DESIRED.

Cleveland, O.—Until Dec. 20, at office of Comr. Purchases and Supply, for furnishing labor and material for building service tunnel under Detroit-Superior high-level bridge subway at W. 25th St.; information from Comr. Water, room 211, City Hall.

Marengo, Ill.—Until Dec. 20, at Dairyman's State Bank, Marengo, for excavating for Coon Creek Drainage Dist., to consist of 88,387 ft. of from 6 to 27-in. tile; maximum depth for open trenches, 10 ft. Main open ditch to consist of 20,762 ft. of from 30 to 40 ft. bottom; average depth 8 ft., in all about 262,331 cu. yd. of excavation; open ditch branches to consist of 10,800 ft. of 4 ft. bottom; average depth 4 to 7 ft., in all about 25,036 cu. yd. excavation; 10 bulkheads, inlet and silt basin for 24-in. tile; estimated cost of material and labor, $73,127. Arthur L. Webster, Drainage engr., Wheaton.

Sac City, Ia.—Reported desired until Dec. 22, separate bids, by Sac County (E. W. Moyer, aud.) and Buena Vista County (W. W. Bennett), joint owners, for improving Dist. Nos. 36-38; Sec. 1, 4300 ft. open ditch cleanout, 2600 yd.; Sec. 2, 210 ft. 30-in. tile; Sec. 3, 14 cu. yd. concrete bulkheads; certified check for 10 per cent to accompany bid.

Crookston, Minn.—Reported desired until Jan. 25, by H. J. Welte, aud. Polk. Co., for repairing County Ditch No. 46; work includes about 34,155 cu. yd. excavation; cost, about $9,000. E. J. Boyer, engr.

Sycamore, Ill.—Until Dec. 28 by Comrs. Union Drainage Dist. No. 1 of towns Afton and Milan, De Kalb Co., for excavating 115,040 cu. yd. of earth from main channel, excavating 21,533 cu. yd. of earth from Afton lateral, and excavating 4510 cu. yd. of earth from Afton sub-lateral, all above work to deepen and widen present channels in drainage dist; also 55,000 cu. yd. of earth excavation on new Milan lateral (new work); plans and specifications may be obtained at office of J. E. Lowman, co. surv. Sycamore, or at office of clerk above dist., Grant Mosher, De Kalb.; bids must be accompanied by certified check for 5 per cent payable to comrs.; bond of $5,000 required. Hay & Laymon, engrs., Sycamore.

Breckenridge, Minn.—Reported desired until Dec. 19, by A. O. Houglum, co. aud., for repairing and enlarging Clay Wilkins County Ditch No. 1, including bridges and culverts; cost, $12,042; also County Ditch No. 40; cost, $23,751; certified check for 10 per cent. for each bid.

Elbow Lake, Minn.—Reported desired until Jan. 3 by Grant Co. for constructing Ditch No. 3, about 15 mi. tile drain. H. Dunaway, Elbow Lake, engr.

Swifton, Ark.—Until Dec. 20, by Bd. Comrs. Maple Slough Drain. Dist. (W. R. Harvey, chmn.), for 413,873 cu. yd. dredge ditch excavation and about 64,859 cu. yd. scraper ditch excavation, about 2000 lin. ft. 24-in. drain tile, about 300 lin. ft. concrete drain tile and 20 wooden truss and stringer bridges; certified check for $1,000 for ditch contract and 5 per cent of value of each of the other contracts to accompany bid; plans from W. A. Bowman, engr., Newport, or from Ferdinand Tonny, secy., Swifton.

El Centro, Cal.—Until Dec. 16 (change of date), by the Imperial Irrigation Dist., for excavating 900,000 cu. yd. for canal 6200 ft. long, at Colorado River; intake also, 450,000 cu. yd., for canal in Mexico, 4 miles long. Must apply in person to C. R. Rockwood, ch. engr., Calexico, Cal.

San Francisco, Cal.—Until Dec. 27, at U. S. Engr. Office, 401 Custom House, for dredging in Oakland harbor.

PRICES AND LETTINGS.

★Indicates award of contract.

Brooklyn, N. Y.—Following are bids opened Dec. 4 by R. A. C. Smith, comr. of docks, Pier A, Battery Pl., New York City, for furnishing material and dredging about 40,000 cu. yd. at foot of 29th, 30th and 35th Sts., Brooklyn Boro.: Coastwise Dredg. Co., 17 Battery Pl., New York, 24 cts.; P. Sanford Ross, Inc., 277 Washington St., Jersey City, N. J., 27½ cts.; Norris & Cummings Dredg. Co., 48 cts. Prices given per cu. yd.

Following bid opened at U. S. Engrs. Office, Army Bldg., New York City, Nov. 28, for dredging 23,000 cu. yd. in Newton Creek: Morris & Cummings, 17 Battery Pl., New York City, at 55 cts. per cu. yd.

★New York, N. Y.—Contract awarded by U. S. Engrs., Army Bldg., New York City, to Eugene Bergman, Boston, Mass., at $37,562, for dredging Hudson River channel. (Bids opened Nov. 24.)

★**Philadelphia, Pa.**—Contract awarded by Maj. J. C. Oakes, Corps Engrs., U. S. A., Philadelphia, to American Dredging Co., Marine and Merchants Bldg., Philadelphia, at $717,750, for dredging in Delaware River on Deep Water Point, New Castle, and Reedy Island Light House ranges. (Bids opened Nov. 2.)

★**Norfolk, Va.**—Contract awarded by U. S. Engrs., Norfolk, to the Atlantic Gulf & Pacific Co., Houston, Tex., and 13 Park Row, New York City, at $720,000, for dredging inland waterway from Norfolk, Va., to Beaufort Inlet, S. C. (Bids opened Nov. 14.)

★**Jacksonville, Fla.**—Contract awarded Logan Concrete & Eng. Co., Jacksonville, at $218,699, for constructing drainage system, to involve 1,750,000 cu. yd. open ditch and concrete spillways.

★**Alexandria, La.**—Contract awarded by Bd. Comrs., Red River Atchafalaya and Bayou Boeuf Levee Bd. (Howard Gist, secy.) for constrcting South Alexandria levee, comprising 125,000 cu. yd., to C. Nordstrom, at 16.83 cts; levees from Coco Bend to V levee on Bayou des Glaies, about 300,000 cu. yd., to Lower Coast Constr. Co., 122 Charters St., 10.40 cts.; price given per cubic yard.

★**Dyersburg, Tenn.**—Contract awarded by Bd. Dir. Bogota Drainage Dist (bids opened Nov. 28) to Jas. P. Carr, Ft. Wayne, Ind., at $25,260, for 405,000 cu. yd. excavation in Bogota Drainage Dist., including 96 acres of clearing of right of way. For detail of bid see Dec. 9 issue.

Lima, O.—Only bid opened Dec. 7 by A. L. Metheany, dir. pub. serv., for furnishing material and improving Ottawa River from west line of Main St. to Erie RR. Co. was that of J. H. Jones, Fostoria, at $57,000.

★**Bemidji, Minn.**—Contract awarded E. A. Dahl & Co., Duluth, Minn., at $433,122, for constructing County Ditch No. 25. J. C. Burke, engr., Bemidji. J. L. George, co. aud.

★**Cambria, Minn.**—Contract awarded Dec. 2 by Co. Comrs. to New Ulm Brick & Tile Co., New Ulm, at $11,036, for constructing Ditch No. 48.

★**Duluth, Minn.**—Contract awarded E. H. Dahl & Co., Duluth, at $433,122, for constructing Judicial Ditch No. 25, to involve 240 miles of main ditch and laterals and constructing 219 miles of new road along waste banks.

★**Ortonville, Minn.**—Contract awarded by A. V. Randall, co. aud., to Scholberg & James, Marvin, S. D., at $24,000, for digging and constructing ditch No. 13, with branches, etc.

★**Hardin, Mo.** — Following are bids opened by Levee Dist. No. 4 (John M. Rhodes, secy.) for 92,000 cu. yd. levee work: F. E. Brunworth, Hardin, $11,960 (awarded contract); Cameron Joyce Co., Midland Bldg., Kansas City, Mo., $14,119; W. L. Hood, Hardin, $13,800.

El Paso, Tex.—Following are bids opened by U. S. Reclamation Serv. for constructing first 5 miles of Arrey canal: Lee Moor Constr. Co., El Paso, $39,931; D. O. Johnson, Phoenix, Ariz., $62,618.

★**Oakdale, Cal.**—Contract awarded G. W. Price & Co., 33 Stevenson St., San Francisco, at $30,000, for first unit on Waterford Irrigation Dist. canals.

Richmond, Cal. — Following are bids opened for constructing 4600 lin. ft. bulkhead at inner harbor: Standard American Dredg. Co., 414 13th St., Oakland, $8.56 per ft.; San Francisco Bridge Co., Nevada Bank Bldg., San Francisco, $9.40; American Dredg. Co., 21 California St., San Francisco, $11.50.

★**San Jose, Cal.**—Contract awarded to Raisch Improv. Co., Crocker Bldg., San Francisco, at $11,790, for constructing Foxworthy drainage ditch and concrete culvert on Plummer Ave.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Camden, N. J.—City contemplates constructing two large piers in connection with water front improvements; cost $1,000,000.

Newark, N. J.—City contemplates enlarging its water shed at Oak Ridge reservoir by raising dam for purpose of flooding a larger area; this change will overflow the present Paterson-Hamburg Turnpike where it runs along the reservoir between Oak Ridge and Stockholm, and city has devised new road to be constructed; city has also requested Passaic to replace two bridges which will be abolished in constructing new road.

Red Bank, N. J.—Congress has been asked to appropriate $295,000 for improving Shrewsbury River; plans to be prepared by War Dept. Engrs.

Dayton, O.—Press reports state that the Miami Valley Conservancy Bd. about to sell $25,000,000 bonds to be used for detention reservoir plan of flood protection. The districts comprise Montgomery, Miami, Green, Clark, Shelby, Champaign, Butler, Hamilton and Preble counties. Five detaining reservoirs or large earthen dams are to be built to hold back flood waters.

Springfield, Ill. — Montgomery Hydro-Electric Co. (Chas. A. King, secy., 514 Harris Trust Bldg., Chicago) has filed with State Pub. Utilities Comn. a certificate of convenience and necessity to construct and operate plant for use and sale of water, steam and electric power, etc., and utilize dam and water power at Montgomery.

St. Paul, Minn.—Commissioner Keller contemplates constructing dock for harbor at Sibley St. next year; cost, $25,000.

Oklahoma City, Okla. — Southwestern Power, Light & Ry. Co., 406 Security Bldg., contemplates issuing $1,000,000 bonds for constructing hydroelectric plant on Washita River, to furnish electricity to Ardmore, Shawnee and other cities. W. T. Croaslen, engr., Oklahoma City.

Oakland, Cal.—Southern Pacific RR. Co. (W. Hood, ch. engr., San Francisco) contemplates constructing bulkhead and retaining walls at Oakland harbor; cost, about $250,000.

San Diego, Cal.—Later official reports state that election held recently for $682,-210 bonds for constructing concrete dam at Lower Otay was defeated; another election to be held at an early date.

Nome, Alaska. — Investigations have been completed by E. L. Carpenter, engr. War Dept., Washington, D. C., and construction of breakwater and harbor is contemplated for protection of barges and vessels menaced by Bering Sea storms, causing $5,000,000 damages in the last sixteen years.

Vancouver, B. C.—Vancouver Drydock Co., Ltd. (Chas. Meeks, Vancouver, interested), contemplate constructing floating drydock of 16,000-ton, double section, dock capable of handling a boat 18,000 tons, which is the measure requirements on the Pacific. Bonds for $2,000,000 have been sold for this work. A ship repair and shipbuilding plant is part of plan decided upon.

BIDS DESIRED.

Providence, R. I.—Until Jan. 3, at office of Water Supply Board, City Hall, Providence (B. Thomas, chmn.), for steam-control works, for main dam Scituate Reservoir; advertised in this issue.

Seattle, Wash.—Dec. 19, by Co. Comrs. (Byron Phelps, clk.), for constructing Lake Union Wharf; plans obtained from clk. upon deposit of $5.

PRICES AND LETTINGS.

★Indicates award of contract.

★**Newport, R. I.**—Contract awarded by Bureau Yards and Docks, Navy Dept., Washington, D. C., to R. H. Beattie, Fall River, Mass., at about $26,571, for constructing seawall at the Naval Torpedo Station.

★**Albany, N. Y.**—Contract awarded by W. W. Wotherspoon, state supt. pub wks., to MacArthur Bros., 130 Bway., New York City, at $1,596,788, for Erie Canal Contract No. 59. (Bids opened Oct. 10) For detail bid see Oct. 27 issue.

★Contract awarded by W. W. Wotherspoon, state supt. pub wks., to Brown & Lowe Co., 111 Foster Ave., Schenectady, at about $21,780, for Contract No. 150, Erie Canal, Sect. 2. (Bids opened Nov. 24.)

★**New York, N. Y.**—Contract awarded Raymond Concrete Pile Co., 140 Cedar St., New York City, for constructing piles in foundations as follows: Roundhouse for the N. Y., N. H. & H. RR., South Boston, Mass., Stone & Webster Eng. Corp., 147 Milk St., Boston, Mass.; for building for the Providence Telephone Co., Providence, R. I., Clark & Howe, archts., Turks Head Bldg., Providence; under the Kaufman warehouse, Pittsburgh, Pa., for Investment Land Co., Hunting-Davis Co., archts., Century Bldg., Pittsburgh, Pa.; for building for Oakes Mfg. Co., Steinway, L. I., L. C. L. Smith, archt., Queensboro Corp. Bldg., L. I. City; for mill of John A. Roebling & Sons Co., at Roebling, N. J., Frank W. Bunn, engr.; for garage for Bush Terminals, South Brooklyn, Wm. Higginson, archt., 13 Park Row, New York City; for Afton Development Co., Afton, N. Y., Guarantee Constr. Co., engrs.; quartermen's houses and water intake for Bethlehem Steel Co., Sparrows Point, Md.; for Preparatory Seminary, Chicago, Ill., Zachary T. Davis, archt., 934 E. 45th St., Chicago, Ill.; hotel building for Wheelock & Shank, Chicago, Ill., H. B. Wheelock, archt., Evanston, Ill.

★**Annapolis, Md.** — See "Foundation, Piers and Dams."

★**Wheeling, W. Va.**—Contract awarded to Independent Bridge Co., Pittsburgh, Pa., at $116,594, for furnishing and erecting upper and lower mitering lock gates of two leaves each for Lock No. 41, Ohio River.

Wheeling, W. Va.—Following are bids opened Dec. 5, by Maj. T. H. Jackson, corps. engrs., for (a) structural steel, (b) forgings, (c) bolts, etc., (d), iron castings, (e) steel castings, (f) river-wall and valves for dams Nos. 23, 25 and 27, Ohio River; S. B. Harding, 1232 Transportation Bldg., Chicago, Ill. (a) $38,520, (b) $5,910, (c) $1,572, (d) $1,287, (e) $2,982, (f) $22,080 (awarded contract): Pittsburgh Trolley & Forge Co., 117 Water St., Pittsburgh, Pa. (b) $5,411 (awarded contract), (c) $1,420; American Car & Foundry Co., (f) $23,970; Penn Bridge Co., Beaver Falls, Pa. (a) $47,200; Independence Bridge Co., 829 Beaver Ave., N. Pittsburgh, Pa. (a) $36,720 (awarded contract), (b) $7,770, (c) $1,365 (awarded contract; J. & J. B. Milholland Co., 714 5th Ave., Pittsburgh, Pa., (c) $1,920, (d) $1,213 (awarded contract), (e) $2,695, (f) $23,925.

★**Ft. Morgan, Ala.**—Contract awarded by U. S. Quartermaster (bids opened Nov. 17) to Geo. M. Gadsden, Savannah, Ga., at $14,847, for constructing wharf here. For detail bids see Dec. 9 issue.

★**New Orleans, La.**—Contract awarded by U. S. Engr., New Orleans, to O. O. Ogden, Baton Rouge, La., at $46,751, for 198,000 cu. yd. levee work. (Bids opened Nov. 3.)

★**Rock Island, Ill.**—Contract awarded by U. S. Engr., Rock Island (bids opened Oct. 18), for dams and protection work between Bellevue and Sabula, Ia.; between Beatty's Crossing and Keithsburg, Ill.; Quincy and Hannibal, Mo.; Louisiana, Mo., and Hamburg, Ill., and between Hamburg and Grafton, Ill.; Kirschner Contr. Co., Dubuque, Ia., $71,250; Bears Sand & Gravel Co., Davenport, Ia., $71,250; A. V. Fetter, Quincy, $71,250, and Rust & Swift, St. Louis, Mo., $118,750 respectively.

★**Dallas, Tex.**—Contract awarded by Dallas County Levee Improv. Dist., No. 1, to W. C. Callaghan Constr. Co., for 5 miles of 10-ft. and 5 miles of 5-ft. levee on west bank of Trinity River; bonds for $48,000 recently voted.

★**Sabine Pass, Tex.**—Contract awarded by U. S. Engr., Dallas, to D. M. Picton & Co., Galveston, at about $268,000, for jetty work at Sabine Pass.

TUNNELS AND SUBWAYS

PROPOSED WORK.

Hackensack, N. J.—Board Freeholders has granted permission to N. Y. Telephone Co. for constructing underground conduits and subways from Hackensack River to Hoboken Road.

Huntington, W. Va.—Contract soon to be let by Chesapeake & Ohio RR. Co. (F. I. Cabell, ch. engr., Richmond) for constructing 10th St. subway.

Lexington, Ky.—Plans are being prepared by City Eng. Dept. and engineering corps of Southern Ry. for subway 1200 ft. long, walls probably of concrete construction, for elemination of grade crossing on Versailles Pike at end of High St. J. C. Rogers, mayor.

Bloomington, Ill.—Subway contemplated at Washington St., to be 40 ft. wide, exclusive of sidewalks; will have pillars in center of street; car tracks and roadway; cost, about $116,000.

Omaha, Neb.—Judge R. S. Lovett, 165 Bway., New York, N. Y., head of Union Pacific RR., completed surveys and has ordered an expenditure of several million dollars to build tunnel under Sherman Hill in Wyoming, the highest point on the Union Pacific.

MISCELLANEOUS

PROPOSED WORK.

Incinerator — Bayonne, N. J. — City Comn. contemplates constructing garbage incinerator.

Park—Bernardsville, N. J.—Richard V. Lindabury, Bernardsville, contemplates constructing public park and digging lake, 300 x 150 ft.

Waterproofing, Lighting, Etc.—Cleveland, O.—Co. Comrs. intend issuing $500,000 bonds for completing new high level bridge; proceeds to be used for paving, waterproofing, lighting, plumbing and purchase of property for subway approaches. W. M. Stinchcomb, co. engr.

Reported Henry P. Angel, 10,933 Pasadena Ave., forming syndicate to build a $2,000,000 amusement park at Kamms Corners, West Park (suburb of Cleveland).

Garbage Disposal Plant—Ann Arbor, Mich.—Manley Osgood, city engr., preparing plans for constructing garbage disposal plant.

Transmission Line—Virginia, Minn.—Great Northern Power Co., Duluth, contemplates constructing transmission line from Thomson to Virginia.

Incinerator — Galveston, Tex.—Surveys have been made by R. W. E. Thompson, Augusta, Ga., for constructing garbage incinerator.

Transmission Lines — Yuma, Ariz. — Southern Sierras Power Co., Denver, Col., and Richmond, Cal. (A. B. West, vice-pres., Riverside), for constructing transmission line from either Niland of El Centro to Hanlon Heading on the Colorado River near Yuma, about 75 miles; cost about $300,000.

BIDS DESIRED.

Motor Fire Apparatus—Atlantic Highlands, N. J.—Until Jan. 9, for 2 auto hose carts and 1 auto hook and ladder truck. C. K. Linson, boro. clk.; advertised in this issue.

Groins—Sandy Hook Reservation, N. J.—Until Dec. 28, at Army Bldg., 39 Whitehall St., New York City, for constructing timber groins and repairing sea wall; advertised in this issue.

Rock Crushers—Panama.—Until Jan. 3, at office of purchasing agent (R. E. Rutherford) Panama Canal, 24 State St., New York City, for rock crusher, including screen and incomplete conveyors; advertised in this issue.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Cranes, Brooklyn, N. Y.** — Contract awarded by Bureau Yards and Docks, Navy Dept., Washington, D. C., to Industrial Wks., Bay City, Mich., at $11,500, for furnishing one 20-ton traveling crane.

Playground—Philadelphia, Pa.—H. E. Baton, 12th and Sansom Sts., Philadelphia, submitted the lowest bid, at $46,300, for improvements to playground at Cedar and Cambria Sts.

Rip Rap—Ludington, Mich.—Following are four lowest bids opened Dec. 11 by Maj. F. W. Altstaetter, corps engrs., U. S. A., for furnishing, delivering and placing about 56,000 tons rip rap around breakwater constructed at Ludington: N. P. Nelson Co., Muskegon, Mich., $2.23½; Grelling Bros. Co., Green Bay, Wis, $2.53; Great Lake Dredge & Dock Co., 104 S. Michigan Ave., Chicago, Ill., $2.65; Thos. L. Durocher, Marquette, Mich., $2.74. (Price given per ton.)

★**Cement—Los Angeles, Cal.**—Contract awarded by Dept. Pub. Service to Southwestern Portland Cement Co., 607 H. W. Hellman Bldg., at $1.55 per bbl., for 10,000 bbl. cement, f.o.b. factory; other bids, Riverside Portland Cement Co., $1.73, and Los Angeles County $1.75.

Philadelphia, Pa.—Following of totals and unit figures of bids opened Dec. 7 by W. S. Twining, dir. dept. city transit, 754 Bourse Bldg., for second section of Broad St. subway, Contract No. 102, under City Hall: (a) Keystone State Constr. Co., Penn. Bldg., $848,000 (awarded contract); (b) Smith Hauser & McIsaac, 18 East 41st St., New York, $950,000; (c) Booth & Flinn, 1942 Forbes St., Pittsburgh, Pa., $1,200,000.

	(a)	(b)	(c)
1,000 cu. yd. for whole work as shown on the plans	$2.00	$6.00	$2.50
1,000 cu. yd. excavation above elevation zero	8.00	8.00	8.00
10,000 lb. excavation below elevation zero	.06	.06	.08
10,000 lb. riveted steel columns	.06	.06	.08
10,000 lb. steel girders	.06	.06	.08
10,000 lb. steel beams	.06	.055	.05
1,000 sq. ft. steel rods	1.00	1.00	2.25
1,000 vert. ft. steel sheathing	7.50	6.00	3.50
1,000 cu. yd. steel pipe piles	12.00	12.00	10.00
1,000 cu. yd. class B concrete	8.50	12.00	8.00
1,000 sq. ft. class E concrete	.50	.50	1.25
1,000 cu. yd. concrete sheathing	.25	1.00	.50
100 cu. yd. backfilling	15.00	40.00	20.00
100 cu. yd. brick masonry	5.00	20.00	7.00
1,000 bags cement rubble masonry	1.25	1.00	1.00
10,000 ft. B. M. grout	80.00	.10	80.00
1,000 sq. ft. yellow pine lumber	.08	.18	.50
1,000 sq. ft. 1-ply waterproofing	.20	.27	1.00
500 net tons 2-ply waterproofing	4.00	3.00	1.50
100 sq. ft. painting steel work	1.50	2.00	1.65
1,000 lin. ft. safety treads	.50	1.00	.40
1,000 lin. ft. 5-in. or 6-in. vitrified clay pipe	.50	1.00	.75
1,000 lin. ft. 8-in. or 10-in. vitrified clay pipe	1.00	1.00	1.00
1,000 lin. ft. 12-in. vitrified clay pipe	1.50	1.50	1.60
10,000 lb. 15-in. or 18-in. vitrified clay pipe	.03	.08	.04
5,000 lb. cast iron pipe	.06	.12	.07
1,000 lb. cast iron specials	.10	.10	.10
2,000 sq. ft. steel gratings	1.50	2.50	1.50
1,000 duct ft. vault lights	.20	.15	.15
100 sq. yd. electric ducts	4.00	5.00	3.00
100 sq. yd. wood block paving	3.00	4.00	2.50
100 sq. yd. asphalt paving	1.50	3.00	2.00
500 lin. ft. granolithic paving	.50	1.50	.20
$50,000 resetting granite curb	30%	15%	30%

★**Tide Gates—Newport Beach, Cal.**—Contract awarded by Bolsa Chica Gun Club to Mercereau Bridge & Constr. Co., Pacific Electric Bldg., Los Angeles, at about $10,000 for tide gates.

★**Cranes — San Diego, Cal.** — Contract awarded by Bureau Yards and Docks, Navy Dept., Washington, D. C., to Link Belt Co., 328 W. 39th St., New York City, at $11,200, for locomotive crane at the naval station.

★**Incinerator—New Toronto, Ont.**—Contract awarded Reed Product Co., Standard Bldg., Toronto, at $10,000, for constructing incinerator.

★**Cement — Winnipeg, Man.** — Contract awarded by R. D. Waugh, chmn. comrs., 901 Boyd Bldg. (bids opened Nov. 27), to Canada Cement Co., Union Trust Bldg., at $2.61 per bbl. for 150,000 bbl. cement for Greater Winnipeg Water Dist. for year 1917. W. G. Chase, ch. engr. dist.

Proposals

For Proposals Advertised See Pages 40A and 40B.

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.		See Eng. Record.
Dec. 18.	Winnipeg, Man.	Nov. 18
	Adv. Nov. 18 to Dec. 9.	
Dec. 18.	Yonkers, N. Y.	Dec. 9
Dec. 18.	Tulsa, Okla.	Dec. 9
Dec. 18.	Cuyahoga Falls, O.	Dec. 9
Dec. 18.	Moran, Kan.	Dec. 9
Dec. 19.	El Dorado Springs, Mo.	Dec. 9
Dec. 19.	Tracy, Cal.	Dec. 9
Dec. 19.	Waterford, Cal.	Dec. 9
Dec. 19.	Shaker Heights (P. O. Cleveland), O.	Dec. 9
Dec. 19.	Berwyn, Ill.	Dec. 16
Dec. 19.	Dardanelle, Ark.	Dec. 16
Dec. 19.	Pittsburgh, Pa.	Dec. 16
Dec. 20.	St. Clare Heights, Mich.	Dec. 16
Dec. 20.	Cleveland, O.	Dec. 16
Dec. 21.	New Orleans, La.	Nov. 4
Dec. 21.	Cincinnati, O.	Dec. 16
Dec. 24.	Erie, Pa.	Dec. 16
Dec. 26.	Indianhead, Md.	Dec. 9
Dec. 26.	Roanoke, Va.	Dec. 16
Dec. 27.	Philadelphia, Pa.	Dec. 9
	Adv. Dec. 9, 16.	
Dec. 27.	Baltimore, Md.	Dec. 16
Jan. 2.	Rock Island, Ill.	Dec. 9
Feb. 5.	Rockwell City, Ia.	Dec. 9
Jan. 8.	Webster City, Ia.	Dec. 9
Jan. 9.	Independence, La.	Dec. 16
Jan. 16.	Toronto, Ont.	Dec. 9
Mar. 6.	Chilton, Wis.	Dec. 2

STRUCTURAL STEEL WORK

Dec. 20.	Jamestown, N. D.	Dec. 16
Dec. 20.	Malta, Mont.	Dec. 2
Dec. 20.	Stanton, Neb.	Dec. 16
Dec. 20.	Fargo, N. D.	Dec. 16
Dec. 22.	Flomaton, Ala.	Dec. 16
Dec. 27.	Albany, N. Y.	Dec. 16
	Adv. Dec. 16.	
Dec. 29.	Mt. Ida, Ark.	Dec. 16
Jan. 1.	Newton, Ia.	Nov. 18
Jan. 1.	New Castle, Pa.	Nov. 18
Jan. 1.	Mitchell, S. D.	Oct. 7
Jan. 4.	Huntington, W. Va.	Dec. 16
Jan. 5.	Ashland, O.	Dec. 16

REINFORCED CONCRETE.

Dec. 14.	Lake Charles, La.	Nov. 25
Dec. 15.	Potter, Wis.	Nov. 18
Dec. 20.	Ellsworth, Kan.	Dec. 2
Dec. 21.	Waterford, Cal.	Dec. 9
Dec. 22.	Sac City, Ia.	Dec. 16
Dec. 22.	Grafton, W. Va.	Dec. 16
Dec. 22.	San Rafael, Cal.	Dec. 16
Dec. 23.	Quincy, Ill.	Dec. 9
	Adv. Dec. 9, 16.	
Dec. 27.	Fort Wayne, Ind.	Dec. 9
Dec. 27.	Paola, Kan.	Dec. 9
Dec. 28.	Carroll, Ia.	Dec. 16
Jan. 1.	Manhattan Beach, Cal.	Nov. 25

ROADS AND PAVING.

Dec. 18.	Stone Harbor, N. J.	Dec. 16
Dec. 19.	Riverside, Cal.	Dec. 16
Dec. 19.	Amboy, Ill.	Nov. 25
	Adv. Nov. 25, Dec. 2.	
Dec. 19.	Berwyn, Ill.	Dec. 16
Dec. 20.	Butte, Mont.	Dec. 2
Dec. 20.	Storm Lake, Ia.	Dec. 9
Dec. 20.	Baltimore, Md.	Dec. 16
Dec. 20.	Ravenna, O.	Dec. 16
Dec. 21.	Columbus, O.	Dec. 16
Dec. 21.	Ohio	Dec. 16
Dec. 22.	Hazard, Ky.	Dec. 16
Dec. 23.	Pinesville, W. Va.	Dec. 9
	Adv. Dec. 9, 16.	
Dec. 23.	Matamoras, O.	Dec. 16
Dec. 26.	Bakersfield, Cal.	Dec. 16
Dec. 28.	Grinnell, Ia.	Dec. 16
Dec. 28.	Indiana	Dec. 16
Dec. 30.	Indiana	Dec. 16
Jan. 1.	Sidney, O.	Nov. 4
Jan. 1.	Fond du Lac, Wis.	Dec. 16
Jan. 1.	Lexington, Miss.	Dec. 16
Jan. 1.	Indiana	Dec. 16
Jan. 2.	Indiana	Dec. 16
Jan. 2.	Los Angeles, Cal.	Dec. 9
Jan. 3.	Keyport, N. J.	Nov. 18
Jan. 8.	Moulton, Ala.	Dec. 9
	Adv. Dec. 9.	
Jan. 10.	Independence, Ia.	Nov. 18
Jan. 10.	Freehold, N. J.	Dec. 16
Feb. 1.	Cedar Rapids, Ia.	Nov. 18

RAILWAYS

Dec. 14.	New York, N. Y.	Dec. 9
Dec. 15.	Brooklyn, N. Y.	Dec. 9
Dec. 20.	Lawrence, Mass.	Dec. 9
	Adv. Dec. 9, 16.	

BUILDINGS.
Public and Private.

Dec. 19.	Farrell, Pa.	Nov. 25
Dec. 20.	St. George, S. I., N. Y.	Dec. 2
Dec. 20.	Jersey City, N. J.	Nov. 25
Dec. 20.	Waterbury, Conn.	Dec. 9
Dec. 20.	Maryland	Dec. 9
Dec. 20.	Waconia, Minn.	Dec. 9
Dec. 20.	Boston, Mass.	Dec. 16
Dec. 21.	Bonne Terre, Mo.	Nov. 4
Dec. 21.	Nacogdoches, Tex.	Nov. 25
	Adv. Nov. 25, Dec. 2.	
Dec. 22.	Dowagiac, Mich.	Dec. 2
Dec. 22.	Bakersfield, Cal.	Dec. 2
Dec. 22.	East St. Louis, Mo.	Oct. 28
Dec. 22.	Portsmouth, O.	Dec. 2
Dec. 22.	Sapulpa, Okla.	Dec. 16
Dec. 23.	Jacksonville, Fla.	Dec. 9
Dec. 26.	Frederick, Md.	Nov. 25
	Adv. Nov. 25, Dec. 2.	
Dec. 26.	Mt. Carmel, Ill.	Dec. 2
Dec. 26.	Maquoketa, Ia.	Dec. 9
Dec. 26.	Newport, R. I.	Dec. 16
Dec. 27.	Laconia, N. H.	Dec. 2
	Adv. Dec. 2, 9.	
Dec. 27.	Albany, N. Y.	Dec. 9
	Adv. Dec. 9, 16.	
Dec. 28.	Grinnell, Ia.	Dec. 16
Dec. 30.	Sullivan, Ind.	Nov. 18
Jan. 1.	Cameron, Mo.	Dec. 16
Jan. 1.	Webster, S. D.	Sep. 16
Jan. 1.	Morgantown, W. Va.	Dec. 16
Jan. 2.	West Minneapolis, Minn.	Dec. 16
Jan. 3.	New York, N. Y.	Dec. 16
Jan. 4.	Casey, Ill.	Dec. 16
Jan. 8.	Los Angeles, Cal.	Dec. 16
Jan. 10.	St. Jean de Dieu, Que.	Dec. 9
Jan. 15.	Lima, O.	Dec. 16
Jan. 18.	Marion, S. C.	Nov. 25
	Adv. Nov. 25, Dec. 2.	
Jan. 19.	Charlotte, Mich.	Dec. 16
Jan. 22.	Richfield, Utah	Dec. 16
Feb. 1.	Chehalis, Wash.	Dec. 16
May 1.	Minneapolis, Minn.	Nov. 25

FOUNDATIONS, PIERS AND DAMS.

Dec. 19.	Seattle, Wash.	Dec. 16
Dec. 19.	Cincinnati, O.	Nov. 25
	Adv. Nov. 25 to Dec. 16.	
Dec. 21.	Philadelphia, Pa.	Dec. 2
	Adv. Dec. 2, 9.	
Dec. 30.	Wheeling, W. Va.	Dec. 2
	Adv. Dec. 2 to 16.	
Jan. 1.	San Dimas, Cal.	Nov. 18
Jan. 2.	Santa Fe, N. M.	Nov. 18
	Adv. Nov. 18.	
Jan. 3.	Providence, R. I.	Dec. 16
	Adv. Dec. 16.	

EXCAVATION, DREDGING AND DRAINAGE.

Dec. 19.	Erie, Pa.	Nov. 18
	Adv. Nov. 18 to Dec. 9.	
Dec. 19.	Moorhead, Minn.	Dec. 2
Dec. 19.	Breckenridge, Minn.	Dec. 16
Dec. 20.	Cleveland, O.	Dec. 16
Dec. 20.	Duluth, Minn.	Nov. 25
Dec. 20.	Marengo, Ill.	Dec. 16
Dec. 20.	Oakland, Cal.	Nov. 25
Dec. 20.	Swifton, Ark.	Dec. 16
Dec. 22.	Glencoe, Minn.	Nov. 25
Dec. 22.	Sac City, Ia.	Dec. 16
Jan. 25.	Crookston, Minn.	Dec. 16
Dec. 27.	San Francisco, Cal.	Dec. 16
Dec. 28.	Sycamore, Ill.	Dec. 16
Dec. 29.	Wilmington, Del.	Dec. 9
	Adv. Dec. 9, 16.	
Jan. 3.	Elbow Lake, Minn.	Dec. 16

MISCELLANEOUS.

Dec. 20.	Gates-Washington, D. C.	Nov. 25
	Adv. Nov. 25.	
Dec. 21.	Barges, Memphis, Tenn.	Dec. 9
	Adv. Dec. 9, 16.	
Dec. 26.	Concrete Retaining Wall, Akron, O.	Dec. 9
Dec. 26.	Screw Gears, Washington, D. C.	Dec. 2
	Adv. Dec. 2.	
Dec. 26.	Cranes, Washington, D. C.	Dec. 9
Dec. 26.	Boilers, Detroit, Mich.	Dec. 9
	Adv. Dec. 9.	
Dec. 27.	Piling, Rochester, N. Y.	Dec. 9
	Adv. Dec. 9, 16.	
Dec. 28.	Piles, Etc., New Orleans, La.	Dec. 9
	Adv. Dec. 9, 16.	
Dec. 28.	Groins—Sandy Hook Reservation, N. J.	Dec. 16
	Adv. Dec. 16.	
Dec. 29.	Air Compressors, Pittsburgh, Pa.	Dec. 9
	Adv. Dec. 9, 16.	
Jan. 2.	Transmission Line, Hanford, Cal.	Dec. 9
Jan. 2.	Garbage Incinerator, Chattanooga, Tenn.	Dec. 9
	Adv. Dec. 9.	
Jan. 3.	Rock Crushers, Panama	Dec. 16
	Adv. Dec. 16.	
Jan. 4.	Transmission Line, Weaversville, Cal.	Oct. 21
Jan. 9.	Motor Fire Apparatus—Atlantic Highlands, N. J.	Dec. 16
	Adv. Dec. 16.	

Settlement of Railway Wage Dispute Possible

Car-Shortage Situation Apparently Improving—Railroad Bridge Work Coming Out—Shipbuilding Increase Has Taken Much Structural Steel

REPORTS that the railroads and their union employees are likely to settle their differences out of court are given credence because, it is said, each side realizes that any settlement likely to secure the approval of the present Congress would be apt to result unfavorably to both. If the managers and workers of the railroads are really going to get together and run the transportation business on the sensible basis of increasing both wages and financial returns by working to improve the quality and to lower the cost of transportation service, public opinion will undoubtedly back them in securing from the government a fair chance to earn profitable returns. Moreover, such action would be a long step forward in industrial organization, and a better guarantee of the continuance of sound economic conditions in this country than any amount of war-order foreign trade.

The probability of a favorable adjustment of this dispute may be foreshadowed in the signs of coming construction activity already in evidence in the railroad field. The news of proposed extensions and additions reaching this journal indicates increases both in the number of projects and in their size. Railroad bridge work is becoming active, according to fabricators. It is estimated that such business has amounted to 41,000 tons in contracts let since Nov. 1, besides much additional work on which bids have been taken. The small bridge projects, it is said, are being held up by high prices, but for the larger structures, the renewal of which has already been put off for a long time, the railroads are expected to be in the market early next year. This is especially true of the roads in the Middle West.

The car shortage has apparently passed the acute stage with the announcement of a net shortage on Dec. 1 of 105,527 cars, slightly less than the shortage on Nov. 1. It appears that lumber is moving in slightly better volume from both the Southern and the Pacific Coast mills, whre the lumber industry has felt the shortage most acutely. With the cars and locomotives now building and ordered, the railroads should soon have a fair supply, and should be able to turn their attention to other needed improvements.

The increasing importance of steel shipbuilding in the market for structural steel in this country is apparent from the bulletins on the progress of American shipbuilding issued by the Department of Commerce. The latest of these bulletins shows that on Dec. 1 American shipyards had under construction 1,428,000 gross tons in steel vessels. This is practically double the gross tonnage under construction Dec. 1, 1915. The steady growth of this industry is undoubtedly having its effect on the structural steel market, as was evidenced when it became necessary last summer for manufacturers to differentiate between shipbuilding plates and universal plates for the first time in quoting structural materials. At times since this distinction was made quotations on the two types of plates have been more than $30 per ton apart, the latter being suitable for fabricating structural steel, but not suitable for tank construction or for skin plates for vessels.

Buildings

Notices of large building work continue numerous for this season of the year. Important projects described in this issue are listed in the following table:

	Kind.	Cost.
Contracts awarded:		
Ocean City, N. J.	Hotel and pier	$800,000
South St. Paul, Minn.	Pile foundations	*5,000,000
Pueblo, Col.	City hall	196,000
St. John, N. B.	Elevator	200,000
Welland, Ont.	Foundry	150,000
Lenoxville, Que.	College buildings	1,250,000
Bids opened:		
Bridgewater, Mass.	Dormitories	410,000
Richmond, S. I., N.Y.	Hospital buildings	609,000
Bids desired:		
Cincinnati, Ohio	Club	200,000
Akron, Ohio	Bank	300,000
Proposed work:		
Hartford, Conn.	High school	275,000
East Orange, N. J.	Post office	200,000
Philadelphia, Pa.	Museum	500,000
Philadelphia, Pa.	Apartment house	1,500,000
Loretta, Pa.	College building	2,000,000
Scranton, Pa.	Packing plant	250,000
Cincinnati, Ohio	School buildings	300,000
New Orleans, La.	Terminal extensions	350,000
New Orleans, La.	Pier sheds	300,000
Austin, Tex.	Court house	450,000
Worland, Wyo.	Sugar factory	1,000,000
Butte, Mont.	Y. M. C. A. building	300,000
Gooding, Idaho	College buildings	200,000
Spokane, Wash.	Business building	500,000
Los Angeles, Cal.	Warehouse	500,000
St. John, N. B.	Paper mill	250,000

*Cost of plant complete.

Roads and Paving

Proposed highway construction noted in this issue includes the following items:

	Kind.	Cost
Mayville, N. Y.	Highway	$200,000
Baltimore, Md.	Highway	500,000
Clarendon, Va.	Bonds voted	190,000
Abingdon, Ill.	Paving	200,000
Baton Rouge, La.	Bonds voted	130,000
Kenosha, Wis.	Highways	95,000
St. Paul, Minn.	Paving	365,000
Great Falls, Mont.	Bonds voted	200,000
Lewiston, Idaho	Bonds voted	150,000
St. John, N. B.	Paving	240,000

Waterworks and Sewers

Waterworks and sewer construction noted in this issue includes a number of important projects noted in the following table:

	Kind of work.	Cost.
Contracts awarded:		
Lyndhurst, N. J.	Sewer	$254,000
Oxford, Miss.	Sewer	100,000
Bids desired:		
New York, N. Y.	Sewers	*107,000
New York, N. Y.	Sewers	*80,000
Cuyahoga Falls, O.	Sewer	60,000
Proposed work:		
Canton, N. Y.	Waterworks	180,000
Trenton, N. J.	Sewer	2,000,000
Ogdensburg, N. J.	Waterworks	100,000
Gary, Ind.	Sewer	250,000
Shreveport, La.	Waterworks	428,000
Detroit, Mich.	Filter plant	4,000,000
Minneapolis, Minn.	Water main	300,000
Elko, Nev.	Waterworks	200,000
Victoria, B. C.	Water main	125,000

*Total security required.

Miscellaneous Headings

A contract has been awarded at Superior, Wis., for building a $680,000 ore dock. Bids are desired at Chicago for erecting the superstructure of a bascule bridge at Twelfth Street over the Chicago River. A contract for building a $750,000 dam will be let Jan. 1 at Whittier, Cal. Plans have been completed for a $600,000 hydroelectric plant to be built at Oswego, N. Y. It is reported from Somerville, N. J., that grade-crossing elimination work to cost $2,600,000 is being considered by the Central Railroad of New Jersey. Additions being considered to the coal terminal of the Virginian Railway at Norfolk will cost $750,000. The construction of a $600,000 bridge is proposed at Bay St. Louis, Miss. A $1,000,000 company has been incorporated at Tacoma, Wash., to build a drydock. Application has been made to the United States district engineer officer at San Francisco for a permit to construct a $16,000,000 tunnel under San Francisco Bay. It is reported that a pulp-mill concern at Vancouver, B. C., will soon let a contract for constructing a $250,000 power tunnel.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Worcester, Mass.—Plans reported completed for distributing reservoir on Howland Hill of 1,000,000 gal. capacity; 1300 tons c.-i. pipe will be required. Geo. W. Batchelder, water comr.

Providence, R. I.—H. K. Barrows, engr., in report to reservoir comn., recommends development of Mill brook, at cost of $500,000, for water supply.

Bridgeport, Conn.—The Bridgeport Hydraulic Co. reported to have purchased the stock of Shelton Water Co., and will construct 4 miles of mains to connect its system with Shelton mains, at cost of $50,000.

Canton, N. Y.—Village Trustees have selected Charles E. Perry, Albany, to prepare plans and supervise constructing waterworks, for which $180,000 bonds were voted recently.

Sloan, N. Y.—Comr. Kreinheder of the Dept. Pub. Wks. of Buffalo is said to have recommended to City Council of Buffalo that village of Sloan be permitted to connect with sewers of city of Buffalo.

Dover, N. J.—Bd. Water Comrs. have engaged Frederic V. Pitney, hydraulic engr., to make an investigation of the watershed along Compton's Brook with view to using the water as an additional supply for Dover.

Glassboro, N. J.—Plans being prepared by Devou & McGormley Co., Toledo, O., for sewage disposal plant to be constructed by Whitney Glass Works. James P. Du Bois, township clk.

Morris Plains, N. J.—Dr. Britton D. Evans, supt. State Asylum for Insane, has made application to State for appropriation of $40,000 for constructing sewage disposal plant, and $15,000 for road work.

Ogdensburg, N. J.—Water Supply Comn. has granted permission to boro. officials to develop new source water supply from branch of Walkill River; work includes diverting dam, reservoir, 261,000,000 gal. capacity, filter plant and pipe line; cost about $100,000.

Summit, N. J.—Commonwealth Water & Light Co. will make extensions in its waterworks for service to Irvington, South Orange Twp., West Orange, Millburn and Summit; 24-in. line will be installed from pumping station at Canoe Brook to connect with distributing system in Millburn.

Trenton, N. J.—Plan and Scope Committee of State Bd. Health, recently appointed, arranging preliminary details for constructing proposed main trunk sewer from Wharton to Little Falls, with 26 miles of lateral sewers; cost, about $2,000,000.

Pottsville, Pa.—Press reports state that construction of sewer system and disposal plant may be indefinitely postponed on account of high cost of materials.

Newark, Del.—Council has engaged Kastenhuber & Anderson, engrs., Easton, Md., to prepare plans for waterworks improvements.

Petersburg, Va. — City appropriated $8,500 to construct storm sewer on River St.; also considering $250,000 bond issue for sewer and water extension and paving. N. T. Patterson, chm. Finance Com.

Cameron, W. Va.—City considering extending watermains; cost about $25,000.

Savannah, Ga.—City Council reported considering installation of water meters. If decided upon, 14,000 would be required. E. R. Conant, ch. engr., water dept.

Bossier City, La.—Plans being prepared by Honaker & Swope, engrs., Shreveport, for water system, including 75,000 gal. steel tower; cost about $10,000.

Donaldsville, La. — Levee bonds for $250,000 will be sold Jan. 15 by County Comrs. of Lafourche Basin Levee Dist. (John F. Truxillo, asst. secy.).

Logansport, La.—Plans being prepared by Honaker & Swope, engrs., Shreveport, for complete water and sewer system; cost about $20,000.

Shreveport, La.—Water bonds for $428,000 reported sold.

Vinton, La.—Town considering constructing waterworks; cost about $25,000. Also constructing wharves, etc., and dredge navigation canal; cost about $75,000. H. A. Simmons, mayor; T. H. Mandell, engr., Lake Charles.

Murray, Ky.—Municipal waterworks improvement bonds for $20,000 will be sold Jan. 15 by C. M. Smoot, city clk.; certified check for $500 to accompany bid.

Akron, O.—City and County Comrs considering constructing sewers in West Hill Dist.; two-thirds of district lies outside of city and includes territory west of Portage Bath, between Cuyahoga River and Wooster Ave., and extends west to Chestnut Ridge.

Cambridge, O. — Waterworks improvement bonds for $25,000 will be sold Jan. 10 by J. J. Calvert, city aud.

St. Clairsville, O.—City planning waterworks; a well system is proposed.

Wauseon, O.—Plans prepared by Geo. Champe, engr., Toledo, for sanitary sewer system and sewage treatment plant.

Gary, Ind.—Plans being prepared for constructing sewer on west side; cost about $250,000. Contracts will be let next spring; W. J. Fulton, city engr.

Detroit, Mich.—Theo. A. Leisen, engr. water bd., reported to have completed plans for filtration plant of at least 320,000,000 gal. daily capacity; cost, about $4,000,000.

Flint, Mich.—Contracts will soon be let for additions to the filtration plant. F. N. Baldwin, supt. waterworks.

Cambridge, Ill.—City plans constructing 6 miles of sewers and 2 disposal plants of the Imhoff type; estimated cost of latter, $42,000. H. G. Stokes, engr., Kewanee.

Normal, Ill.—City considering constructing sewage disposal plant and septic tank. Thurman Keys, city clk.

Peru, Ill.—City Council has appointed committee to arrange for engineers to work on reservoir and water improvements; to be ready for bids in spring. Wm. Wagner, city clk.

Ripon, Wis.—City considering installing septic tank for sewage disposal work will be taken up next spring. Chas. L. Pratt, city engr.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Where name of official is not given inquiries should be addressed to City Clerk, County Clerk or corresponding official.

Milwaukee, Wis.—Sewage bonds for $560,000 reported sold. Local press reports state that City Council will be asked to pass ordinance for $1,460,000 bonds for further work on sewerage system for 1917.

Minneapolis, Minn.—City considering constructing watermain from filtration plant to river; cost about $300,000. J. A. Jensen, Supt.

Plainville, Kan.—City considering extending waterworks; cost about $10,000.

Protection, Kan.—Plans being prepared for constructing sewer system. Black & Veatch, engrs., 507 Interstate Bldg., Kansas City, Mo.

Scottsbluff, Neb.—Election carried for $32,000 water improvement bonds; 4, 6 and 8-in. water mains will be required. O. M. Finley, asst. city engr.

Langdon, N. D.—City Council reported considering constructing sewer system.

Castlewood, S. D.—Plans being prepared for constructing waterworks including mains, tower and pumping station; cost about $20,000. Freed & Sours, engrs., Watertown.

Roman, Mont.—Plans being prepared for constructing 4 miles pipe line extending from intake on Crow Creek to town. Earl D. Covell, engr.

St. Louis, Mo.—Election will probably be held in May to vote bonds to be used as follows: Conversion of River des Peres into a sewer, with an industrial railroad and a boulevard along its banks in the southwestern part of the city, $8,500,000; belt railroad, including docks, $2,000,000; convention hall $1,000,000; industrial farm, $400,000; incinerating plant, $250,000; viaducts at different grade crossings, $2,000,000.

Bryan, Tex.—A. S. Adams, city engr., writes that contract will probably be let in February for 4200 ft. 12-in. sewers, to cost $3,000, and sewage disposal plant to include Imhoff tank and sprinkling filter, to cost $12,000. Bids for bonds to be received in January.

Cisco, Tex.—City Council reported considering construction of sewage disposal plant.

Franklin, Tex.—City considering installing new water mains. E. E. Brazell, city secy.

Palestine, Tex.—Mayor Geo. A. Wright favors purchasing and further equipping present sewer system; will probably vote on bond issue.

Broken Arrow, Okla.—City considering constructing 26,000 ft. 6-in., 12,000 ft. 8-in., 800 ft. 10-in. sewer tile and 2 disposal tanks; cost about $30,000. R. A. Wallingford, city clk.

Sapulpa, Okla.—R. N. Whittlesey, city engr., writes that a gravity water line from reservoir to pump station, distance 5 miles, and 3 dams in Euchee Creek, 60 ft. long, 18 ft. wide, 15 ft. high are to be constructed.

Verden, Okla.—City considering installing water supply system. J. N. Kern, mayor.

Elko, Nev.—City has engaged Louis C. Kelsey, engr., Portland, Ore., to prepare plans for waterworks; cost about $200,000.

Tacoma, Wash.—See "Excavation, Drainage and Dredging."

Tacoma, Wash.—Frank C. Ross has petitioned Pierce Co. Comrs. for franchise to lay watermains and distributing lines along certain streets, avenues, places, alleys and highways in the county; cost, about $100,000. Thos. N. Norris, co. aud.

Astoria, Ore.—Contracts will be let in January for installing water mains through the Upper Town Dist., cost about $35,000. Olof Anderson, city aud.

Sunnyvale, Cal.—Reported $19,000 waterworks improvement and fire apparatus bonds will be sold Jan. 15 by Town Clk.

Hurricane, Utah.—Election soon to be held to vote on issue of $20,000 bonds for waterworks. Address Town Clk.

Moscow, Idaho.—Council passed an ordinance providing for expenditure of $50,000 for constructing septic tank, dosing chamber, filter beds, pumps, etc., for new sewer system. C. H. Green, engr., Spokane, Wash.

Orofino, Idaho.—Reported City Council has accepted plans, specifications and estimates of Sawyer Bros., White Bldg., Spokane, Wash., for sanitary sewer system, embracing all of Orofino; cost $35,000.

Trail, B. C.—Definite steps taken to secure additions and improvements to waterworks and sewer system, 1,000,000 gal. capacity reservoir being considered. A. L. McCulloch, engr., Nelson, B. C., authorized by council to prepare plans for sewer system.

Vitoria, B. C.—Reported Dominion Government will proceed with construction of water main to William Head Quarantine Station from the city's Sooke Lake main; cost $125,000.

BIDS DESIRED.

Boston, Mass.—Until Dec. 26, by Patrick O'Hearn, supt. supplies, Room 808, City Hall Annex, for furnishing Pub. Wks. Dept. Water Service, 710 Albany St., 5550 from ⅝ in. to 1 in. meters; certified check for $1,000 to accompany bid; bond for $8,000 an award of contract.

Boston, Mass.—Until Dec. 26, by Patrick O'Hearn, supt. supplies, Room 808, City Hall Annex, for furnishing 2475 tons from 4 to 16 in. pipe, and also about 150 tons special iron castings; certified check for $1,000 to accompany bid; bond for $20,000.

Long Island City, L. I., N. Y.—Until Dec. 29, by Maurice E. Connolly, boro. pres., for constructing sewers and appurtenances in portions of Collins Ave., Adriatic and other streets, in all about 2968 ft. reinforced concrete sewer from 5 ft. to 7 ft., 1761 ft. plain concrete sewer from 2 ft. to 3 ft., 1113 ft. vitr. pipe sewer from 12 to 24 in., together with manholes, basins, etc., security $56,000; also for constructing sewers in portions of Chichester and Oxford Aves. and other streets, 1024 lin. ft. 12 to 24-in. vitr. pipe sewer, manholes, spurs, etc., security $10,000; sewers in portions of Burnside Ave., 47th St., Lyons Ave. and other streets, in all about 7378 ft. 12 to 22-in. vitr. pipe, together with manholes, spurs, etc.; total security, $14,750.

New York City, N. Y.—Until Dec. 28, by Douglas Mathewson, pres. Bronx Boro., for regulating, laying sidewalks, curbing, together with basins, necessary guard-rails, etc., on portions of Union Road, Amethyst St. and Olmstead Ave., in all about 54,200 ft. two-course concrete sidewalk, 16,400 cu. yd. earth excavation and 9200 cu. yd. rock excavation, 23,300 cu. yd. fill, 1700 lin. ft. guard-rail etc., security $23,300; also for constructing sewers with appurtenances in portions of Westchester and Valentine Aves., 1096 ft. 15 to 30-in. vitr. pipe sewer, together with manholes, receiving basins, etc., security $47,000; constructing sewers and appurtenances in Throggs Neck Blvd. Layton Ave. and other streets; engineer's estimates on proposition "A," 6767 ft. reinforced concrete sewers from 3 ft. to 8 ft., and 3623 ft. vitr. pipe sewers 15 to 30 in., with manholes, basins, etc., proposition "B," 2382 ft. concrete sewers 3 ft. to 8 ft., 3925 ft. vitr. segment block sewer from 38 x 50 in., 54 ft. segment block egg-shape sewer from 32 x 44 in., together with manholes, receiving basins, etc., security $60,000.

Allenhurst, N. J.—Until Dec. 26, by Comrs. for two 2-stage volute centrifugal pumps, 2 motors for operating pumps, 65 or 75-hp. horizontal splash feed compressor, motor for operating same, 3 transformers, single-phase, 76 kw., 2300 volts. Charles E. King, boro. clk.

Atlantic City, N. J.—Until Dec. 28 by Bd. Comrs. (J. B. Thompson, dir. parks and pub. prop.) for designing and furnishing 2500 gal. per minute centrifugal pump for Absecon Pumping Station.

South Bound Brook, N. J.—Until Dec. 29 by Boro. Council (Peter Merlett, clk.) for constructing 1052 ft. 8-in. vitr. pipe sewers with Y branches, manholes, and other appurtenances.

Allentown, Pa.—Until Dec. 26, by A. L. Reichenbach, mayor, 39 N. 7th St., for constructing storm water sewer and appurtenances on portions of Tilghman St., 3400 lin. ft. 24-in. to 48-in., certified check for $1,200, construction bond $12,000, on portions of Lehigh St., to consist of 1330 lin. ft. 15-in. to 22-in., certified check $250, construction bond $2,500; on portions of Sumner Ave., to consist of 1300 lin. ft. 7 ft. 3 in x 8 ft. 4 in. reinforced concrete, box culvert section, certified check $1,000, construction bond $10,000; on portions of E. Maple and E. St. Clair Sts., to consist of 2670 lin. ft. 48 in., certified check $1,000, construction bond $10,000; Oak and Howard Relief Sewer, 670 lin. ft. 36 in. and 150 ft. reconstruction work; alternate bid, 1030 lin. ft. 36 in. sewer, certified check $250, construction bond $2,500; specifications upon deposit of $5 from Chas. D. Weirbach, city engr. Advertised Dec. 16 issue.

Spring City, Pa.—Until Jan. 3, by Bd. Trus. of State Inst. for Feebleminded of Eastern Pa., for constructing 18 in. terra cotta storm water sewer with manholes and concrete apron; certified check for $500 to accompany each bid; specifications from Philip H. Johnson, 1824-25 Land Title Bldg., Philadelphia.

Cuyahoga Falls, O.—Reported desired until Jan. 1 by city for constructing sewer in Front St.; cost about $60,000. E. D. Barsto, city engr.

Lorain, O.—Reported desired until Jan. 3, for installing 6 jewel filters, valves, pipes, etc.; address A. J. Horn, dir. pub. serv.

Mt. Vernon, O.—Reported desired until Apr. 1, for installing water meters; $20,000 available; address C. G. Snow, dir. pub. serv.

Fort Wayne, Ind.—Until Dec. 26, by Bd. Pub. Wks. (C. A. Beuret, secy.), City Hall, for furnishing 300 tons 6 to 12-in. c.-i. water pipe; certified check for 2½% to accompany bid.

Indianapolis, Ind.—Reported desired until Dec. 27, for constructing sewer in alleys; address B. J. T. Jeup, city engr.

La Fayette, Ind.—Until Jan. 17, for constructing 8½ miles 8 to 12-in. sewer; cost $54,848. H. B. Oveirsch, Jr., city engr.

Gibson, Ill.—Reported desired until April 1, by city, for constructing water and light plant.

Park Ridge, Ill.—Until Jan. 11 by Bd. Local Imp. (Albert Verity, pres.) for constructing connected system of sewers, water mains, house drains, and water service pipes, together with manholes, catch basins, hydrants and valves in portions of Elm St., Greenwood Ave., Chester Ave. and numerous other streets; work incides 3457 ft. from 8 to 12-in. vitr. pipe sewer; certified check for 10 per cent to accompany bid. E. L. Shaw, 1642 Monadnock Block, S. W. corner of Jackson Blvd. and Dearborn St., Chicago.

Denmark, Wis.—Until Jan. 2 by Geo. H. Rathke, village clk., for drilling one or more 8-in. wells, 200 ft. deep; certified check for $500 to accompany each bid; specifications may also be obtained at 31 Vroman Bldg., Madison, Wis.

Marshfield, Wis.—Until Jan. 5, by Bd. Pub. Wks. (R. C. Hastings, chmn.) for constructing disposal tank system, water supply and pump; work will be divided in 3 divisions. Div. No. 1 for N. and S. disposal tanks, sludge beds, sewage outfits, etc. Div. No. 2 for reinforced concrete circular well 18 ft. in diam. and 76 ft. deep, together with pump house. Div. No. 3, for horizontal duplex pump of 7000 or 9000 gal. per minute capacity; estimated cost about $33,000; J. F. Druar, 312-316 Commercial Bldg., St. Paul, Minn., engr. A. G. Felkner, mayor.

Burlington, Ia.—Until Jan. 4, by City Clk., for constructing 2000 ft. from 10 to 36 in., and concrete pipe 700 ft. 72-in. pipe; also for constructing 6-ft. concrete arch, 72-in. reinforced concrete pipe, vitr. segment brick. C. E. Waterhouse, city engr.

Farmington, Minn.—Reported desired until Dec. 28, by L. A. Whittier, city clk., for constructing sewer system, involving about 24,894 ft. 8-in. vitr. tile sewer, 3350 ft. 10-in., 1320 ft. 12-in., 1780 ft. 15-in.; also for disposal tank, sludge bed, pumping equipment and 15-in. vitr. tile for outlet into Vermilion River; sewers vary in depth from 4 to 12 ft.

Red Lake Falls, Minn.—Until Dec. 30, by Joseph Perrault, city clk., for constructing sewer system.

St. Paul, Minn.—Until Dec. 26, by H. W. Austin, purchas. agt., City Hall, for constructing sewers on portions of Marshall Ave. and St. Clair Sts.; bond of 20% or certified check for 10% of amount to accompany each bid.

St. Paul, Minn.—Until Feb. 5 (readvertisement) by Purch. Agt. Court House, City Hall, for constructing reinforced concrete covered high service reservoir for Bd. Water Comrs.; advertised in this issue.

Douglas, Wyo.—By W. H. Anthens, mayor, for furnishing municipal waterworks with centrifugal pumps; specifications from city clk after Dec. 15; certified check for $200 to accompany bid; advertised Dec. 16 issue.

Higginsville, Mo.—Until Jan. 3 by city for constructing sewage disposal plant and sewer mains and outfalls.

Mineral Wells, Tex.—Until Dec. 27, by City Secy., for constructing sewage disposal plant to consist of Imhoff Tank, sludge bed, dosing chamber and filter bed; $5 deposit for specifications; address Wm. M. McClendon, city engr.

Coalings, Cal.—See "Excavation, Drainage and Dredging."

San Francisco, Cal.—Reported desired until Dec. 26, by John T. Knight, depot quartermaster, for furnishing 60 bbl. Portland cement, 500 brass pipe fittings, 300 standard pipe fittings, 6000 ft. wrought pipe, valves, etc.

Calcutta, India.—Until June 1, by Deputy Chmn. of Corporation of Calcutta, for installing storm water pumping plant; specifications may be obtained at office of "Indian and Eastern Engr.," 50 Fenchurch St., London, Eng., or from C. C. Chatterjee, secy to the corporation, Calcutta, on payment of ten shillings for each combined copy.

PRICES AND LETTINGS.

★Indicates award of contract.

★Lyndhurst, N. J.—Contract awarded by Bd. Comrs. to C. S. Edwards & Co., 1 Montgomery St., Jersey City, for constructing eastern and western sections of sewer at $253,878.

Following bids were opened by Bd. Comrs. for constructing sewage disposal plant: Abel Matthews & Co., Jersey City, $14,000; H. K. Corbon & Co., Jersey City, $16,490; J. F. Shanley Co., 26 Exchange Pl., Newark, $17,350; Broadhurst Co., Hackensack, $18,300; Hyman & Goodman, Jersey City, $25,000.

★Palisades Park, N. J. — Contract awarded by city for complete sewer system to Edward English, 14 N. Dean St., Englewood, at $25,264.

★Arcadia, Fla.—Contract awarded by city to Florida National Vault Co., Lakeland, for waterworks and sewer at $39,000.

★Oxford, Miss.—Contract awarded by Co. Comrs. to A. W. Wills & Son, Boatmen Bank Bldg., St. Louis, Mo., for constructing sewers at $100,000.

★Otsego, Mich.—Contract awarded by city to Traverse City Iron Wks., Traverse City for waterworks improvements at $16,579.

★Sedan, Kan.—Contract awarded for constructing sewer system and disposal plant to Koehler Constr. Co., 78th & Troost St., Kansas City, Mo., at $39,870. E. T. Archer & Co., engrs., New England Bldg., Kansas City, Mo.

★Springfield, Mo.—Following three bids opened Dec. 15 by the city for constructing sewer known as Dist. No. 4 of Sect. 6: John Spandri, 520½ E. Commercial St., Springfield, $15,592 (awarded contract); The Plummer-Adams Co., Springfield, $17,244; J. J. Underwood, $20,872. O. D. Chrisman, city engr.

Myrtle Creek, Ore.—Chas. W. Rice, city recorder, reports following bids opened for constructing water and light plant: Stern Bros. & Gardiner, Eugene, $17,963; Fred A. Erixon, 1190 Oak St., Salem, $15,970.

★San Diego, Cal.—Contract awarded by Allen H. Wright, city clk., to Frank Doran, 3330 30th St., San Diego, at $27,300, for extending sewer in northeast section of city; work includes 26,212 ft. 6-in., 1642 ft. 8-in., 7126 ft. 10-in. cement pipe; bids opened Dec. 1.

★Salt Lake City, Utah.—Contract awarded by City Comr. to Lynch Cannon Engg. Co., Dooly Bldg., Salt Lake City, at $18,625 for constructing pumping plant for gravity outlet sewer.

★Cornwall, Ont.—Contracts for $50,000 pumping station equipment awarded as follows: Pumps to Turbine Equipment Co., Toronto, at $10,000 and wheels to Kennedy & Sons, Owen Sound, at $5,000.

STRUCTURAL STEEL WORK

PROPOSED WORK.

Manchester, N. H.—Replacing old Amoskeag covered bridge over Merrimack River by modern structure being considered. Address City Clk.

Elizabeth, N. J.—Plans being prepared by Central RR. of New Jersey (Joseph Yates, bridge engr., 143 Liberty St., New York City) for proposed bridge over bay between here and Bayonne.

Westville, N. J.—Plans of West Jersey & Seashore RR. (leasee Pennsylvania RR., Alex. C. Shand, ch. engr., Broad St., Philadelphia) for proposed drawbridge over branch Great Egg River, approved by War Department.

Pennsylvania.—State Highway Comn., Harrisburg, intends constructing bridges over following creeks: Monocacy and Antietam and over Schuylkill canal; cost, about $12,000.

Richmond, Va.—Estimates for proposed extension of Boulevard from William Byrd Park to Joseph Bryan Park will be completed about Jan. 1, which will include cost of constructing new bridge over Richmond, Fredericksburg & Potomac RR. tracks or cost of widening present bridge to width of proposed Boulevard. John Hirschberg, chmn. improvement com.

Fairmont, W. Va.—County voted Dec. 5 to construct $350,000 bridge over Monongahela River and $100,000 bridge over Coal Run. J. Walter Barnes, comr. finance.

Asheville, N. C.—County intends constructing new approach to West Asheville bridge; estimated cost $40,000 to $50,000.

Charleston, S. C.—Sanitary & Drainage Comn. (Capt Reid Whitford, engr., Charleston) has under consideration construction of bridge over Santee River either at Georgetown, Sumter or Holly Hill.

Miami, Fla.—Contracts for constructing movable bridges of bascule type, on Causeway over Biscayne Bay, will be advertised later; these will be in addition to those awarded Dec. 14 by Bd. Comrs.; see "Structural Steel Prices," this issue.

Alexandria, La. — Boyce and Cotile Wards voted Dec. 12 extra tax for constructing bridge over Red River at Boyce and construction of Jefferson Highway link through county; address Pres. Police Jury.

Bay St. Louis, Miss.—Mississippi Bridge & Turnpike Co. intends constructing steel and reinforced concrete bridge, 2 miles long, with one all-steel draw span of 100-ft. clearance, between here and Pass Christian, estimated at from $600,000 to $800,000. Company also has under consideration construction of good roads along coast. Howard Egleston, engr.

Hazlehurst, Miss.—Bridge bonds for $50,000 will be sold Jan. 1 by Bd. Supervs.

Chattanooga, Tenn.—See "Buildings."

Memphis, Tenn.—Southern Ry. (B. Herman, ch. engr., Washington, D. C.) considering construction of new bridge at Monroe Ave. in place of present wooden structure. City intends appropriating $5,000 as its share of cost. Leo Goodman, comr. pub. utilities.

Richmond, Ky.—City voted Dec. 7 to issue bonds for constructing bridge over Kentucky River. James Baxter, judge; W. E. Blanton, city clk.

Cincinnati, O.—Cincinnati, New Orleans & Texas Pacific Ry. (C. Dougherty, ch. engr., Cincinnati), lessee of Queen City's line, intends constructing bridge over Ohio River with foot passage, but no wagon road.

Estimates of Frank S. Krug, city engr., for constructing approach to new vehicular roadway on Cincinnati Southern RR. bridge over Ohio River, are: $225,000 for steel and wood, $333,000 for all steel, $335,000 for concrete and steel; bonds have not been issued.

Middletown, O.—Contracts will soon be let by Ohio Elec. RR. (W. K. Schopf, pres., Traction Bldg., Cincinnati, O.) for constructing 120-ft. steel deck girder bridge, with 2 concrete abutments.

Chicago, Ill.—See "Roads and Paving."

Dixon, Ill.—Plans under consideration for constructing $100,000 bridge over Rock River here. Address Co. Clk.

Ottawa, Ill.—County intends constructing 2 bridges between Woodford and La Salle counties at Groveland County line and 1 at Putnam County line. Geo. L. Farnsworth, co. engr.

St. Louis, Mo.—See "Waterworks and Sewerage Systems."

Little Rock, Ark.—City intends constructing $300,000 steel bridge, 1743 ft. long, with 36-ft. roadway and 10-ft. sidewalk. Moorhead Wright, chmn. bridge comrs.

Dallas, Tex.—City considering $30,000 bond issue in spring to complete approach to Forest Ave. bridge over Trinity River.

Gainesville, Tex.—City intends constructing $50,000 bridge.

Germantown, Tex.—Co. Comrs., Goliad, have been petitioned to construct bridge over Coletto Creek near here on road to Victoria, one-half of expense to be borne by Goliad County, other half by Victoria County.

Wichita Falls, Tex.—Bonds for $80,000 have been sold by county for bridge work.

Denver, Col.—Cost of proposed $45,000 23rd St. viaduct will be apportioned by City, Tramway Co. and railroads as follows: City and Tramway Co., each $15,000; Union Pacific RR. (Carl Stradley, ch. engr., Salt Lake City, Utah); Denver & Rio Grande RR. (J. G. Gwyn, ch. engr., Denver, Col.), and Chicago, Burlington & Quincy RR. (W. L. Breckenridge, ch. engr., Chicago), each $5,000. Robert W. Speer, mayor.

Spokane, Wash.—County Comrs. considering constructing either steel wagon bridge, estimated at $20,000, with steel of Old Post St. bridge, or concrete one, estimated at $27,000, over river at Nine Mile. J. W. Strack, co. engr.

Tacoma, Wash.—County Comrs. have under consideration construction of steel or concrete bridge over Nisqually River on Pacific highway, which will be paid for by Pierce and Thurston Counties and the State; estimated cost $30,000. James Allen, state highway engr., Olympia.

BIDS DESIRED.

Dayton, O.—Until Jan. 13, by Co. Comrs. (Walter H. Aszling, clk.) for constructing steel superstructure for bridge No. 21, Madison Twp., and steel superstructure for bridge No. 55, Mad River Twp.; certified check for $300 to accompany bid.

Springfield, O.—Until Jan. 3, by Co. Comrs., in Co. Bldg., for improving about 50 bridges, some to be equipped with block floors.

Chicago, Ill.—Until Jan. 10 by Dept. Public Works (W. R. Moorehouse, Comr.), room 406, City Hall, for furnishing, constructing and erecting superstructure for a Strauss direct-lift bridge over south branch of Chicago River; advertised in this issue.

Illinois.—By State Highway Comn., Springfield, Ill., for constructing following bridges:

Dec. 27—Horton, Atlas Township, Pike Co., for Dutch Creek Bridge, spans two at 60 ft., roadway 16 ft., height over all 24 ft.; estimated total concrete 455.3 cu. yd. in bridge; reinforcing steel 63,310 lb.

Dec. 28—Nebo, between Hardin and Springcreek Townships, for Weaver Bridge, span 70 ft., roadway 16 ft., height over all 31 ft.; estimated total concrete in abutments, 421.9 cu yd.; reinforcing steel, 34,770 lb.; cost about $10,330. H. H. Hardy, co. supt. highways, Pittsfield.

Olathe, Kan.—Reported desired until Jan. 6 by W. J. Moore, co. clk., for constructing 4 bridges and 1 culvert; certified check for $100 to accompany bid.

★**Miami, Fla.**—Bids opened Dec. 14, by Bd. Co. Comrs. (Z. T. Merritt, clk.), for constructing Miami Causeway over Biscayne Bay connecting city of Miami and town of Miami Beach (Klyce & Kackley, engrs., Real Estate Bldg., Miami), as follows:

Contract No. 3, for furnishing steel: (a) Jarrett-Chambers Co., Inc., 30 E. 42d St., Inc., New York City, at $48,971 (awarded contract); (c) Phoenix Constr. Co., 41 Park Row, New York City, $54,920.

Contract No. 4, for constructing viaduct: (b) Bowers Southern Dredging Co., Miami, Fla., at $199,550 (awarded contract); (d) Natl. Foundation & Engr. Co. and M. F. Comer, Cleveland, O., $234,232; (c) Phoenix Constr. Co., $251,142; (e) J. F. Morgan Co., $272,761; (a) Jarrett-Chambers Co., Inc., $369,902.

Contract No. 5—(Y) concrete wall type, (Z) timber bulkhead type: (b) Bowers Southern Dredging Co., at $297,072 for (Z) (awarded contract); (f) Evert P. Maule, for (Y) $358,187, for (Z) $302,725; (e) J. F. Morgan Co., for (Y) $420,572, for (Z) $406,925. Bidders conditions on contracts were: Time for completion on contract No. 4—(b) none, (c) 21 months, (e) time specified, bid conditional upon both contracts 4 and 5 being awarded to this bidder (a) 18 months; on contract No. 5 (f) 20 months.

Unit bids, Contract No. 3.	(a)	(c)
620,000 lb. structural steel	$0.0485	$0.056
750,000 lb. rails and fastenings	0.0265	0.026
10,000 lb. bolts	0.072	0.07

Unit bids, Contract No. 4.	(b)	(d)	(c)	(e)	(a)
620,000 lb. erection of structural steel	$0.01	$0.005	$0.009	$0.025	$0.005
2,800 cu. yd. concrete in pier bases and shafts	20.00	24.45	22.50	25.00	45.00
380 cu. yd. concrete cross girders below E 1.102	11.35	12.50	19.00	15.00	17.50
860 cu. yd. concrete cross girders above E. 1.102	10.50	13.00	18.50	15.00	17.50
2,300 cu. yd. concrete in longitudinal girders	10.10	15.00	18.00	16.00	25.00
2,030 cu. yd. concrete in slabs	10.60	12.00	18.00	15.00	23.00
600 cu. yd. concrete in abutments	9.85	10.87	21.00	23.00	30.00
3,720 lin. ft. concrete handrail	3.08	2.50	2.00	2.50	3.75
900,000 lb. reinforcing steel	0.055	0.06	0.055	0.065	0.07
1,900 cross ties	1.30	0.90	1.20	1.00	0.80
23,000 board measure, timber in guard rails	43.00	40.00	54.00	27.00	27.50
3,720 lin. ft. track laying (lump sum)	744.00	930.00	930.00	2,790.00	1,860.00
7,250 sq. yd. asphalt pavement	2.15	2.00	2.00	2.00	2.20

Unit bids, Contract No. 5. Concrete wall type.	(b)	(f)	(e)
11,600 cu. yd. concrete in side walls	.....	$10.00	$11.50
28,300 lin. ft. batter piles	.....	0.37	0.22
28,300 lin. ft. vertical piles	.....	0.37	0.22
730,000 board measure, creosoted sheet piling	.....	59.00	70.00
124,000 board measure, untreated timber	.....	40.00	40.00
1,860 protection shells	.....	5.00	6.00
4,200 cu. yd. riprap	.....	1.20	2.50
Timber bulkhead type.			
1,115,000 board measure, creosoted sheet piling	$85.00	59.00	70.00
435,000 board measure, creosoted waling	73.80	59.00	65.00
190,000 board measure, untreated timber	37.00	40.00	40.00
640,000 lb. tie rods, etc	0.0833	0.07	0.15
Both types			
255,000 cu. yd. sand fill	0.10	0.10	0.12
148,000 sq. yd. broken stone pavement	0.51	0.70	0.90
6,500 cross ties	1.00	0.50	0.90
13,000 lin. ft. track laying (lump sum)	1,000.00	9,100.00	6,500.00
55,500 sq. yd. bituminous surface on roadway	0.16	0.15	0.20
65,000 sq. ft. sidewalk	0.125	0.14	0.15

Knoxville, Ia.—Until Jan. 18, by Bd. Supervs. (J. D. Schlotterback, co. aud.) for erecting 9 bridges, about 1098.2 lb. of concrete, about 34 tons reinforcing steel and about 56.1 tons structural steel; cost about $22,454; also for 45 box culverts containing 2148.5 lb. of concrete, 64.2 tons of reinforcing steel; cost about $30,444. W. O. Price, co, engr.

Cavalier, N. D.—Reported desired, until Jan. 5, by Wm. W. Delson, co. aud., for constructing 8 bridges.

Deadwood, S. D.—Reported desired, until Jan. 8, by Fred. A. Harris, co. aud., for erecting bridges, abutments and retaining walls, also I-beam bridges for year 1917; certified check for $200 to accompany bid.

Vermillion, S. D.—Reported desired, until Jan. 2, by J. T. Olsen, co. aud., for constructing concrete, steel and wooden bridges.

Batesville, Ark.—Reported desired until Jan. 3 by Independence County for constructing 5 steel bridges. F. G. Hoyt, Batesville, co. judge.

El Centro, Cal.—Until Jan. 2, by Bd. Supervs. (M. S. Cook, clk.) for constructing bridge across Alamo River, where siphon of Imperial Water Co. No. 2 crosses river.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Philadelphia, Pa.**—Contract awarded by Dept. Pub. Wks. to John McMenamy, Harrison Blvd., Philadelphia, at $69,000, for constructing bridge 60 ft. wide by 100 ft. long, over Pennsylvania RR. tracks at Marcie St.

★**Des Allemands, La.**—Contract awarded by State Bd. Engrs. (Frank M. Kerr, pres., New Orleans, La.) to Blodgett Constr. Co., Shreveport, La., at $21,612, for constructing steel swing bridge with 104-ft. (from center to center) pony truss, concrete center pier, approaches of creosoted piles and timbers, gas pipe hand rails, wood floors, over Bayou Des Allemands, near here. Other bidders: Perry & Bonner, New Orleans, La., $22,279; Midland Bridge Co., Midland Bldg., Kansas City, Mo., $22,546.

★**Pond Creek, Okla.**—Contract awarded by Chicago, Rock Island and Pacific Ry. (I. L. Simmons, bridge engr., Chicago, Ill.) to Fox Constr. Co., El Reno, Okla., for substructure of bridge to be built over Salt Fork of Arkansas River. Railway Co. contemplates putting in 6 100-ft. deck plate girder spans, ballasted deck, and raising grade 10 ft. for superstructure; total estimated cost $125,000.

REINFORCED CONCRETE

PROPOSED WORK.

Jersey City, N. J.—Lackawanna Terminal Stores will erect 4-story reinforced concrete warehouse on Provost St.; cost $50,000.

Philadelphia, Pa.—Reported 5-story 100 x 200-ft. concrete warehouse will be erected at Columbia Ave. and 10th St, by company represented by Joseph A. Richman, 2429 N. 33rd St., Philadelphia.

New Orleans, La.—See "Foundations, Piers and Dams."

Meridian, Miss.—Reported Union Hotel Co. will erect 1-story brick and concrete addition to Union Hotel; cost about $55,000. Address P. C. Steele, Meridian.

Galesburg, Ill.—Contracts will be let by County early in spring for constructing two 40-ft. span, reinforced concrete bridges. H. M. Butt, highway supt.

Monmouth, Ill.—Contracts will be let about March 1 by county for four 20-ft. spans and one 80-ft. span reinforced concrete bridges. By county and township early in spring for paving with brick, about 2 miles of roads, 10 ft. wide. Chas. McClanahan, co supt. highways.

Lakefield, Minn.—Plans being prepared by Kirby T. Snyder, 1133 Plymouth Bldg., Minneapolis, for erecting 2-story reinforced concrete fireproof school building; cost $75,000. H. J. Hayden, clerk school board.

Paola, Kan.—Because of shortage of funds and excessive material prices, date for bids on concrete bridges in county advertised to be opened Dec. 27 has been postponed. Ed. Huff, co. engr.

Monroe City, Mo.—See "Railways."

Ballinger, Tex.—County has under consideration construction of reinforced concrete bridge over Colorado River at this place and moving present bridge here to a point 20 miles between Ballinger and Bronte.

Galveston, Tex.—Plans of Wm. Meuser, of Concrete Steel Engr. Co., Park Row Bldg., New York City, have been selected by Bd. Arbitrators (Lincoln Bush, chmn., 1 Madison Ave., New York City) for reconstructing Causeway between Galveston and mainland. Cost of reconstruction, placed at $1,500,000, will be borne as follows: 45 per cent by 3 steam railroads represented by F. Merritt, ch. engr., 25th and B Sts., Galveston, chmn. bd. engrs.; 22 per cent by Galveston & Houston Interurban Ry. (C. Learmouth, ch. engr., Galveston); 33 per cent by Galveston County (R. M. Sias, co. engr., Galveston). Causeway will be 5900 ft. long and will consist of 60-ft. reinforced concrete arches. Cost of reconstruction includes removing sheet piling damaged by storm and restoration of 2300 lin. ft. of approach on Galveston Island end, estimated at $140,000. Right-of-way over structure will be 62 ft. wide; 27 ft. will be utilized by steam railways, 22 ft. by county and 13 ft. by interurban Ry.

Colfax, Wash.—Plans being prepared by John M. McCraw, co. engr., for constructing girder concrete bridge over S. Palouse River on Main and Island Sts. near court house; cost, between $15,000 and $18,000.

Spokane, Wash.—Reported R. T. Daniel, realty dealer, will erect 10 or 14 steel and concrete 65 x 120-ft. business building at Main and Howard Sts.; cost, about $500,000.

Los Angeles, Cal.—Plans being prepared by J. Schulz, co. advisory engr., Courthouse, for erecting 3-story and basement 110 x 144-ft. reinforced concrete juvenile detention home, to be erected near county hospital, Mission Rd. and Workman St.; cost, about $100,000. Address A. M McPherrin, clk. bd. supervs.

Ottawa, Ont.—Reported J. H. Connor, Pretoria Ave., plans erecting $60,000 brick and concrete factory for manufacturing washing machines.

BIDS DESIRED.

Rock Island, Ill.—Until Jan. 3, by Rock Island Arsenal, for preparation of site, including laying of railroad thereto and erecting 9 concrete hollow-tile storehouses for nitrate of soda, and 9 same type for mobile artillery ammunition.

Concordia, Kan.—Reported desired, until Jan. 2, by Geo. C. Guillbert, co. clk., for constructing 9 reinforced concrete bridges.

Erie, Kan.—Reported desired, until Jan. 8, by Co. Clk., for constructing two bridges with two 25-ft. spans, concrete abutments, I-beams, concrete floors, 16-ft. roadway; one two 10-ft. span, one three 20-ft. span, one 10-ft. concrete bridges.

Wichita, Kan.—Reported desired, until Dec. 30, by H. M. Barrett, co. clk., for constructing one 10-ft. concrete bridge in Riverside Twp., one 14-ft. and one 16-ft. concrete bridge in Salem Twp., and one 60-ft. steel and concrete bridge in Delano Twp.; certified check for $50 to accompany each bid.

York, Neb.—Reported desired until Jan. 9, at office of Annie H. Beck, co. clk., for constructing all concrete and steel bridges in county during 1917.

Watertown, S. D.—Reported desired until Jan. 2 by J. S. Johnson, co. aud., for constructing one 60-ft. span bridge across Sioux River; one 40-ft. span, two 20-ft. spans, one 16-ft. span, one 10-ft. span, one 40-ft. span, reinforced concrete, 18-ft. roadway, in Codington Co.

Mt. Vernon, Wash.—Until Jan. 2, by W. V. Alexander, co. aud., for consrtucting 102-ft. Howe truss bridge with approaches and concrete piers across Rocky Creek, between Rockport and Marblemount; specifications from A. L. Strong, co. engr.; certified check for 10 per cent to accompany bid.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Lockport, N. Y.**—Contract awarded by Harrison Mfg. Co., Lockport, to American Concrete Steel Co., Essex Bldg., Newark, N. J., for erecting reinforced concrete 2-story and basement 170 x 400 -ft. building. Work to be done on percentage basis. James R. Tyler, archt., Rochester, N. Y.

★**North Wilkesboro, N. C.**—See "Foundations, Piers and Dams."

★**Cleveland, O.**—Contract awarded by Frank Billings, 2728 Euclid Ave., to W. B. McAllister, 2160 E. 31st St., for erecting residence at 1612 Magnolia Drive; building to be of brick, 3-story, 65 x 100 ft.; cost $53,000. Walker & Weeks, 1900 Euclid Ave., archts.

Contract awarded by Union Bldg. & Improv. Co., Union Bldg., to H. F. Jeffrey, 408 Union Bldg., for erecting 2-story addition to Union Bldg., 1836 Euclid Ave.; first story to be 59 x 193 ft., and second 59 x 121 ft., steel and concrete; cost $55,000.

★**Montreal, Quebec.**—Contract awarded by Commercial Realty Co. to C. E. Mitchell, New Birks Bldg., Montreal, for erecting reinforced concrete office building for Commercial Realty Co., Montreal; cost $50,000.

Ottawa, Ont.—Contract awarded by Norlite Realty Co., Ottawa, to Trussed Steel Concrete Co., 23 Jordan St., Toronto, for erecting new steel and concrete office building; cost $60,000.

Portland, Ore.—Lowest alternate bids opened Dec. 6 by Dept. Pub. Wks. and Oregon-Washington RR. & Navigation Co. (R. L. Huntley, ch. engr., 15th and Dodge Sts., Omaha, Neb.), for constructing 8 reinforced concrete viaducts on East Side, to eliminate grade crossings, as follows: (a) Pearson Constr. Co., Times Sq., Seattle, $501,821; (b) Porter Bros., Ry. Exchange Bldg., Portland, $543,832; (c) Warren Constr. Co., Journal Bldg., $577,640; (d) Grant-Smith & Co., Portland, $581,633.

Lowering 33rd St. Viaduct.	(a)	(b)	(c)	(d)
22,000 ft. board measure repairs, viaduct	$32.00	$35.65	$23.20	$27.35
291,000 ft. board measure temporary viaducts, lumber	30.00	23.29	24.55	35.35
2,500 lin. ft. temporary viaducts, piling	0.20	0.47	0.67	0.2325
7,400 cu. yd. excavation, subways	4.50	1.15	1.97	2.30
38,500 cu. yd. excavation, foundations	0.40	0.604	0.67	0.855
8,000 cu. yd. excavation, trenches	0.60	0.978	0.73	1.71
1,200 sq. yd. cut hard surfacing paves	0.60	0.863	0.78	1.54
900 sq. yd. repair surfacing paves	1.60	2.558	2.68	2.83
152,000 sq. yd. embankment, roll or pad	0.45	0.437	0.51	0.423
48,500 cu. yd. embankment, dump	0.35	0.345	0.36	0.308
206,000 sq. ft. embankment, top soil	1.00	4.745	2.61	4.50
1,480 cu. yd. concrete, subways	12.25	12.65	11.53	13.70
110 cu. yd. concrete, m. h. and c. b.	11.35	17.25	10.13	21.10
30 cu. yd. concrete, sewer	12.00	12.65	12.77	10.00
230 cu. yd. concrete, paving base	7.30	6.90	7.85	6.80
4,670 cu. yd. concrete abutment	8.10	11.132	11.28	13.00
2,300 cu. yd. concrete, pier	8.25	10.074	11.85	12.10
750 cu. yd. concrete, cf. ret. walls	9.75	12.121	12.60	13.70
1,230 cu. yd. concrete, cant. ret. walls	10.15	11.109	12.13	14.20
310 cu. yd. concrete, grav ret. walls	8.75	10.074	10.70	12.00
780 cu. yd. concrete, superstructure	11.50	15.054	12.60	18.40
650 cu. yd. concrete, girder enc. form	12.50	16.146	14.65	19.50
7,500 cu. ft. concrete, cement gun	0.35	1.047	1.34	1.14
265 lin. ft. hand rail, Sandy Bvd.	3.13	3.788	3.32	3.76
1,165 lin. ft. hand rail, all others	2.52	3.048	2.17	3.03
1,560 lin. ft. hand rail, Ret. 2 Rl.	1.33	1.61	1.76	1.60
690 lin. ft. hand rail, Ped. 2 Rl.	2.24	2.72	3.38	2.70
15,800 lin. ft. curb on approaches	0.85	0.382	0.39	0.40
90,000 lin. ft. sidewalks on approaches	0.15	0.1093	0.15	0.125
1,126,000 lb. steel, reinforcing	4.50	4.991	5.75	4.11
952,000 lb. steel, Bethlehem girders	5.25	5.65	6.45	5.48
270,000 lb. steel, structural	6.95	7.675	8.36	7.30
26,000 sq. ft. wire mesh, No. 7	1.70	2.8635	3.38	2.96
95,000 sq. ft. wire mesh, No. 28	2.50	1.748	2.06	1.70
2,300 lb. cast-iron mh. and s. covers	6.95	6.90	4.60	7.00
12,000 lb. cast-iron water pipe	2.50	3.45	2.97	2.68
50,000 lb. cast-iron specials	4.75	8.625	6.07	5.53
2 gate valves, ea.	50.00	40.25	33.15	36.50
20,000 lb. asphaltic filler	2.50	5.865	2.42	2.30
7 pole cabinets, equip'd. ea.	12.75	14.55	17.25	14.50
2,400 lin. ft. ¾-in. conduit	0.22	0.2415	0.29	0.24
4 Sandy lamp posts, equip'd. ea.	23.00	58.65	28.50	24.00
26 other lamp posts, equip'd ea.	35.00	37.513	44.60	37.20
[illegible] ient cushion	5.00	3.1625	4.25	3.15
[illegible] g. asph. con. bit base	2.05	1.633	1.44	1.62
[illegible] bitulith. bit base	2.15	1.909	1.70	1.89
[illegible] asp. conc. conc. base	1.45	1.863	1.85	1.85
[illegible] bitulithic c.r. base	1.30	1.6215	1.62	1.61
[illegible] vitrified block	1.90	2.5875	2.85	2.57
[illegible] sandstone block	2.55	2.5875	3.06	2.57
[illegible] hassam	1.30	1.725	1.75	1.71
[illegible] concrete	1.50	1.5525	1.49	1.54
[illegible] sewer connections	0.35	0.345	0.35	0.34
[illegible] 8-in. sewer connections	0.43	0.5175	0.46	0.513
[illegible] sewer connections	0.52	0.69	0.67	0.684
[illegible] 12-in. sewer connections	0.60	0.8625	0.81	0.97
[illegible] 16-in. sewer connections	0.90	1.4375	1.33	1.54
[illegible] sewer connections	1.90	2.875	2.51	2.85
[illegible] removing [illegible] pipe	0.25	0.4025	0.10	0.57
[illegible] removing 8-in. c.-i. pipe	0.30	0.5175	0.11	0.707
[illegible]	0.35	0.6325	0.15	0.832
[illegible]	0.38	0.8625	0.18	1.00
[illegible]	0.42	1.4375	0.25	1.20
[illegible]	0.50	1.725	0.32	1.71
[illegible]	0.85	1.4375	0.52	1.65
[illegible]	1.00	1.725	0.63	2.70
[illegible]	0.25	0.345	0.17	0.40
[illegible]	0.32	0.46	0.27	0.513
[illegible]	0.37	0.575	0.38	0.684
[illegible]	0.40	0.8625	0.52	0.912
[illegible]	0.45	1.725	0.64	1.54
[illegible] pipe on via	5.05	2.30	2.32	4.85
[illegible] pipe on via	7.50	2.875	3.54	3.02
[illegible] services and [illegible]	3.00	13.80	10.23	9.12
[illegible] posts, ea.	5.00	28.75	14.40	14.25

ROADS AND PAVING

PROPOSED WORK.

Blandford, Mass.—State Highway [illegible] Boston, has received petition from citizens of southwest Massachusetts to construct road from Blandford Center through Otis and Monterey to Great Barrington.

New Bedford, Mass.—City appropriated $53,000 for highway improvements. G. N. Nye, city engr.

Woonsocket, R. I.—City intends constructing two bridges and paving E. School St.; total estimated cost $78,000. F. H. Mills, city engr.

Bridgeport, Conn.—City Council has under consideration following recommendations: Extensions of Broad and John Sts., and carrying out sewage disposal scheme.

Rockville, Conn.—City intends constructing new sidewalks at estimated cost of $3[illegible]

Mayville, N. Y.—State Highway Comn. (Edwin Duffey, engr.), Albany, N. Y., has $200,000 with which to construct main Buffalo to Erie road through county.

Syracuse, N. Y.—County intends spending $192,300 to construct new roads and for maintenance of present roads. Largest sums to be expended are: $57,000 on South Bay-Bridgeport road, $35,000 on Little Utica-Plainville road, $24,000 on Lyndon-Manlius road, $18,000 on Tully Lake road.

Avon, N. J.—Plans being prepared for surfacing Main St. with Warrenite on 5-in. concrete base for 3600 lin. ft., 60 ft. wide. J. H. Emlen, engr.

New Germantown, N. J.—Bd. Freeholders, Mt. Holly, considering paving with macadam New Germantown-Lamington road, about 2 miles.

New Jersey.—State Highway Comn., Trenton, has asked $1,643,121 road appropriation for 1916-1917 and $1,331,012 for [illegible]

Paterson, N. J.—Bd. Freeholders intend improving upper section of Greenwood Lake road; estimated cost $16,000. Garwood Ferguson, co. engr.

Pennsylvania.—State Highway Comn., Harrisburg, has under consideration construction of highway to be known as Susquehanna Trail, from Harrisburg to New York State line through Williamsport, Rearing Branch, Ganton and Troy.

Baltimore, Md.—After Jan. 2 Harbor Bd. contemplates paving, repaving and resurfacing sects. of 3d, Woodall, Clement and Clemm Sts. and Key Highway; after Feb. 15 sects. of 45 other streets will be paved or repaved. Address Paving Comn., 214 E. Lexington St.

Road Supervs. for 15 districts have been appointed by County Comrs. for overseeing expenditure of $500,000 for highway work during 1917.

Clarendon, Va.—Board Supervs. (Geo. H. Rucker, clk.) will let contracts, probably in spring, for road work in Washington and Arlington Dists. Bonds for $113,615 and $171,660 respectively were voted.

Lauray, Va.—County intends issuing $200,000 to construct two highways, one 33 miles long from Warren County line to Rockingham County line, other about 14 miles long from Shenandoah County line to Rappahannock County line.

Richmond, Va.—See "Structural Steel."

Parsons, W. Va.—Following elections will be held in county Dec. 29 to vote road bonds: Dry Fork Dist., $60,000, $10,000 of which is to be used to improve road from Red Creek post office to town of Hendricks; $15,000 for road from same post office to Jennington, $9,000 on Lanesville road for grading, $26,000 to hard surface Randolph County line-Parsons road; Fairfax Dist., $150,000 for permanently improving 5 sects. of road in dist.; Davis Dist., $98,000 for permanently improving roads and bridges in dist.

Atlanta, Ga.—County Comrs. intend repaving in spring Peachtree Ave. from city limits to Buckhead, using present surface as foundation, with asphalt and constructing granite curbs, at estimated cost of $35,000. Repaving between railway tracks will be paid for by Georgia Ry. & Power Co. (Preston S. Artwright, pres.).

Ensley, Ala.—City intends grading and constructing combination cement curb and gutters; also 6 x 20 in. circular granite curbing, and laying 10-ft. sidewalks on AvenueW and portion of 26th St., south. C. B. Lloyd, city clk.

Alexandria, La.—See "Structural Steel."

Baton Rouge, La.—Issue of $130,000 good road bonds to be used in Ward No. 3 approved by citizens. Address Pres. Police Jury.

Fulton, Miss.—Reported road bonds for $20,000 will be sold Jan. 1 at office of A. R. Senter, chancery clk.

Chattanooga, Tenn.—See "Buildings."

Bowling Green, Ky.—County has been promised by P. St. J. Wilson, ch. federal highway engr., that it will have government engr. survey roads in county and investigate materials to be used on same; survey will probably take 9 months to complete.

Earlington, Ky.—City voted $15,000 street improvement bonds.

Cincinnati, O.—Approximate estimates have been submitted to City Council by Frank S. Krug, city engr., for paving portions of following streets with (a) granite, (b) wood block, (c) brick and bitulithic: Central Ave. (a), $78,120, (b) $111,401; Freeman Ave. (a) $161,647; Madison Road (b) $251,666, (c) $203,766.

County Comrs. have received from Wm. Boeh, co. surv., estimates for following road improvements: Drake Ave., $13,000; S. Fork-Taylor's creek road, $10,529; Creek road, $6,000.

Cleveland, O.—Pub. Service Comn.'s (Alex. Bernstein, dir.) program for repaving during 1917 includes 20 streets, about 50 miles, at estimated cost of $2,500,000. Some of streets for which bids will be asked in January are: Broadway, Clark, Cedar and Euclid Aves., E. 24th, E. 40th and E. 89th Sts. City has under consideration repaving portions of W. 25th and E. 55th Sts., Lorain, St. Clair and Carnegie Aves., for which no appropriations have been made.

City intends grading, draining, curbing and paving with brick on concrete, bitulithic or asphaltic concrete base, portions of following streets: E. 86th, E. 102d, E. 125th, R. E. Collins, city clk.

New Philadelphia, O.—County Comrs. have under consideration improvement of two roads in Clay Twp. and portion of I. C. H. No. 413 road in Warwick Twp.; also road 1½ miles long, from Belden Face Brick Co.'s plant to Lock 17.

Ohio.—State Highway Comn., Columbus, have prepared plans for paving with waterbound macadam on stone foundation road from Mt. Vernon to Howard; estimated cost $15,000. C. B. Shaw, co. highway supt., Mt. Vernon.

Tiffin, O.—City sold $45,000 bonds to pay for paving E. Perry, Apple, and Douglas Sts., and constructing sewer in Riverview Heights.

Greenfield, Ind.—County intends constructing road, 1 mile of which will be stone, 3 miles gravel. G. C. Winslow, co. engr.

L'Anse, Mich.—Providing county votes $110,000 road bonds, state will give $110,000 and federal government $220,000 for constructing trunk road system.

Abingdon, Ill.—Contracts will be let in spring for paving 86,605 sq. yd. with brick, grading 33,040 cu. yd., constructing 7000 lin. ft. concrete curb and 52,823 lin. ft. sandstone curb; estimated cost $200,497. A. B. Simpkins, mayor.

Chicago, Ill.—City Plan Comn.'s recommendation that Ogden Ave. be extended 108 ft., at estimated cost of $4,000,000, which includes constructing viaduct over Evanston branch of Chicago, Milwaukee & St. Paul Ry. and one over Chicago River, also constructing 3 subways—2 under Chicago & Northwestern Ry. and one under Chicago, Milwaukee & St. Paul Ry., has been favorably received. John Ericson, city engr.

Marseilles, Ill.—State Highway Comn., Springfield, are surveying 6900 lin. ft. road south of here, to be paved with concrete in spring.

Paxton, Ill.—Bd. Supervs. have appropriated $12,000 to pave 1½ miles of road with concrete.

Pontiac, Ill.—City has under consideration paving of N. Hazel, Pierce, Elmwood and three other streets.

Springfield, Ill.—City intends paving 6 miles of streets and constructing several miles of sewers.

Janesville, Wis.—City intends readvertising in spring for constructing curbs and gutters on 8 streets. C. V. Kerch, city engr.

Kenosha, Wis.—County considering $85,000 bond issue for hard surfacing roads and towns of Somers, Paris and Bristol have appropriated $218,000 for good road work during 1917.

Mondovi, Wis.—Election Dec. 28 in City to vote $40,000 paving bonds. Otto A. Witte, city clk.

Richland Center, Wis.—Election in spring in county to vote $500,000 road bonds. W. A. Lawton, co. aud.

Shawano, Wis.—County considering election to vote $200,000 road bonds. O. O. Wigan, co. aud.

Sturgeon Bay, Wis.—County will shortly sell $25,000 bonds to oil 60 miles of road. Ralph Herfache, co. aud.

Tomah, Wis.—City intends paving with reinforced concrete 13 blocks on Kilbourn Ave. and with brick portions of McLean and Superior Aves. and Washington St.

West Bend, Wis.—County considering election in spring to vote $500,000 to construct permanent roads. Anton Thielmann, co. aud.

Des Moines, Ia.—Election will shortly be held to vote $400,000 for completing system of highway construction. E. J. Alber, co. aud.

Bagley, Minn.—Jefferson Highway through county will be improved during 1917; estimated cost $20,000.

Madison, Minn.—Preliminary estimate of state road construction in county as submitted by Fred Roe, state highway engr., is $41,225. A. G. Shogren, co. aud.

Minneapolis, Minn.—City Council has under consideration following recommendations: Paving of Washington Ave., 30 ft. wide, with creosoted wood blocks, for 2 miles; widening of 8th St., 10 ft., and 3d Ave., 20 ft., opening of Powderhorn Terrace between 10th and 14th Sts. F. W. Cappelen, city engr.

Montevideo, Minn.—County appropriated $25,000 for highway construction work. J. J. Stennes, co. aud.

St. Paul, Minn.—City intends paving portions of following streets: Randolph, $65,019; Como, $168,059; E. Maryland, $81,241; Fairfield and Eaton, $20,773; and paving and making sewer, water and gas connections in Jessamine St., $42,908.

City considering paving portions of following avenues: Portland (estimated cost $72,714, or $6.46 per ft.); Prior, $35,093 or $8.63; Ashland, $87,222 or $5.46; Cleveland, $48,011 or $6.49; Cretin, $464,712 or $8.53; Dayton, $73,372 or $6.48; Laurel, $69,503 or $6.16; Selby, $42,934 or $6.26; Concord St., $46,847 or $4.50.

Madison, S. D.—Contracts will be let in spring for paving portions of Egan Ave., 7th and 11th Sts., involving about 40,000 sq. yd. with creosoted wood block, bitulithic, asphaltic concrete, sheet asphalt or concrete and about 10,000 lin. ft. concrete curb. Wm. Rae, city aud.

Great Falls, Mont.—County voted $200,000 road bonds. Bids for bonds will probably be asked in February; for construction work in April. John E. Moran, co. clk.

Monett, Mo.—City in spring intends paving with Tarvia 10,000 sq. yd. of streets, oiling 10,000 additional sq. yd. of macadam and dirt roads, and constructing 3000 lin. ft. concrete curbing. Bert Robbins, city engr.

Dermott, Ark.—Road Dist. being formed in county to construct highway across county from here to Louisiana state line; estimated cost of road work being placed at $260,000. J. C. Hoffman, comr., Dermott.

Denton, Tex.—In addition to $1,000,000 bonds to be voted by county Dec. 21, another election will be held to vote $150,000 for road purposes in Justin Road Dist.

Chickasha, Okla.—Petition being circulated in county for election to vote $1,000,000 for good road construction.

Poteau, Okla.—Following townships contemplate considerable paving, principally macadam: Braden, John Littlefield, clk.; Heavener, S. J. Folsom, clk.; Monroe, A. J. Flynn, clk.

Tacoma, Wash.—See "Excavation, Drainage and Dredging."

Vancouver, Wash.—Petitions being circulated to construct new highway to be known as Evergreen Highway, between here and Missoula, Mont., passing through Lewiston, Walla Walla, Pasco and Kennewick. Address Secy. Chamber Commerce.

Washington.—Federal Forest Reserve Bd. has approved expenditure by State Highway Comn., Olympia, of $180,000 forest road funds as follows: $50,000 for McClellan Pass highway, east from Cascades; $40,000 for Blewett Pass; $25,000 for Sunset highway, west of Lake Quinault; $65,000 for Inland Empire highway, from Canadian boundary. James Allen, state highway comr.

Astoria, Ore.—City intends paving about 45,000 sq. yd. during 1917 with macadam, including necessary grading, and construction of concrete curbs and sidewalks. G. T. McLean, city engr.

Dallas, Ore.—Grades for paving 3 miles of county roads to connect with city's hard-surfaced streets have been established by John H. Lewis, state highway engr.; construction in spring. Asa Robinson, jr., clk.

Independence, Ore.—Surveys have been completed by H. N. Hackett, asst. state engr., Salem, for state road between here and Corvallis, about 2 miles, which eliminates three RR. crossings and includes construction of bridge over Luckiamute River near Parker.

Oregon City, Ore.—County will pave Oak Grove with asphaltic concrete; cost $9,500.

Woodland, Cal.—City intends constructing concrete cement sidewalks 5 ft. wide and grading portions of following streets: 3d, 4th, 5th and four other streets and two avenues. Neal Chalmers, clk.

Oracle, Ariz.—County Bd. Supervs. intend constructing 11 miles of road from here to Brady ranch. Address Co. Clk., Florence.

Lewiston, Idaho.—Lapwai Valley Highway Dist. voted $150,000 for permanent highway improvements.

Stellarton, N. S.—Contracts will be let in spring by city for new concrete sidewalks and pavements; estimated cost, $55,000. J. W. Henderson, engr.

St. John, N. B.—Contracts will be awarded in spring by city for paving numerous streets with granite block, sheet asphalt and asphaltic concrete; estimated cost, $240,000. R. W. Wigmore, comr.

Toronto, Ont.—Contracts will be awarded in spring by city for following types of pavement: Granite block, $35,000; asphalt, $48,000; bitulithic, $165,000; concrete sidewalks, $3,000.

Victoria, B. C.—City has under consideration construction of 70-mile highway in co-operation with Vancouver Bd. of Trade, between Hope and Princeton as part of Canadian National highway.

BIDS DESIRED.

Brooklyn, N. Y.—Until Dec. 27, by L. H. Pounds, boro. pres., Room 2, Borough Hall, for regulating, grading, paving, curbing and laying sidewalks in portions of Benson and Caton Aves., E. 10th, E. 12th, E. 17th and E. 34th Sts., Erasmus St., Ovington Ave., Powell, Tapscott, W. 31st, 54th and 94th Sts., to consist of 41,482 sq. yd. asphalt, 6882 cu. yd. concrete, 13,835 sq. ft. cement sidewalks and same amount 6-in. cinder or gravel sidewalk foundation; total security $32,300.

Also for delivering and furnishing 400,000 gal. refined asphalt in liquid form; 100,000 asphalt paving blocks; 60,000 grade 1 granite paving blocks; 6000 bbl. Portland cement; 2200 tons limestone; 20,000 sq. ft. bluestone flagging; 1000 cu. yd. paving gravel; 13,000 gal. residium oil; 300 tons paving pitch; 12,000 cu. yd. asphalt sand; 4000 cu. yd. binder stone; 4000 cu. yd. 1½ in. broken stone for concrete; security for each item 30% of the amount for which the contract is awarded.

New Brighton, S. I., N. Y.—Until Dec. 29, by Calvin D. Van Name, boro. pres., for paving on portions of Thompson St.; in all about 3200 sq. yd. granite block pavement; 5200 lin. ft. sidewalk, together with curbing, etc.; security $8,000.

New York, N. Y.—See "Waterworks and Sewage Systems."

Wilkes-Barre, Pa.—Until Jan. 16 by M. C. Murray, supt. Dept. Sts. and Pub. Impts., for paving 19 streets; specifications from B. K. Finch, city engr.; advertised in this issue.

Bradentown, Fla.—Reported desired until Jan. 8 by Manatee County Comrs. (Robt. H. Roesch, clk.) for constructing 20 miles hard-surfaced roads, 4 bridges and such other structures as are necessary to complete roads in Englewood Special Road and Bridge Dist.; 92,000 cu. yd. excavation; 105,600 sq. yd. rock surface; 140 cu. yd. concrete in culverts, 4 concrete steel and wood bridges, 54, 90, 108 and 230 ft. long, respectively, to be provided with steel swing draw, allowing clear opening of 30 ft.; separate bids for road and bridge work; specifications may be obtained from R. M. Cantey, dist. engr., Sarasota, on payment of $1 for plans and $5 for specifications.

Lakeland, Fla.—Reported desired until Jan. 19, by John F. Cox, mayor, for improving about 12 miles streets, including grading, curbing and gutters, 13,800 sq. yd. paving with sheet asphalt, asphalt block or brick. J. W. Turner, engr.

Cincinnati, O.—Until Dec. 29, by Bd. Co. Comrs. (Fred E. Wesselmann, pres.) for improving portions of Clark and Given Road in Symmes Township. Certified check for $300 to accompany bid.

New Concord, O.—Reported desired until Dec. 30 for constructing 1.5 miles brick or concrete pavement. Address W. C. Trace, village clk.

Indiana.—By Bd. Co. Cmrs. for constructing roads in following counties:

Jan. 1:

Greensburg, concrete road in Washington, Clay and Jackson Twps., John C. Barbe, aud. Greencastle, roads in Madison, Jackson, Floyd and Clinton Twps., Joe. M. Allen, aud.

Jan. 2:

Corydon, Ind., gravel or macadam road in Boone Twp., J. L. O'Bannon, aud.

Logansport, roads in Bethlehem and Washington Twps., A. P. Flynn, aud.

Jan. 4:

Corydon, gravel or macadam road between Heth and Washington Twps., J. L. O'Bannon, aud.

Forest Park, Ill.—Reported desired until Dec. 26, by J. Mohr, pres. Bd. Pub. Wks., for resurfacing S. Desplaines Ave. from 12th to 16th Sts.; 8120 sq. yd. existing macadam to be graded, redressed and rolled, same amount new vitr. brick paving with bituminous cement filler; cost, about $15,063.

West Allis, Wis.—Reported desired until Dec. 30, by Bd. Pub. Wks., for improving portions of George St. and all avenues between 60th and 67th Aves. E. G. Orbert, city engr.

Kansas City, Kan.—Reported desired until Jan. 11 by Frank M. Holcomb, clk., for improving Matoon-Reidy Road to Muncie Road; certified check for $1000 to accompany bid. R. L. McAlpin, engr.

Seattle, Wash.—Until Jan. 2, by Byron Phelps, co. aud. King Co., for grading, bulkheading, etc., Sylvester Road., distance 3 miles; specifications obtained upon payment of $5; 5 per cent check required with each bid; cost, about $30,000. A. P. Denton, co. engr.

Berkeley, Cal.—Reported desired until Dec. 26, by A. C. Briggs, city clk., for grading and constructing concrete curbs and gutters and oil-macadam pavement on Lincoln St.

Los Angeles, Cal.—Reported desired until Dec. 27, by Bd. Pub. Wks., for grading, oiling, curbing and constructing brick and concrete walks.

Placerville, Cal.—Reported desired until Jan. 3, by J. Koletzke, co. clk., for constructing 3¼ miles highway, requiring 42,000 cu. yd. excavation; plans from co. clk. upon deposit of $10.

Richmond, Cal.—Reported desired until Dec. 26, by A. C. Faris, city clk., for constructing concrete curbs, gutters, sidewalks and wing walls and oil-macadam pavement on portions of 25th, 26th and 27th Sts.

Stockton, Cal.—Reported desired until Jan. 2, by E. D. Graham, co. clk., for improving 5½ miles of Durham Ferry highway.

PRICES AND LETTINGS.

★Indicates award of contract.

★Rochester, N. Y.—Contracts awarded by Bd. Contract and Supply for paving with asphalt as follows: Whitmore, Rauber & Vincinus, 279 South Ave., at $18,282, for Marshall St.; to Rochester Vulcanite Pavement Co., Exchange Place Bldg., at $15,757, for Howell St.

★Salem, N. J.—Contract awarded by Bd. Freeholders to Fox & Powell, Ocean City, N. J., at $15,696 for paving 26,667 sq. yd. of sect No. 2, Malaga-Pennsgrove Road. Isaac C. Smaskey, clk.

★De Land, Fla.—Contract awarded by Bd. Pub. Wks. to N. N. Jacobs, De Land, for 8 miles of 4 x 14-in. concrete curbing at 21 cts. per lin. ft.

★Canton, Miss.—Contract awarded Dec. 5 by county to Owens Constr. Co., Madison, Miss., for constructing 40 miles of earth road, involving about 130,000 cu. yd. earth grading, with 480 cu. yd. concrete culverts; also some creosoted pine bridges. Walter G. Kirkpatrick, engr., 704 Farley Bldg., Birmingham, Ala.

Attica, O.—Only bid received Dec. 5 by County Comrs., Tiffin, for paving with brick 1.12 miles of east branch of main market road No. 8 from here to Caroline was from Modern Constr. Co., Fremont, O., for $44,786; engineer's estimate is about $35,000.

Seattle, Wash.—Lowest bids opened by Bd. Pub. Wks. for grading E. 80th St., at $39,213, and paving E. 71st St., at $13,331, was from Superior Constr. Co., 1642 Lane St., Seattle.

Brea, Cal.—All bids rejected by county (opened Dec. 6) for paving with concrete 2.53 miles of road 18 ft. wide from here to Olinda. Bidders were: M. T. Shafer, Los Angeles, $12,201; Max L. Hubermann, Santa Ana, $13,999; M. R. Co., Inc., Los Angeles, $14,653. W. B. Williams, co. clk., Santa Ana.

★Calexico, Cal.—Following are bids received by City (H. L. Sherman, city engr.) for paving 48,000 sq. yd. on 1st, 2d, 3d and four other streets, with 5-in. concrete and 2-in. bitulithic, including laying concrete pipe storm sewers, sidewalks and curbs on some of streets and making all sewer connections not made to date: Federal Constr. Co., Sharon Bldg., San Francisco, at $115,567 (awarded contract); California-Arizona Constr. Co., 1700 E. Washington St., Los Angeles, $125,807; Bryant & Austin, 1650 Compton Ave., Los Angeles, $136,810; Fairchild-Gilmore-Wilton Co., Pacific Elec. Bldg., Los Angeles, $137,818.

★Huntington Beach, Cal.—Contract awarded by county (bids opened Dec. 6) to Lee Garnsey, 403 E. 3rd St., Los Angeles, at $16,814, for constructing 3-mile roadway northwest from Huntington Beach, involving 20,000 cu. yd. sand excavation, 7500 cu. yd. clay surfacing and 1168 ft. pile trestle. W. B. Williams, co. clk., Santa Ana.

★Orofino, Idaho.—Reported contract awarded by city to C. M. Payne, Spokane, at $12,000, for paving 5 blocks in business district.

RAILWAYS
Steam and Electric

PROPOSED WORK.

Elmira, N. Y.—Elmira Water, Light & Railroad Co. (F. H. Hill, gen. mgr., Elmira) plans to lay a double-track along College Ave. from Roe Ave. north to West Thurston St., at which point a new single track line along Thurston St. to Westside Ave. will be united.

New York, N. Y.—Statement has been issued by F. Van Z. Lane, traffic engr., Bayonne, N. J., urging the construction of electric railway from Staten Island to New York via Bayonne, Greenville and lower Jersey City. A tunnel under Kill von Kull River between Staten Island and New Jersey is proposed.

Niagara Falls, N. Y.—Grade Crossing Comn. considering eliminating grade crossings by tunneling or constructing detours.

Somerville, N. J.—Central RR. of N. J. (A. E. Owen, ch. engr., New York) has filed plans with Pub. Utilities Comrs. to abolish grade crossings between Raritan and Finderne at a cost of $1,800,000; elevation of tracks at Somerville and elimination of 3 grade crossings; cost about $800,000.

Jackson, Tenn.—New Orleans, Mobile & Chicago RR. Co. (B. V. Wright, ch. engr., Laurel, Miss.) is reported to have changed its name to Gulf, Mobile & Northern RR., and plans extending line from Middleton to Jackson.

Hillsboro, O.—Hillsboro, Cynthiana, Bainbridge & Chillicothe Traction Co. has received a franchise from Bd. Co. Comrs. to construct a line over roads in Highland Co. R. R. Faulkner interested.

Cleveland, O.—Cleveland Ry. (Geo. L. Radcliffe, gen. mgr., Cleveland) plans constructing an extension on Hough Ave. to E. 105th St.

Columbus, O.—Pub. Utilities Comn. of City Council recently approved a franchise giving the Columbus Depot Co. right to construct and operate tracks, switches across Town, Front, Rich, Walnut Sts. near High St., and build a depot over Wall St.

Kokomo, Ind.—Indiana Ry. & Light Co. (T. C. McReynolds, gen. mgr., Kokomo) plans two extensions in Kokomo, one to northwestern and the other to southern part of the city.

South Bend, Ind.—The contract between city and N. Y. C. RR. Co. (G. W. Kittredge, ch. engr., New York), providing for elevation of tracks for 6 blocks between Chapin and Michigan Sts., has been approved by Common Council. The city will share in expense of separating grades. Work is expected to take 3 years or more.

Aurora, Ill.—Fox & Illinois Ry. Co. (F. M. Zimmerman, gen. mgr., Yorkville, Ill.) plans constructing an extension from Morris south to Gardner and thence to Dwight.

Aurora, Mendota & Western R. R. Co. reported planning the construction of a line between Aurora and Mendota by day labor. H. D. Hallett, engr., 132 Downer Pl., Aurora.

Peoria, Ill.—Peoria-Chillicothe Interurban Ry. (A. C. Block, secy.) reported secured franchises in all municipalities except Peoria Hts. for construction of road between two points.

Thief River Falls, Minn.—Loman Ry. Co. plans extending line from International Falls to Thief River Falls, a distance of 200 miles.

Columbus, Kan.—Oklahoma & Northern Traction Co. will ask City Council for franchise to construct a line in Columbus. W. K. Palmer & Co., engrs., Kansas City, Mo.

Kansas City, Mo.—Reported Samuel J. McWilliams, secy. of Gaston Ry. Syndicate, Scarritt Bldg., Kansas City, interested in constructing line from Kansas City to Springfield, via Butler and Rockville.

Monroe City, Mo.—Burlington RR. (T. E. Calvert, ch. engr., Chicago, Ill.), intends constructing standard gauge extension from here to Moberly, about 46 miles; number of bridges, including 2 of concrete, which will cross over the Middle and North Forks of Salt River; also 2 stations, one at Paris, Mo., and one at Madison, Mo.

St. Louis, Mo.—"See Waterworks and Sewerage Systems."

Ft. Smith, Ark.—Albert Emanuel, pres. Albert Emanuel Co., Schwind Bldg., Dayton, O., reported interested in constructing an electric railway between Ft. Smith and surrounding towns within radius of 50 miles.

Lindsay, Cal.—Visalia Electric R. R. Co. (F. W. Webster, gen. mgr., Exeter) plans constructing a line from Lindsay to Woodville, about 11 miles.

BIDS DESIRED.

Rock Island, Ill.—See "Reinforced Concrete."

PRICES AND LETTINGS.

★Indicates award of contract.

Brooklyn N. Y.—Following bids were opened at the office of New York Municipal Ry. Corp., 85 Clinton St., Brooklyn, for erecting third-rail and track-rail bonding, etc., on the Culver line: Lupfer & Remick, Ellicott Sq., Buffalo, N. Y., $101,000; Jobson-Gifford Co., 30 E. 42d St., New York, $105,991; Thos. Crimmins Contr. Co., 444 E. 69th St., New York, $107,000; Kaufman & Garsey, 51 Chambers St., New York, $121,996.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Jersey City, N. J.—See "Reinforced Concrete."

Lyndhurst, N. J.—Bridgeman Smith Co., Kent Ave., Brooklyn, N. Y., has acquired 12 acres of property in Kingsland section for erecting plant for manufacture of paper boxes and kindred products.

Newark, N. J.—Reported A. Hollander & Sons, 123-129 E. Kinney St., will erect 4-story brick factory, 103½ x 149 ft.; cost $63,000.

Philadelphia, Pa.—See "Reinforced Concrete."

Scranton, Pa.—Reported Wilson & Co., meat packers, will erect $250,000 storage, manufacturing and distributing plant at Mifflin Ave. and Spruce Sts. W. J. Cawley, mgr., 7 Dockash Pl.

Shreveport, La.—Reported Western Gas & Electric Co. will spend $100,000 in enlarging power house. A. G. Curtis, supt.

Cleveland, O.—Reported by C. H. Miller, 3317 Broadview Rd., will erect foundry, 100 x 260-ft. 1-story; cost $55,000; at State Rd. and Cleveland Belt Line RR.

Reported Riester & Thesmacher, 1512 W. 25th St., will erect sheet metal plant; cost, about $60,000; near State St. Rd. and Cleveland Belt Line RR.

Fosteria, O.—Reported Kressler Auto Co. will rebuild factory recently destroyed by fire; cost about $50,000.

Worland, Wyo.—Reported new company known as Wyoming Sugar Co. will erect $1,000,000 beet sugar factory in Big Horn Valley. Following are some of principal stockholders: Joseph Eccels and Charles E. Daiser, Ogden, Utah; J. L. Williams, San Francisco, Cal.; George S. Crosby, Billings, Mont.

Astoria, Ore.—Reported Northern Pacific Brewing plant recently taken by Bruce O. Rowan and J. H. Keating will be remodeled and equipped for condensed milk plant; cost $100,000.

Oregon City, Ore.—Contract soon to be let for erecting additional building to Oregon City Woolen Mills here; cost, $100,000.

Los Angeles, Cal.—See "Reinforced Concrete."

Los Angeles, Cal.—Preliminary plans being prepared by Mayberry & Parker, engrs., Pacific Electric Bldg., for erecting reinforced concrete warehouse on Alameda St. for Panama-Pacific Warehouse Co. (F. H. Brooks, secy., 502 Trust & Savings Bank); cost, about $500,000.

St. John, N. B.—Nashwaak Pulp & Paper Co. is preparing plans for erecting plant; cost $250,000.

London, Ont.—P. C. Ketchersid, Wichita, Kan., plans to equip $75,000 plant here for manufacturing brooms.

Ottawa, Ont.—See "Reinforced Concrete."

Tillsonburg, Ont.—Huntley Mfg. Co., Silver Creek, N. Y., plans to equip $50,000 branch plant for manufacturing cereal milling machinery and canning factory equipment.

Vancouver, B. C.—Geo. A. MacKenzie, managing dir. W. H. Laws Co., Calgary, Alta., owners of Canadian Western Steel Co., Redcliff, Alta., and the Alberta Rolling Mills at Medicine Hat, Alta., state this company will erect rolling mill here to manufacture bar iron, steel bolts, nuts and rivets, etc.; erection planned after first of year.

BIDS DESIRED.

Ottawa, Ont.—Until Jan. 2, by Secy. Bd. Control, City Hall, for remodeling civic asphalt plant; specifications may be obtained from City Engr. A. F. Macallum, comr. wks. Address bids to Chmn. Bd. of Control.

PRICES AND LETTINGS.

★Indicates award of contract.

★Bayonne, N. J.—Contract awarded James Mitchell, Inc., 76 Montgomery St., for erecting new factory at Avenue C and W. 2nd St., here, for Duryea Mfg. Co., Jersey City, N. J., manufacturers of cotton belting, oils, etc.; cost $31,354.

★**Newark, N. J.**—Contract awarded Edward M. Waldron, Inc., Newark, for erecting 4-story brick fur-dyeing plant for A. Hollander & Sons., at 123-129 E. Kinney St.; cost $63,370.

★**Bridesburg, Pa.**—Contract awarded John R. Wiggin Co., 1215 Filbert St., Philadelphia, for erecting 3-story plant 80 x 86 ft., for Abrasive Metal Co.

★**Philadelphia, Pa.**—Contract awarded Nickson-Duggan Constr, Co., for erecting 2-story 50 x 160-ft. brick and concrete factory for L. H. Gilmer Co., manufacturers of belting, on Keystone St., Tacony Section, Philadelphia.

★**Reading, Pa.**—Contract awarded by Carpenter Steel Works, Reading, to Reading Contracting Co. for erecting reinforced concrete, 76 x 216-ft., 6-story storage house; cost $100,000.

★**Cleveland, O.**—Contract awarded by Willard Storage Battery Co., 280 E. 131st St., to Gaylord W. Feaga Co., Citizen's Bldg., for erecting 1-story brick and reinforced concrete 90 x 243-ft. warehouse; cost $55,000.

★Contract awarded by Tabor Ice Cream Co., E. 35th St. and Payne Ave., to Reaugh Constr. Co., 2835 E. 53rd St., for erecting addition to plant of 4-story 97 x 140-ft. brick, reinforced concrete; cost $100,000. C. D. Cooley Co., archts., 3522 Payne Ave.

★**Cleveland, O.**—See "Reinforced Concrete."

★**South St. Paul, Minn.**—Contract awarded by Armour & Co. to Grant, Smith & Co., 1505 News Bldg., for driving of piling for foundation of packing house and subsidiary plants, of $5,000,000 packing plant.

★**Seattle, Wash.**—Contract awarded H. D. Stewart, American Bank Bldg., Seattle, for erecting 95 x 250-ft. machine shop, 75 x 400-ft. woodworking shop and mold loft, and other small structures for Ames Shipbuilding & Dry Dock Co., at Hanford Beach and 26th Ave. S.; cost about $100,000.

★**St. John, N. B.**—Contract awarded Burlington Steel Co., Hamilton, Ont., for erecting Canadian Government grain elevator; cost $200,000. Fegles Bellows Co. have general contract; head office Fort William, Ont.

★**Welland, Ont.**—Contract awarded by Canadian Steel Foundries, Ltd., Ontario Rd., to Ryan & Gardiner, for erecting brick and steel addition to plant; cost $150,000.

BUILDINGS
Public and Private

PROPOSED WORK.

Boston, Mass.—Reported Christian Science Bd. Directors will erect large sanitorium on Lone Tree Hill, Brookline, to cost about $600,000.

Meridan, Mass.—See "Reinforced Concrete."

Hartford, Conn.—Plans being prepared by Isaac A. Allen, Jr., 904 Main St., for erecting high school; cost $275,000.

Buffalo, N. Y.—City Commission in charge of adequate passenger and freight terminals agreed Dec. 14 to plan of N. Y. Central R.R. to erect terminal; cost $7,000,000. G. W. Kitteridge, chief engr., Grand Central Terminal, New York City.

Buffalo, N. Y.—Plans being prepared by R. J. Reidpath & Son, Builders Exchange, for erecting pattern shop and storage building; cost $50,000. Buffalo Foundry & Machine Co., H. D. Miles, pres., E. Ferry St. and Fillmore Ave., owner.

Williamsville, N. Y.—Plans to be prepared by Martin C. Miller, 611 Mutual Life Bldg., Buffalo, for erecting high school. H. W. Baker, pres. bd. educ.

East Orange, N. J.—Government will readvertise bid for erecting new post office at East Orange; $200,000 available.

Passaic, N. J.—State Military Bd., Trenton, plans appropriation of $100,000 for erecting new armory here.

River Edge, N. J.—Plans being prepared by Tellack & Foster, 150 Nassau St., New York, for erecting 3-story, 40 x 80-ft. club house for Men's Club.

Summit, N. J.—Reported Bd. Educ. plans erecting high school and addition to two grammar schools; new school will also be erected in West Summit Section.

Irwin, Pa.—Plans being prepared by John T. Comes, Renshaw Bldg., Pittsburgh, for erecting Catholic church at Main and Oak Sts. for Immaculate Conception Catholic Church, Thomas Hensler, pres. Cost $75,000.

Loretta, Pa.—St. Francis College, Loretta, will erect new building; cost $2,000,000; gift of Chas. M. Schwab.

McKees Rocks, Pa.—Plans being prepared by J. H. Phillips, local archt., for erecting new Federal Bldg. on Chartiers Ave. opposite St. Francis de Sales Roman Catholic Church; cost $70,000.

Philadelphia, Pa. — Branch Capitol Comm., plans erecting state bldg. here, to cost $100,000. J. P. Gaffney, chmn., Council's Finance Comm., Philadelphia, in charge.

Philadelphia, Pa.—University of Pennsylania taking steps to erect stadium to seat 100,000 people.

Philadelphia, Pa.—University Museum of University of Pennsylvania plans erecting necessary additional buildings; cost $500,000.

Bids soon to be asked for erection of new church and Sunday School building at 50th and Locust Sts., for First German Reformed Church, to be 2-story 75 x 130 ft., stone. Strickert & Co., Philadelphia, archt.

Bd. Directors of Athletic Assn., University Pennsylvania, plan erecting stadium to replace present Franklin Athletic Field.

Pine St. Realty Co., Philadelphia, will erect 14-story, 75 x 120-ft. Indiana limestone, fireproof apartment house at Broad and Pine Sts.; cost $1,500,000.

Snyder & Co., 134 N. 10th St., will erect 5-story showroom bldg. at 118 N. 10th St.; cost $75,000.

Reported 3-story, 65 x 128-ft. stone church edifice will be erected at the corner of 57th St. and Baltimore Ave. by Frank E. Wallace for Church of Epiphany; cost $85,000.

Plans being prepared by Price & McLanahan, 1418 Walnut St., Philadelphia, for erecting 4-story, 70 x 50-ft. brick, steel and reinforced concrete Musical Art Club on Ranstead St.; cost about $65,000.

Edward M. Harris, 50 N. 23d St., Philadelphia, will erect 12-story, 39 x 136-ft. building at Walnut and Sydenham Sts.

Bell Telephone Co., 1230 Arch St., will erect 3-story and basement, 90 x 137-ft. addition to telephone exchange at Germantown.

Pittsburgh, Pa.—Carnegie Comn. purchased land on which to erect another dormitory to accommodate about 100 students at Carnegie School of Technology; $1,000,000 fund recent gift of Andrew Carnegie.

Pittsburgh, Pa.—Reported John Lackman, Brentwood, Pittsburgh, will erect 3-story 65 x 150-ft. apartment building on Pinehurst Ave., Brentwood; cost, about $50,000.

Tullytown, Pa.—Reported A. B. Shoemaker, Tullytown, will rebuild mill recently destroyed by fire; a modern building to cost $60,000 will be erected.

Badin, N. C.—Plans being prepared by H. E. Kennedy Co., Home Trust Bldg., Pittsburgh, Pa., for erecting 3-story, 52 x 124-ft. lodge and theater building for Aluminum Co. of America, J. S. Murry, purch. agt., Oliver Bldg., Pittsburgh, Pa. Contract on materials soon to be let.

Leesburg, Ga.—Co. Comrs. have purchased site and contract soon to be let on new court house; cost about $50,000.

Birmingham, Ala.—Revised plans have been prepared for erecting 3-story brick and stone, 358 x 164-ft. courthouse and post office.

New Orleans, La.—Members of New Orleans Cotton Exchange plan erecting new exchange bldg. at Carondelet and Gravier Sts.; cost about $350,000.

New Orleans, La.—Reported Trans-Mississippi Terminal Co., 1342 Annunciation St., will improve terminal and enlarge handling facilities; cost $350,000. J. A. Shepard, pres.

Reported Dock Board will erect new wharf and sheds along Dumaine St. Reinforced concrete and creosoted timber will be used; cost $300,000.

Shreveport, La.—Reported J. Dambly is having plans prepared to erect 3 or 4-story store and office building to replace building recently destroyed by fire.

Reported Police Jury will erect another 1-story of concrete, brick and steel construction to court house; cost about $50,000. Address W. T. Crawford, pres. police jury.

Reported J. K. Giddens is having plans prepared for erecting modern store and office building to cost about $250,000 on property recently purchased on Milam and Marshall Sts.

Chattanooga, Tenn.—County Comrs. considering $1,000,000 bond appropriation to provide funds for constructing number of new schools and completing construction of Market St. bridge and county highway system, and for other work, having asked state legislature for authority to issue same.

Akron, O.—Reported Y. M. C. A. Bd. Directors will erect new Y. M. C. A. building at Long and Front Sts.; cost about $100,000.

Cincinnati, O.—Bd. Educ. authorized bond issue of $300,000 for school building improvements in 1917.

Plans being prepared by Elzner & Anderson, 136 Ingalls Bldg., for erecting additional dormitory building for Longview Asylum; cost $350,000; bids will be advertised as soon as plans are completed and approved by Bd. of Hamilton Co. Comrs. Albert Reinhardt, clk.

Zanesville, O.—Market house and City Hall bonds for $75,000 will be sold Jan. 12 by Cecil W. Tanner, city aud.

Cleveland, O.—See "Reinforced Concrete."

St. John Nepomucene Bohemian R. C. congregation will erect $100,000 edifice at Fleet Ave. and E. 50th St. Rev. Francis J. Hroch, 4919 Fleet Ave., pastor.

Plans being prepared by C. W. Hopkinson, 900 Rose Bldg., for erecting university gymnasium in Adelbert Road near Cummington Road; cost $150,000. Chas. F. Thwing, pres. Western Reserve University, Euclid Ave. and E. Blvd. Bids will be asked in a few weeks.

Reportpd C. H. Strong, care Wm. Taylor Sons & Co., 630 Euclid Ave., will erect residence at Lakeshore Blvd. and E. 103rd St.; building to be brick and reinforced concrete; cost, about $60,000.

Chicago, Ill.—Plans being prepared by A. Scoll Joy, 1120 W. 35th St., for erecting 1-story, 150 x 400-ft. steel shop; cost $100,000. Central Mfg. Dist. (H. E. Poronto, mgr., 38 S. Dearborn st.), owner.

Beloit, Wis.—City is planning to secure plans for the new City Hall, to cost $75,000. G. E. Heebink, city engr.

Milwaukee, Wis.—Plans being prepared by Chas. E. Malig, City Hall, for west side police station, to be erected at 12th and Sherman Sts. Comr. Pub. Wks. to receive bids.

Two Rivers, Wis.—Bond issue of $75,000 for erecting school will probably be voted on soon. Henry Krase, vll. clk.

Ames, Ia.—Reported dormitory No. 3 for women at Iowa State College of Agriculture and Mechanical Arts will be constructed under direction of Thos. Sloss, supt. of buildings and grounds; cost about $55,000.

Annandale, Minn.—Reported bids will be received about March 1 for erecting Consolidated 2-story and basement, 144 x 75-ft. school. Geo. J. Hoffman & Co., Rochester, Minn., archts.; Dr. N. C. Smith, clk. Bd. of Education; cost about $50,000.

Cloquet, Minn.—Plans being prepared by Kelly & Williams, 404 First Natl. Bank Bldg., for erecting school; cost, $70,000; bids to be asked in February.

Fairmont, Minn.—Water and Light Comn. has purchased site and will erect office, workshop and display room, 30 x 52 ft., with basement, in the spring; cost about $50,000.

Lakefield, Minn.—See "Reinforced Concrete."

Minneapolis, Minn.—Plans being prepared by Bertrand & Chamberlain, Northwestern National Bank Bldg., for erecting Zurah Temple for Mystic Shrine Temple at Lyndale Ave. between Franklin-Ridgewood Ave. Construction to begin in spring; cost about $150,000.

Fargo, N. D.—Bond issue of $450,000 for erecting high school will probably be voted on soon.

Watertown, S. D.—Bond issue of $75,000 will be sold for erecting auditorium.

Butte, Mont.—Reported contract will be let after Jan. 1 for erecting Y. M. C. A. Bldg.; cost $300,000.

Helena, Mont.—T. A. Marlow and associates will erect $100,000 theater as soon as weather conditions permit.

Bowling Green, Mo.—Reported court house bonds for $100,000 will be sold Jan. 9 by Arthur J. Ladley, treas. Pike Co.

Monroe City, Mo.—See "Railways."

St. Louis, Mo.—See "Waterworks and Sewerage Systems."

St. Louis, Mo.—School bonds for $3,000,000 will be sold Dec. 28 by Board of Education.

Amarillo, Tex.—Bd. of City Development and other prominent business men are in conference on project of erecting new hotel to cost $200,000. Address P. H. Landergin.

Austin, Tex.—Attorney General has approved $450,000 courthouse and jail bond issue for County of El Paso. Address Co. Clk.

Brownwood, Tex.—Citizens will vote Jan. 20 on proposed bond issue of $110,000 for erecting high school bldg. and city hall. Address Mayor.

Prosser, Wash.—Sale of $125,000 bonds for Benton County court house authorized by taxpayers. L. L. Lynn, co. aud.

Seattle, Wash.—Bond issue of $1,083,000 for erecting school bldg. and purchase of land.

Spokane, Wash.—See "Reinforced Concrete."

Corvallis, Ore.—Proposition of voting bonds in sum of $80,000 for erecting high school will be placed before voters shortly.

Portland, Ore.—United Artisan Lodge will erect 4-story modern structure on corner of 3d and Columbia Sts.; active construction will begin early in spring; cost $60,000.

Fresno, Cal.—Contract to be let early in new year by Eugene Mathewson, archt., Rowell Bldg., for erecting 6-story and basement steel brick and reinforced concrete 75 x 100-ft. office building, at Mariposa and J Sts., for Mrs. Nellie Mason, New York City; cost about $165,000.

Los Angeles, Cal.—See "Reinforced Concrete."

Pomona, Cal.—Plans being prepared by Paul Higgs, First Natl. Bank. Bldg., and John F. Bee, engr., Union League Bldg., Los Angeles, for erecting 2-story and basement 50 x 60-ft. reinforced concrete building for Home Telephone Co.; cost, about $55,000.

Gooding, Idaho.—Plans being prepared by Tourtellotte & Hummel, Rothchild Bldg., Portland, Ore., for erecting group of structures for Gooding College for M. E. Church; cost $200,000. Reported bids will be received shortly after Jan. 1.

Idaho Falls, Idaho.—Recent election held for issuing $100,000 bonds for erecting courthouse and jail failed to carry.

Oshawa, Ont.—Plans being prepared by H. W. Cooper, manager Oshawa Ry. Co. for erecting new depot; cost $100,000.

Ottawa, Ont.—See "Reinforced Concrete."

Toronto, Ont.—Plans being prepared by Gordon & Helliwell, Confederation Life Bldg., for erecting Women's Cottage Hospital and Dispensary; cost $125,000.

BIDS DESIRED.

Lowell, Mass.—Reported desired until Dec. 28, by City Council, for erecting high school addition; cost about $70,000. H. L. Rourke, Hildreth Bldg., archt.

New York, N. Y.—Until Dec. 28 (readvertisement), by Pub. Serv. Comn. for 1st Dist., 120 Bway., New York City, for construction station, finish work, for 9 stations on 7th Ave.-Lexington Ave. Rapid Transit RR., from Battery Park to W. 16th St.

New York, N. Y.—Until Jan. 5, by Dept. Pub. Charities (John A. Kingsbury, comr.), Municipal Bldg., for general construction and electrical work for erecting Cottage Dormitory Nos. 8 and 9, high grade female dormitory No. 23, staff house No. 37, infirmary No. 50 at Randall's Island; total security, $37,180.

Sonyea, N. Y.—Until Jan. 9 by Hon. Percy L. Lang, pres. bd. managers, Craig Colony for Epileptics, for constructing, heating and electric work for dormitories 2 and 3. Lewis F. Pilcher, state archt.; advertised in this issue.

Philadelphia, Pa.—Until Dec. 27, for erecting 5-story apartment house, 36 x 78 ft., at Juniper and Latimer Sts. Simon & Basset, archts., 1112 Chestnut St.

Akron, O.—Reported desired until Jan. 10, by Thos. Bruce Boyd, 286 5th Ave., New York, N. Y. (assoc. archts., Frank Wagner & Mitchell, 405 Permanent Bank Bldg., Akron), for erecting bank and hotel; cost, about $300,000.

Cincinnati, O.—Until Jan. 10, by Theis & Theis, archts., 520 Sycamore St., Cincinnati, for erecting $200,000 structure for Young Men's Club and Catholic Boys' Home.

Detroit, Mich.—Until Dec. 26, by Bd. Ed. (Chas. A. Gadd, secy.) for erecting (a) Kennedy School, (b) Cordona and Hindle Aves. school bldg.; specifications for (a) may be obtained upon payment of $10 to Messrs. Mildner and Eisen, 924 Hammond Bldg., archts.; specifications for (b) may be obtained upon payment of same amount to Messrs. B. C. Wetzel & Co., 2317-18 Dime Bank Bldg., archts. Bids desired as a whole or on heating, plumbing, wiring, etc.

Iowa City, Ia.—Until Dec. 27, at office of G. L. Lockhart, for erecting three school buildings.

Comfrey, Minn.—Until Jan. 15, by H. D. Reed, clk. Bd. Ed., for erecting and completing Consolidated School Building; separate bids for heating, ventilation, plumbing and electric wiring; certified check for 5 per cent to accompany bid; specifications may be obtained from H. C. Gerlach, Mankato, archt., as well as from clk. on payment of $10.

Owatonna, Minn.—From Dec. 15 to Jan. 16, by J. H. Dinsmore, city clk., for receiving preliminary sketches for $150,000 high school building.

Fremont, Neb.—Until Jan. 22, by John O'Connor, co. clk., for erecting Courthouse; separate bids for heating and plumbing and electrical work; specifications may be obtained from A. H. Dyer Co., archts., Fremont, upon payment of $25 for general construction and $15 for heating and plumbing, $5 for electric work.

Indian Head, Md.—Until Jan. 15, at Bureau Yds. and Docks, Navy Dept., Washington, D. C., for erecting 2 soda storehouses and 4 cotton storehouses, having concrete floors and foundations, steel framing and corrugated galvanized sheet steel roofs and sides.

Los Angeles, Cal.—Reported desired until Jan. 8, by Bd. Supervs., for erecting 7 tuberculosis buildings at county hospital and vacuum steam-heating system for same.

St. Jean de Dieu, Que.—Reported desired, until Dec. 30, by Curate, Rev. J. A. Ouellett, for erecting church of stone and steel; plans and specifications may be obtained from P. Levesque, 115 St. John St., Quebec., archt.; cost, about $60,000.

PRICES AND LETTINGS.
★Indicates award of contract.

Bridgewater, Mass.—Following are lowest bids received by Bd. Educ. Dec. 4 for erecting new dormitories at Bridgewater State Normal School (two bldgs.): General contract, J. W. Bishop Co., 683 Atlantic Ave., Boston, large bldg., $150,424; small bldg., $180,366. Heating, Rideout, Chandler & Joyce, 178 High St., Boston, large bldg., $23,620; small bldg., $22,565. Plumbing, W. G. Cornell Co., 334 Shawmut St., Boston Mass., large bldg., $19,-650; small bldg., $18,800; Pierce & Cox, 143 Kingston St., Boston, large bldg., $20,998; small bldg., $20,122. Electric, Tremaine Electric Co., Brockton, Mass., $7,978 and $7,550; Andrews Electric Co., Brockton, Mass., $8,750 and $7,250. Painting, John J. Gately, Boston, Mass., $13,376 and $12,511. Cement stone, Cambridge Cement Stone Co., 84 1st St., Cambridge, Mass., $5,418 and $5,068. Elevator, S. Payne Co., 27 Kilby St., Boston, $1,630, and Geo. T. McLaughlin Co., 120 Fulton St., Boston, Mass., $1,980.

★Lockport, N. Y.—See "Reinforced Concrete."

Richmond Borough, S. I.—Following bids were received Dec. 15 by Dept. Public Charities, New York City, for furnishing labor, materials and completing 21 pavilion bldgs., a group bldg. and a dining hall at Sea View Hospital, Richmond Borough. General Construction: A. L. Guidone & Son, Inc., 52 Vanderbilt Ave., N. Y., $609,099.50; Kelly & Kelly, Inc., 12th St., Long Island City, $677,000; Emerson Bldg. Co., 103 Park Ave., $633,000; Plumbing: Raisler Heating Co., 129 Amsterdam Ave., $60,000; Almirall & Co., Inc., 1 Dominick St., N. Y., $40,975; Wells & Newton Co., Ave. B and 17th St., N. Y., $42,752; Adams, Britz & Co., 1761 Park Ave., N. Y., $52,755; W. L. Fleisher Co., 31 Madison Ave., N. Y., $54,000. Heating: J. A. O'Brien, Inc., 727 Prospect Ave., Bronx, N. Y., $61,000; J. F. Koop, 1469 Amsterdam Ave., N. Y., $61,860; Wells & Newton, Ave. B and 17th St., N. Y., $58,-728. Electrical Work: Jandos Elec. Equip. Co., 109 W. 31st St., $15,350; E. Frank, 22 E. 21st St., $13,291.

★Watertown, N. Y.—Contract awarded by N. Y. Air Brake Co. to Hydraulic Constr. Co., Flower Bldg., Watertown, for erecting new Extrusion bldg.

★Jersey City, N. J.—Contract awarded Stillman-Delehanty-Ferris Co., 26 Exchange Bldg., Jersey City, for erecting freight station at Greenville, Jersey City, freight yards of Pennsylvania RR.

★Ocean City, N. J.—See "Foundations, Piers and Dams."

Cincinnati, O.—Reported Harry M. Price, 616 Mercantile Library Bldg., will erect duplex apartment building on Wilson Ave. near Northern Ave., for C. H. Ortman, 601 Gwynne Bldg.; cost $60,000.

★Cleveland, O.—See "Reinforced Concrete."

★Cleveland, O.—Contract awarded by St. Clair Market Co., 408 Union Bldg., to H. F. Jeffrey, 408 Union Bldg., for erecting 1-story 96 x 233-ft. brick and reinforced concrete market house at 1060 St. Clair Ave.; cost $80,000.

★Carlisle, Minn.—Contract awarded H. A. Lackey, Carlisle, for erecting proposed new law school building for Dickinson College; cost, about $50,000.

Pueblo, Colo.—Contract awarded Seerie & Varnum, Continental Bldg., Denver, for erecting fireproof city hall and auditorium; cost $195,752. Wm. W. Stickney, archt., 89 Opera Block, Pueblo, Col.

★Seattle, Wash.—Contract awarded by Metropolitan Co. (J. F. Douglas, secy.) to Grant Smith & Co., Spokane, Wash., for erecting 2-story brick and plaster bldg. at 4th Ave. and University St.; cost $50,000.

★Astoria, Ore.—Contract awarded by Bd. Educ. to Astoria Constr. Co. for erecting school bldg.; cost about $61,856.

★Lennoxville, Quebec.—Contract awarded by Bishops College Corporation to John Quinlan & Co., Montreal, for erecting school of concrete, stone and plastic brick construction; cost $1,250,000.

Montreal, Que.—See "Reinforced Concrete."

★Rockfield, Quebec.—Contract awarded by Canadian Allis-Chalmers Co. to John MacGregor, Ltd., Montreal, for erecting extension of concrete, brick and steel to forge plant; cost $50,000.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Milton, N. H.—Plans are being prepared by the Twin State Gas & Electric Co., Dover, for the construction of a hydroelectric power plant at Milton; cost, about $25,000.

Fall River, Mass.—Fall River Electric Light Co. has applied to the Comn. on Waterways and Public Lands, Commonwealth of Massachusetts, for permission to drive piles, build concrete foundations and piers and erect tower for transmission of electricity in and over the waters of Taunton Great River, in city of Fall River and town of Somerset.

Oswego, N. Y.—Plans have been completed for constructing hydroelectric plant to be erected at the Oswego River dam No. 6, power house to be 50 x 120 ft.; estimated cost about $600,000. John A. Bensel, 111 Bway., New York City, consulting engr.

Ogdensburg, N. J.—See "Waterworks and Sewerage Systems."

Trenton, N. J.—Contract will soon be let by City Comrs. for constructing bulkheads 1000 ft. in connection with Delaware River improvement in South Trenton.

New Orleans, La.—Dock Board and Southern Pacific Ry. Co. (A. V. Kellogg, engr. M. of W., Houston, Tex.) contemplates rebuilding Dumaine St. wharf and shed 1402 ft. long, partly of reinforced concrete and partly of creosoted material; estimated cost $300,000.

Cincinnati, O.—Little Miami River Light & Power Co. (Louis J. Dolle, pres., Mercantile Library Bldg.) has engaged John W. Hill, 406 National Bank Bldg., Cincinnati, as engineer to prepare plans for utilizing the Little Miami River for power purposes.

Colton, O.—Fontane Power Co., Colton, reported to have completed plans for 1800 kw. hydroelectric plant.

Grand Rapids, Mich.—Cascade Electric Co. reported, has submitted a proposal to the City Council offering to sell its entire rights and holdings on the Thornapple River to the City for $100,000; build a dam and erect a transmission electric line to Grand Rapids.

Sapulpa, Okla.—See "Waterworks and Sewerage Systems."

Bellingham, Wash.—Plans being prepared by T. F. Doan, Bellingham, archt., for constructing ocean dock along Whatcom Creek at Pine St.; estimated cost $25,000.

North Yakima, Wash.—H. M. Gilbert, pres. Tieton Water Users Assoc., making investigations relative to construction of hydroelectric plant on Tieton Canal and at McAllister Meadows; it is estimated that 100,000 hp. can be developed.

Tacoma, Wash.—Todd Shipbuilding & Drydock Corp., incorporated with a capital of $1,000,000, for purpose of purchasing 100 acres on the Tacoma tidelands for constructing large drydock.

San Francisco, Cal.—Plans for constructing pier No. 3, 138 x 700 ft., of concrete piles, at foot of Washington St., have been approved by State Bd. of Harbor Comrs., and contracts will soon be let.

BIDS DESIRED.

Philadelphia, Pa.—Until Jan. 29 by Bureau Yards and Docks (F. R. Harris, ch.), Washington, D. C., for constructing concrete drydock at Navy Yard here.

PRICES AND LETTINGS.
★Indicates award of contract.

★Ocean City, N. J.—Contract awarded to Alexander Chambley, 243 S. 10th St., Philadelphia, Pa., at $800,000, for constructing pier 600 x 300 ft. and an 8-story hotel 240 x 198 ft. for Brighton Hotel Co. Headley & Scull, archts., Bartley Bldg., Atlantic City.

★Wheeling, W. Va.—Contract awarded by Maj. Thos. H. Jackson, U. S. Engrs. Office, to White & Kale Iron Wks., Milwaukee, Wis., for constructing and erecting lock gates for Dam No. 22, Ohio River, at about $45,000.

★North Wilkesboro, N. C.—Contract has been awarded to Rand & Robbins, Winston Salem, N. C., at about $20,000 for constructing concrete dam, culvert and core wall. J. N. Ambler, engr., Winston Salem.

Indiana Harbor, Ind.—Following are four lowest bids opened Dec. 15 by Col. C. S. Riche, Corps Engrs., U. S. A., Chicago, Ill., for constructing 3250 lin. ft. rubble mound breakwater at Indiana Harbor: Great Lakes Dredge & Dock Co., Monroe Bldg., Chicago, Ill., $1.74 (recommended for acceptance); Edw. Gillen Dock, Dredge & Constr. Co., 1112 N. Erie St., Racine, Wis., $1.75; Fitzsimons & Connell Dredge & Dock Co., 1646 Otis Bldg., Chicago, Ill., $1.94; Byrne Bros. Dredg. & Eng. Co., 208 S. La Salle St., Chicago, Ill., $2.04. Price per ton of 2000 lb.

★Superior, Wis.—Contract awarded by Northern Pacific RR. (H. E. Stevens, ch. engr., 1210 Railroad Bldg., St. Paul, Minn.) to Siems, Schaffner & Helmers, 514 Germania Life Bldg., St. Paul, at $680,000 for ore dock of 35,000 tons and 100 additional pockets.

★South St. Paul, Minn.—See "Industrial Plants and Warehouses."

★Cape Girardeau Mo.—Contract awarded by Mississippi River Comn., St. Louis, Mo., to Roach & Stansell, Memphis, Tenn., at $15,380, for about 100,000 yd. earth work in East Cape Girardeau and Clear Creek Drainage Dist.

★Oklahoma, Okla.—Contracts awarded by Bd. Comrs. (C. F. Semmelback, clk.) for following work—(a) main ditch and emergency spillway, Ambursen Constr. Co., 61 Bway., New York City, $287,500 and $221,300 respectively; (b) spillway, Maney Bros., Oklahoma, Okla., 17 cts. for excav. and 16 cts. for embankment; (c) riprap, Maney Bros., Class A $2, B $2, and Class C $1.10; (d) diversion dam, 22 cts. per cu. yd.; (e) drainage ditch No. 1, 14 cts. per cu. yd.; (f) drainage ditch No. 2, 13½ cts. per cu. yd.; (g) reservoir embankment, 12 cts. cu. yd., all to Mat Cunyan, Oklahoma City, Okla.; (i) bridge No. 1, Maney Bros., $4,100; (j) 3 highway bridges, Boardman & Co., Oklahoma, Okla., $3,129 each; (m) conduit, Bent Bros., Los Angeles, Cal., $4.39 per ft. (concrete). Bids on Sects. (h) clearing and grubbing, (k) excav. clear well, (l) concreting, were all rejected. (Bids opened Nov. 8.)

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Passaic, N. J.—Bd. Pub. Utility Comrs. has approved agreement between Passaic Water Co. and Butler Water Co. for latter company to divert and impound waters of Apshawa Brook, a tributary of Pequannock River, for distribution.

Philadelphia, Pa.—Bill has been introduced in House of Representatives, Washington, D. C., for appropriation of $560,000 for first year's work in deepening the Schuylkill River from Girard Point to South St. bridge, as approved by army engineers; estimated cost $1,-600,000.

Asheville, N. C.—See "Structural Steel."

St. Augustine, Fla.—Preliminary surveys are being made of tract of land embracing 24 miles in southern part of St. Johns county for drainage purposes.

Vinton, La.—See "Waterworks and Sewerage Systems."

Grand Rapids, Mich.—Co. Comrs. contemplate constructing County Ditch No. 7; cost about $50,000.

Faribault, Minn.—Co. Comrs. sold $30,-000 bonds for constructing County Ditch No. 12, and $6,400 bonds for constructing County Ditch No. 14.

Warren, Minn.—County contemplates constructing ditch known as Beltrami, Pennington and Marshall counties Judicial Ditch No. 39, about 150 miles long, 30 miles to have bottom 12 to 28 ft., two-thirds to be floater work and balance dry land work; cost $300,000. Geo. Walker, engr., Thief River Falls. Also plans constructing Judicial Ditch No. 29; cost $81,000. A. G. Lundgren, co. aud., Warren.

South Dakota.—Indian Service has asked Congress for appropriation for irrigation systems in South Dakota Indian Reservations: Flathead reservation, $750,000; Fort Peck reservation, $100,000; and Blackfoot reservation, $25,000.

Seattle, Wash.—Ordinance has been passed, according to report of H. W. Carroll, city compt., for constructing retaining wall, drains, ditches, culverts, bulkheads, surfacing, etc., district known as West Seattle Land & Improv. Co.'s First Tract. A. H. Dimock, city engr.

Tacoma, Wash.—Contracts will soon be let by Col. J. B. Cavanaugh, U. S. engr., 602 Burke Bldg., Seattle, for redredging the city waterway south from 11th St. bridge, for which city has already appropriated $5,000 and the government will spend about $10,000.

Tacoma, Wash.—Election to be held Jan. 6 on issuing $2,000,000 bonds for use in condemnation of 700,000 acres of prairie land for army division headquarters at American Lake; if land is secured plans will be prepared for erection of barracks to house 25,000 men; installation of waterworks, sewer system, ditching, paving, etc., to cost about $4,000,000. Government has announced it will spend over $6,000,000 in building improvements alone.

Chilliwack, B. C.—Big Prairie Drainage Dist. contemplates retaining 6700 acres of land, work to begin early in year.

BIDS DESIRED.

New York, N. Y.—Until Dec. 28, by Bd. Health (Haven Emerson, M.D., pres.), Centre and Walker Sts., New York City, for furnishing labor and material for constructing ditch or draining salt marsh land located within boroughs of Brooklyn and Queens; deposit of 2½ per cent to accompany each bid.

Philadelphia, Pa.—Until Jan. 15, at U. S. Engr. Office, Philadelphia, for dredging and rock excavating on Tinicium, Chester and Marcus Hook Ranges, Delaware River.

Cleveland, O.—Until Jan. 6, by Bd. Co. Comrs. (E. G. Krause, clk.) for constructing ditch improvement and furnishing necessary drain and vitr. tile; work includes about 20,000 yd. earth excavation and 1400 lin. ft. from 12 to 24 in. vitr. sewer pipe, and 1750 lin. ft. tile; specifications may be obtained at Co. Surv.'s office.

Rensselaer, Ind.—Until Dec. 27, at public outcry, at office of Co. Surv., court house, for constructing Zimmer Ditch; certified check for $500 to be deposited with bid; specification may be obtained from Co. Aud.; estimated yds. excavation, 168,986; Fred D. Nesbitt., comr. in charge construction.

Lebanon, Ind.—Reported desired until Dec. 28 for constructing drainage ditch; address D. J. West, Trustee Marion Co.

Fremont, Mich.—Reported desired until Jan. 9, by Drain Comr. Nicol, for constructing Seymour Creek Body Drain, 17 miles long, in Buel and Fremont Twps.

Garner, Ia.—Reported desired until Jan. 5 for constructing Drainage Dist No. 81; work will consist of main ditch 19,100 ft. long and requiring 92,253 cu. yd. earth excavation; laterals will require 59,513 ft. 6 to 28-in. tile; certified check for 10 per cent to accompany each bid.

Rockwell City, Ia.—Reported desired, until Jan. 23, by R. B. Dixon, co. aud., for Drainage Dist. No. 225, between Secs. 26 and 35, in Garfield Twp.; certified check for 10 per cent; bond for 25 per cent.

Cambridge, Minn.—Until Jan. 5, by G. C. Smith, co. aud., for constructing Ditch No. 12, work includes 84,680 cu. yd. excavation; cost about $13,077; certified check for 10 per cent to accompany bid.

Gaylord, Minn.—Until Jan. 20, by auditors, Sibley and Nicollet Counties, Frd. Hoppenstedt, aud. Sibley Co., for constructing Judicial Ditch No. 5; work includes Main Ditch stake 0 to stake 159 x 25, 15,925 ft. 14 to 16 in. tile; Branch ditch No. 1, stake 0 to stake 0 x 50, 50 ft. 12 in. tile; Branch Ditch No. 2, stake 0 to stake No. 5 x 35, 535 ft. 12 in. tile; estimated number of yards excavation 5640; cost about $7,069.

Monticello, Mo.—Until Jan. 10, by Bd. Co. Supervs., North Fabius River Drainage Dist., at office of Thomas I. Johnson, Monticello, for constructing channel, requiring about 540,000 cu. yd. excavation; information from Elliot & Harman Eng. Co., 144 Fredonia Ave., Peoria, Ill.

Port Angeles, Wash.—County Comrs. contemplate straightening Dungeness River and protecting banks; appropriation of $50,000 will be asked of the state.

Coalinga, Cal.—Until Feb. 1, by F. G. Dessery, engr., 514 Central Bldg., for constructing submerged dam in Wharton Canyon, 9 miles from Coalinga, and installing municipal water system; cost, about $100,000.

Whittier, Cal.—Reported desired, until Jan. 1, by M. N. Hazzard, 217 N. Bright St., for constructing concrete arched dam 130 ft. high in canyon near San Dimas, 6000-ft. tunnel and 4-mile canal and pipe line; cost, about $750,000. G. W. Sturtevant, 38 S. Dearborn St., Chicago, Ill., engr.

PRICES AND LETTINGS.
★Indicates award of contract.

★New Orleans, La.—Contract awarded by U. S. Engrs. to O. Ogden, Baton Rouge, La., at $46,751, for earthwork on New Orleans levee. (Bids opened Nov. 3.)

★Lima, O.—Contract awarded by A. L. Metheany, dir. pub. serv. (bids opened Dec. 7) to J. H. Jones, Fostoria, at $57,-857, for widening and deepening the Ottawa River channel.

★Komono, Ind.—Contract awarded by county to F. Davis, Kokomo, at about $11,000 for constructing Helmuthe and Fye ditches.

★Grand Haven, Mich.—Contract awarded by county to Gibson Co., Saginaw, at about $20,000 for constructing Rush Creek drain.

★Council Bluffs, Ia.—Contract awarded by J. D. Hannan, co. aud., Dec. 9, to Steinberg Bros., St. Louis, Mo., at 69 cts. per cu. yd., for constructing Mosquito Creek Drainage Dist.; estimated cost $40,000.

★Sibley, Ia.—Following are bids opened Dec. 12, by Co. Aud. for constructing Joint Drainage Dist. No. 3, of Dickinson and Osceola counties, to consist of about 226,000 cu. yd. open ditch excav. and 281,000 ft. 6 to 42-in. tile: J. H. Salisbury, Dows, Ia., at $180,575 for entire work (awarded contract); McHase Sand & Tile Co., Boone, Ia., $196,075; plus open work, Cement Product Co., Spencer, $200,871. L. A. Wilson engr., Sibley.

★Webster City, Ia.—Contract awarded by W. J. Paterson, co. aud., to R. L. Cox, Webster City, at $12,800, for constructing Sect. 1 of the Castner, Williams and Ashland Drain in Hamilton County.

★Mankato, Minn.—Contract awarded by C. L. Kennedy, co. aud., Dec. 2, for constructing County Ditch No. 48, to New Ulm Brick Tile Co., New Ulm, at $11,036.

★**Chaska, Minn.**—Following are bids opened by Carver & McLeod Counties for constructing Judicial Ditch No. 5: Glencoe Drain Tile Co., Glencoe, $17,000 (awarded contract); W. S. Sedgley, Worthington, $17,077; Desmouroux Constr. Co., Mankato, $17,225; J. W. Richardson, engr. J. B. Connolly, co. aud., Carver County.

★**Warren, Minn.**—Contract awarded by Co. Comrs. to Northwestern Drainage Co., Thief River Falls, Minn., at $13,210 for constructing 18 miles of ditches.

★**South Bend, Ark.**—Contract awarded to R. H. McWilliams & Co., Memphis, at $35,000, for draining about 22,000 acres.

★**El Paso, Tex.**—Contract awarded by U. S. Reclamation Service, Mills Bldg., to Lee Moor Constr. Co., 302 Two Republic Bldg., El Paso, at $39,931, for canal excavation involving about 185,000 cu. yd. and 29,000 cu. yd. levee work. (Bids opened Nov. 24).

TUNNELS AND SUBWAYS

PROPOSED WORK.

Chicago, Ill.—See "Roads and Paving."

Oakland, Cal.—Application for permit has been made by Taggart Aston, engr., to Col. Thos. H. Rees, U. S. Engrs., San Francisco, for constructing a two-tube tunnel from foot of Market St. in San Francisco to Southern Pacific mole on Oakland side; cost $16,667,000.

Vancouver, B. C.—Contracts will soon be let by the Colonial Pulp & Paper Mills, Ltd., Merchants Bank Bldg., Vancouver, for constructing tunnel 1 mile long, 12 x 10 ft., to Quatsino Sound, for water power purposes; cost about $250,000.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Brownsville, Pa.**—Contract awarded by Monongahela RR. Co. (D. K. Orr, supt., South Brownsville) to Wm. Birkle, at $30,000, for constructing undergrade crossing, to include retaining wall, 150 x 14 ft., 20,749 cu. yd. excav., etc.

MISCELLANEOUS

PROPOSED WORK.

Transmission Line—Dover, N. H.—The Twin State Gas & Electric Co., Dover, contemplates extending its electric transmission lines to Milton Mills and Union.

Transmission Line—Ovid, N. Y.—Ovid Electric Co., which supplies electricity in Ovid, Trumansburg, and Interlaken, expects to rebuild transmission lines next summer. The company's plant is located at Taughannock Falls.

Transmission Line—Bethel, Pa.—The Blue Mountain Electric Co., Bethel, has entered into a contract with the Edison Electric Illuminating Co., Lebanon, for electrical energy for a period of 15 yr. The Edison company will extend its electric transmission lines 2½ miles from Myerstown, where connection will be made with the lines of the Blue Mountain company; electricity will be delivered at 13,000 volts; upon completion of the line the Blue Mountain company will abandon its present plant (operated by water power) near Rehrersburg.

Park—Washington, D. C.—Congress has authorized an expenditure of $1,300,000 for land to connect Zoological Park and Potomac Park, for carrying out project of opening Rock Creek Valley for beautifying city; $50,000 available at present.

Coal-Handling Apparatus—Norfolk, Va.—Virginian Ry. (H. Fernstrom, ch. engr., Norfolk) contemplates enlarging its coal-handling apparatus at Sewall's Point; present capacity 1800 tons, to be increased to 5400 tons; cost about $750,000. Change will necessitate other improvements, including warehouses, additional trackage, viaducts, etc.

Transmission Line — Tiffin, O. — Ohio Light & Power Co., Newark, planning to erect an electric transmission line from Tiffin to Shelby, a distance of 38 miles.

Block Signals—Youngstown, O.—Mahoning & Shenango Ry. & Light Co contemplates the installation of automatic block signals on 12 miles of single-track and 3 miles of double-track between Youngstown and Sharon, Pa.

Transmission Line — Grand Rapids, Mich.—See "Foundations, Piers, and Dams."

Transmission Line—Canby, Minn.—Citizens Light, Heat & Power Co. (Emil W. Erick, gen. mgr.) has been granted a franchise to supply electricity in Clear Lake and Gary, S. D.; company will erect electric transmission line to both places.

Omaha, Neb.—City contemplates constructing incinerator for disposal of garbage.

St. Louis, Mo.—See "Waterworks and Sewerage Systems."

Dallas, Tex.—City contemplates constructing four incinerators to care for all garbage of city; cost about $50,000. Otto H. Lang, acting mayor.

Cemetery Bonds—Wichita Falls, Tex.—Reported cemetery bonds for $15,000 will be sold Jan. 11. V. G. Skeen, city clk.

Transmission Line—Anacortes, Wash.—Investigations are being made by the Puget Sound Traction, Light & Power Co., Seattle, with view of extending its transmission lines to Anacortes.

Transmission Line—Ritzville, Wash.—Pacific Power & Light Co., Portland, Ore., has petitioned the Co. Comrs. for franchise to erect and maintain electric transmission lines along various county roads.

Transmission Line—Dunnigan, Cal.—State Railroad Co., San Francisco, has authorized the Northern California Power Co., San Francisco, to extend its electric transmission line from College City to Dunnigan in Yolo County, and to furnish electricity to Yolo County not now served by the Pacific Gas & Electric Co.

Transmission Line—San Diego, Cal.—San Diego Consolidated Gas & Electric Co. has applied for franchise to extend its electric transmission lines to San Juan Capistrano.

Transmission Line—San Francisco, Cal.—Northern California Power Co., San Francisco, has petitioned the State Railroad Comn. for permission to make use of a franchise granted by Yolo County to extend transmission line from College City to Dunnigan.

Transmission Line—Middleton, N. S.—Erection of transmission line from Nictau Falls to Middleton has been authorized by ratepayers; cost about $37,000.

BIDS DESIRED.

Boring Drill Core—Jersey City, N. J.—Until Dec. 26 by Bd. Comrs. (Michael I. Fagen, city clk.) for making core drill borings in New York Bay at Caven Point, Jersey City.

Broken Stone—Mt. Holly, N. J.—Until Jan. 1, by Bd. Freeholders (A. I. Davis, dir.) for furnishing broken stone to County of Burlington; bidders to furnish samples of ¾, 1½, 2½-in. and screening sizes in wooden boxes; also for road oil for year 1917. Bids are asked for prices per ton f.o.b. and quarry of each size; bond for $1,000 to guarantee shipment; certified check for $200 to insure execution of contract. James Logan, co. engr.

Retaining Wall—Deadwood, S. D.—See "Structural Steel."

Cylinder Gates—St. Ignatius, Mont.—Until Jan. 10 by U. S. Reclamation Serv., Denver, Col., for furnishing butterfly and cylinder gates for Flathead Project; advertised in this issue.

Cranes—Shebrooke, Que.—Reported desired until Jan. 1, by E. C. Gatien, secy. City Council, for 4-ton traveling hand-power crane for Drummond power house; plans and specifications at office of Thomas Tremblay, engr., and MacLean Daily Reports, Ltd., 345 Adelaide St., W., Toronto.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Signal Towers—New York, N. Y.**—Contract awarded by Pub. Serv. Comn., 170 Bway., to H. C. Stowe Constr. Co., 221 Greenpoint Ave., Brooklyn, at $110,651, for erecting 13 signal towers on elevated structure, which are being built to extend Manhattan subways into the Bronx and Queens boroughs. (Bids opened Nov. 9.)

★**Lockhart, Tex.**—Contract awarded by Mayor to H. W. Cardwell Constr. Co., Marlin, Tex., at $5,600, for constructing incinerator. (Bids opened Nov. 28.)

Dredge — El Centro, Cal. — Contract awarded by Imperial Irrigation Dist. to San Francisco Bridge Co., Nevada Bank Bldg., San Francisco, at about $100,000, for electrically driven suction dredge at Hanlon Heading on Colorado River for removing silt from canals.

Crane—Vallejo, Cal.—Following are bids opened Dec. 11 by Bureau Yards and Docks, Navy. Dept., Washington, D. C., for 250-ton floating revolving crane for the navy yard, Mare Lsland, (a) complete, (b) for crane with modifications, (c) amount to be deducted if Government furnishes pontoons, (d) if steam engine is used for power, (e) as modified under (c) except as modified under d, (f) substituting coal-burning boiler, fuel-oil burner with 1000 gal. capacity: McMyler Interstate Co., Bedford, O., (b) $837,000, time of completion 700 days; Wellman, Seaver Morgan Co., Cleveland, O., (a) $555,000, except pontoons, 22 months, one crane without hull $535,000, 28 months, alternate 150-ton crane without hull, except pontoons, $480,000; alternate 150-ton crane without hull, $460,000, 28 months; (e) $9,000; (f) $1,500.

★**Crane—Pearl Harbor, T. H.**—Contract awarded by Bureau Yards and Docks, Navy Dept., Washington, D. C., to Victor R. Browning & Co., 17701 Lake Shore Blvd., Cleveland, O., at $94,852, for 50 gross-ton locomotive crane for the naval station, Pearl Harbor. (Bids opened Nov. 11.)

Proposals

For Proposals Advertised See Pages 55 and 56.

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.		See Eng. Record.
Dec. 26.	Ft. Wayne, Ind.	Dec. 23
Dec. 26.	Allentown, Pa. Adv. Dec. 16.	Dec. 16
Dec. 26.	St. Paul, Minn.	Dec. 23
Dec. 26.	Indianhead, Md.	Dec. 9
Dec. 26.	Roanoke, Va.	Dec. 16
Dec. 26.	San Francisco, Cal.	Dec. 23
Dec. 26.	Boston, Mass.	Dec. 23
Dec. 26.	Allenhurst, N. J.	Dec. 23
Dec. 27.	Philadelphia, Pa. Adv. Dec. 9 to 23.	Dec. 9
Dec. 27.	Baltimore, Md.	Dec. 16
Dec. 27.	Indianapolis, Ind.	Dec. 23
Dec. 27.	Mineral Falls, Tex.	Dec. 23
Dec. 28.	Farmington, Minn.	Dec. 23
Dec. 28.	New York City, N. Y.	Dec. 23
Dec. 28.	Atlantic City, N. J.	Dec. 23
Dec. 29.	South Brook, N. J.	Dec. 23
Dec. 29.	Long Island City, L. I., N. Y.	Dec. 23
Dec. 30.	Red Lake Falls, Minn.	Dec. 23
Jan. 1.	Cuyahoga Falls, O.	Dec. 23
Jan. 2.	Rock Island, Ill.	Dec. 9
Jan. 2.	Denmark, Wis.	Dec. 23
Jan. 3.	Higginsville, Mo.	Dec. 23
Jan. 3.	Lorain, O.	Dec. 23
Jan. 3.	Spring City, Pa.	Dec. 23
Jan. 4.	Burlington, Iowa.	Dec. 23
Jan. 5.	Marshfield, Wis.	Dec. 23
Jan. 8.	Webster City, Ia.	Dec. 9
Jan. 9.	Independence, La.	Dec. 16
Jan. 16.	Toronto, Ont.	Dec. 9
Jan. 17.	La Fayette, Ind.	Dec. 23
Feb. 5.	Rockwell City, Ia.	Dec. 9
Feb. 5.	St. Paul, Minn. Adv. Dec. 23.	Dec. 23
Mar. 6.	Chilton, Wis.	Dec. 2
Apr. 1.	Gibson, Ill.	Dec. 23
Apr. 1.	Mt. Vernon, O.	Dec. 23
Jun. 1.	Calcutta, India	Dec. 23
———	Douglas, Wyo. Adv. Dec. 16.	Dec. 23

STRUCTURAL STEEL WORK

Dec. 27.	Albany, N. Y. Adv. Dec. 16.	Dec. 16
Dec. 27.	Illinois	Dec. 23
Dec. 28.	Illinois	Dec. 23
Dec. 29.	Mt. Ida, Ark.	Dec. 16
Jan. 1.	Newton, Ia.	Nov. 18
Jan. 1.	New Castle, Pa.	Nov. 18
Jan. 1.	Mitchell, S. D.	Oct. 7
Jan. 2.	Watertown, S. D.	Dec. 23
Jan. 2.	El Centro, Cal.	Dec. 23
Jan. 2.	Vermillion, S. D.	Dec. 23
Jan. 3.	Batesville, Ark.	Dec. 23
Jan. 3.	Springfield, Ohio	Dec. 23
Jan. 4.	Huntington, W. Va.	Dec. 16
Jan. 5.	Ashland, O.	Dec. 16
Jan. 5.	Cavalier, N. D.	Dec. 23
Jan. 8.	Deadwood, S. D.	Dec. 23
Jan. 10.	Olathe, Kan.	Dec. 23
Jan. 10.	Chicago, Ill. Adv. Dec. 23.	Dec. 23
Jan. 13.	Dayton, Ohio	Dec. 23
Jan. 18.	Knoxville, Iowa.	Dec. 23

REINFORCED CONCRETE.

Dec. 27.	Fort Wayne, Ind.	Dec. 9
Dec. 27.	Paola, Kan.	Dec. 9
Dec. 28.	Carroll, Ia.	Dec. 16
Dec. 30.	Wichita, Kan.	Dec. 23
Jan. 1.	Manhattan Beach, Cal.	Nov. 25
Jan. 2.	Concordia, Kan.	Dec. 23
Jan. 2.	Mt. Vernon, Wash.	Dec. 23
Jan. 3.	Rock Island, Ill.	Dec. 23
Jan. 8.	Erie, Kan.	Dec. 23
Jan. 9.	York, Neb.	Dec. 23

ROADS AND PAVING.

Dec. 26.	Bakersfield, Cal.	Dec. 16
Dec. 26.	Forest Park, Ill.	Dec. 23
Dec. 26.	Berkeley, Cal.	Dec. 23
Dec. 26.	Richmond, Cal.	Dec. 23
Dec. 27.	Los Angeles, Cal.	Dec. 23
Dec. 27.	Brooklyn, N. Y.	Dec. 23
Dec. 28.	Grinnell, Ia.	Dec. 16
Dec. 28.	Indiana	Dec. 16
Dec. 28.	Riverside, N. J.	Dec. 23
Dec. 29.	Cincinnati, O.	Dec. 23
Dec. 29.	New Brighton, S. I., N. Y.	Dec. 23
Dec. 30.	Indiana	Dec. 16
Dec. 30.	West Allis, Wis.	Dec. 23
Dec. 30.	New Concord, O.	Dec. 23
Jan. 1.	Sidney, O.	Nov. 4
Jan. 1.	Fond du Lac, Wis.	Dec. 16
Jan. 1.	Lexington, Miss.	Dec. 16
Jan. 1.	Indiana	Dec. 16
Jan. 2.	Indiana	Dec. 16
Jan. 2.	Los Angeles, Cal.	Dec. 9
Jan. 2.	Stockton, Cal.	Dec. 23
Jan. 2.	Seattle, Wash.	Dec. 23
Jan. 3.	Keyport, N. J.	Nov. 18
Jan. 3.	Placerville, Cal.	Dec. 23
Jan. 4.	Indiana	Dec. 23
Jan. 8.	Baradentown, Fla.	Dec. 23
Jan. 8.	Moulton, Ala. Adv. Dec. 9.	Dec. 9
Jan. 10.	Independence, Ia.	Nov. 18
Jan. 10.	Freehold, N. J.	Dec. 16
Jan. 11.	Kansas City, Kan.	Dec. 23
Jan. 16.	Wilkes-Barre, Pa. Adv. Dec. 23.	Dec. 23
Jan. 19.	Lakeland, Fla.	Dec. 23
Feb. 1.	Cedar Rapids, Ia.	Nov. 18

INDUSTRIAL PLANTS AND WAREHOUSES.

Jan. 2.	Ottawa, Ont.	Dec. 23

BUILDINGS.

Public and Private.

Dec. 26.	Frederick, Md. Adv. Nov. 25, Dec. 2.	Nov. 25
Dec. 26.	Mt. Carmel, Ill.	Dec. 2
Dec. 26.	Maquoketa, Ia.	Dec. 9
Dec. 26.	Newport, R. I.	Dec. 16
Dec. 26.	Detroit, Mich.	Dec. 23
Dec. 27.	Laconia, N. H. Adv. Dec. 2, 9.	Dec. 2
Dec. 27.	Albany, N. Y. Adv. Dec. 9 to 23.	Dec. 9
Dec. 27.	Philadelphia, Pa.	Dec. 23
Dec. 27.	South Brook, N. J.	Dec. 23
Dec. 28.	Grinnell, Ia.	Dec. 16
Dec. 28.	Lowell, Mass.	Dec. 23
Dec. 28.	New York City, N. Y.	Dec. 23
Dec. 30.	St. Jean de Dieu, Que.	Dec. 23
Dec. 30.	Sullivan, Ind.	Nov. 18
Jan. 1.	Cameron, Mo.	Dec. 16
Jan. 1.	Webster, S. D.	Sep. 16
Jan. 1.	Morgantown, W. Va.	Dec. 16
Jan. 2.	West Minneapolis, Minn.	Dec. 16
Jan. 3.	New York, N. Y.	Dec. 16
Jan. 4.	Casey, Ill.	Dec. 16
Jan. 5.	New York, N. Y.	Dec. 23
Jan. 8.	Los Angeles, Cal.	Dec. 16
Jan. 9.	Sonyea, N. Y. Adv. Dec. 23.	Dec. 23
Jan. 10.	St. Jean de Dieu, Que.	Dec. 9
Jan. 10.	Akron, Ohio.	Dec. 23
Jan. 10.	Cincinnati, Ohio.	Dec. 23
Jan. 15.	Lima, O.	Dec. 16
Jan. 15.	Comfrey, Minn.	Dec. 23
Jan. 15.	Indian Head, Md.	Dec. 23
Jan. 17.	Albany, N. Y. Adv. Dec. 23.	Dec. 23
Jan. 18.	Marion, S. C. Adv. Nov. 25, Dec. 2.	Nov. 25
Jan. 19.	Charlotte, Mich.	Dec. 16
Jan. 22.	Richfield, Utah	Dec. 16
Jan. 22.	Fremont, Neb.	Dec. 23
Feb. 1.	Chehalis, Wash.	Dec. 16
May 1.	Minneapolis, Minn.	Nov. 25

FOUNDATIONS, PIERS AND DAMS.

Jan. 29.	Philadelphia, Pa.	Dec. 23
Dec. 30.	Wheeling, W. Va. Adv. Dec. 2 to 23.	Dec. 2
Jan. 1.	San Dimas, Cal.	Nov. 18
Jan. 2.	Santa Fe, N. M. Adv. Nov. 18.	Nov. 18
Jan. 3.	Providence, R. I. Adv. Dec. 16 and 23.	Dec. 16

EXCAVATION, DREDGING AND DRAINAGE.

Dec. 27.	San Francisco, Cal.	Dec. 16
Dec. 28.	Lebanon, Ind.	Dec. 23
Dec. 28.	New York, N. Y.	Dec. 23
Dec. 28.	Sycamore, Ill.	Dec. 16
Dec. 29.	Wilmington, Del. Adv. Dec. 9 to 23.	Dec. 9
Jan. 1.	Whittier, Cal.	Dec. 23
Jan. 3.	Elbow Lake, Minn.	Dec. 16
Jan. 5.	Garner, Iowa	Dec. 23
Jan. 5.	Cambridge, Minn.	Dec. 23
Jan. 6.	Cleveland, Ohio.	Dec. 23
Jan. 9.	Fremont, Mich.	Dec. 23
Jan. 10.	Monticello, Mo.	Dec. 23
Jan. 15.	Philadelphia, Pa.	Dec. 23
Jan. 20.	Gaylord, Minn.	Dec. 23
Jan. 23.	Rockwell City, Iowa	Dec. 23
Jan. 25.	Crookston, Minn.	Dec. 16
Feb. 1.	Coalinga, Cal.	Dec. 23

MISCELLANEOUS.

Dec. 26.	Concrete Retaining Wall, Akron, O.	Dec. 9
Dec. 26.	Screw Gears, Washington, D. C. Adv. Dec. 2.	Dec. 2
Dec. 26.	Cranes, Washington, D. C.	Dec. 9
Dec. 26.	Boilers, Detroit, Mich. Adv. Dec. 9.	Dec. 9
Dec. 26.	Boring Drill, Jersey City, N. J.	Dec. 23
Dec. 27.	Piling, Rochester, N. Y. Adv. Dec. 9, 16.	Dec. 9
Dec. 28.	Piles, Etc., New Orleans, La. Adv. Dec. 9 to 23.	Dec. 9
Dec. 28.	Groins—Sandy Hook Reservation, N. J. Adv. Dec. 16 and 23.	Dec. 16
Dec. 29.	Air Compressors, Pittsburgh, Pa. Adv. Dec. 9 to 23.	Dec. 9
Jan. 1.	Broken stone, Mount Holly, N. J.	Dec. 23
Jan. 1.	Cranes, Sherbrooke, Que.	Dec. 23
Jan. 2.	Transmission Line, Hanford, Cal.	Dec. 9
Jan. 2.	Garbage Incinerator, Chattanooga, Tenn. Adv. Dec. 9.	Dec. 9
Jan. 3.	Rock Crushers, Panama. Adv. Dec. 16.	Dec. 16
Jan. 4.	Transmission Line, Weaversville, Cal.	Oct. 21
Jan. 9.	Motor Fire Apparatus—Atlantic Highlands, N. J. Adv. Dec. 16.	Dec. 16
Jan. 10.	Cylinder Gates, St. Ignatius, Mont. Adv. Dec. 23.	Dec. 23

Flurry Over Peace Proposals a Foretaste

Indicates What May Be Looked For When Negotiations Are Begun—Stocks Fell, but Slight Hesitancy Seen in Beginning New Work and No Signs of Panic

THAT MERELY a readjustment and not a wholesale collapse of values will take place in this country at the end of the European War was indicated by the reception given the first definite signs of peace. Although the recent proposals appear to have definitely failed, their effect on this country should serve to show whether engineers should continue to advise clients to await a reduction in values, and whether contractors should continue to avoid buying materials far in advance.

From this point of view the facts may be summed up by saying that there was a sudden decline in war stocks on the New York Exchange, and that few tangible results of any other sort were noticeable. Although there was considerable excitement during this reaction, which included one day on which more than 3,000,000 shares were sold, there were no rumors of big failures, or any of the other signs which usually accompany a panic. In fact, the chief sufferers in the decline were securities of companies holding large contracts for supplies which would not be needed if the war should end, and securities of other groups were much less affected. Some metals, with the notable exception of steel, felt the shock, but did not decline as much as might have been expected. No results were apparent in the construction field beyond what could be expected from the normal reduction of activity due to the holiday season, the year-end, and the beginning of cold weather.

It seems safe to argue from these indications that peace, when it comes, will bring a gradual and slight reduction in values, and that if the country continues to strengthen its economic position, disastrous consequences may be entirely avoided. It should be remembered that, with the exception of steel, construction materials have not advanced as a result of abnormal demand. Construction materials generally figure so slightly in our exports that but two others of them—cement and lumber—are listed as of consequence by the government. These are the very two whose price is likely to receive a boost from the declaration of peace, as exports of both have been greatly reduced by war. Most other construction materials vary with local conditions.

Leading economists tell us that this country has, beyond question, scored in 1916 the greatest permanent increase in wealth it ever achieved, which means that price levels have permanently and generally advanced, and that the cost of construction materials cannot be expected to drop again to former low levels. The increased cost of construction work is, therefore, not a thing to be charged to abnormal conditions. Since it is admitted to be due in the main to increased labor costs, either in manufacturing materials or in actual construction, it is evident that much of the rise is due to the permanent advance mentioned, and represents better living conditions for our workmen. In view of the depletion of the world's labor supply by the war, it hardly appears likely that immigration after peace is declared will seriously threaten the American workmen in this improved position.

It seems safe to conclude, therefore, that those who undertake needed construction work at present prices need not fear an ultimate loss on their investment because of any drastic reaction at the close of the war.

Buildings

The larger building projects noted in this issue are summarized below:

Contracts awarded:	Kind.	Cost.
Roslyn, L. I.	Garage	$200,000
Philadelphia, Pa.	Office building	500,000
Cleveland, Ohio	Manufacturing plant	375,000
Proposed work:		
New York, N. Y.	Theater	1,000,000
Byberry, Pa.	Institute buildings	600,000
New Castle, Pa.	Store	200,000
Irvine, Ky.	Refinery	600,000
St. Paul, Minn.	Automobile plant	300,000
St. Paul, Minn.	Hospital	250,000
Hastings, Neb.	School buildings	196,000
Spokane, Wash.	School buildings	362,000
Portland, Ore.	Factory	2,000,000
Oakland, Cal.	Cotton mills	500,000

Roads and Paving

Paving and highway work noted in this issue includes the following items:

Contracts awarded:	Kind.	Cost.
Fort Myers, Fla.	Grading	$112,000
San Francisco, Cal.	Paving	69,000
Bids desired:		
Grundy Center, Iowa	Paving	80,000
Modesto, Cal.	Two highway sections	*1,482,000
Proposed work:		
New Augusta, Miss.	Highways	200,000
Columbus, Ohio	Street improvements	400,000
Chicago, Ill.	Street improvements	†8,000,000
Waxahachie, Tex.	Paving	160,000
Lewiston, Idaho	Bonds voted	130,000

*Total bond issue for new highway system.
†Includes tunnel and bridge work.

Waterworks and Sewers

Waterworks and sewer construction noted in this issue includes the following:

Bids desired:	Kind.	Cost.
Alliance, Ohio	Disposal plant	
Milwaukee, Wis.	Trunk sewer	
Proposed work:		
Rochester, N. Y.	Disposal plant	$350,000
Rochester, N. Y.	Waterworks	685,000
Erie, Pa.	Sewage disposal	200,000
Abington, Va.	Waterworks	100,000
Jacksonville, Fla.	Sewers	*250,000
Williamston, Mich.	Waterworks & sewers	125,000
Wyandotte, Mich.	Filter plant	110,000
Colorado Sp'gs, Col.	Waterworks	750,000
Lewiston, Idaho	Water supply	500,000

*Includes paving.

Miscellaneous Headings

A drainage contract amounting to $200,000 has been awarded at Duluth, Minn. A $1,000,000 contract for building a power plant on the Verde River, near Clarksdale, Ariz., has been awarded. Bids have been received on dredging work to cost $165,000, at El Centro, Cal. Plans for grade-crossing elimination work at Syracuse, N. Y., to cost $8,000,000, have been approved by a consulting engineer. A wharf to be rebuilt at New Orleans will cost $300,000. A railroad company has been chartered, with $750,000 capital, to build 50 miles of line near Kingston, Ark.

The plans for flood-prevention work in the Miami Conservancy District, above Dayton, Ohio, have been approved. The project will cost about $23,500,000. It is proposed to construct a $150,000 bridge over the Minnesota River, near Minneapolis. Belt line and other railroad construction proposed at Minneapolis is estimated to cost $12,000,000. Petitions have been made at the same city for improving a street bridge over the Mississippi River at a cost of $200,000. Double-tracking work reported from Dallas, Tex., will cost $600,000. A railroad near Stockton, Cal., has been granted permission to borrow $175,000 for construction work.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

New Bedford, Mass.—Reported an additional appropriation of $43,000 is required to complete intercepting sewer by city. W. F. Williams, engr., 302 Municipal Bldg.

LeRoy, N. Y.—A complete sanitary sewer system and disposal plant will be installed, including filters and Imhoff tanks; estimated cost $150,000. James P. Wells, engr., Cutler Bldg., Rochester.

North Tonawanda, N. Y.—Election proposed at Tonawanda and North Tonawanda to vote on lowering and putting in new intake pipes in Niagara River; estimated cost about $100,000.

Rochester, N. Y.—Finance Com. will recommend to Council bond issue to be used as follows: Sewage disposal, $350,000; waterworks improvements, $685,000; incinerator, $40,000; school building, $300,000; local improvement, $500,000.

Butler, N. J.—State Bd. of Health has rejected plans submitted by Pequannock Valley Paper Co. for installation of sewage disposal plant. Company has been given until Feb. 1 to submit new plans.

Camden, N. J.—City has authorized preparation of plans for the installation of sewer system in 11th Ward. L. E. Farnham, city engr.

Long Branch, N. J.—Long Branch Sewer Co. has permission of Pub. Utility Comn. to issue $40,700 in capital stock to continue work.

Trenton, N. J.—Application of North Jersey Dist. Water Supply Comn. to divert 50,000,000 gal. water daily from Wanaque watershed approved by State Dept. of Conservation and Development. The water to be diverted will supply municipalities in northern end of state. The commission is to begin erecting storage reservoir within one year.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Where name of official is not given inquiries should be addressed to City Clerk, County Clerk or corresponding official.

Danville, Pa. — Chester & Fleming, hydraulic engrs., Union Bank Bldg., Pittsburgh, are preparing plans for reservoir for water supply here.

Erie, Pa.—Contract soon to be let for intercepting sewer and sewage disposal plant to cost $200,000. F. G. Lynch, city engr.

Hazelton, Pa.—The Wyoming Valley Water Supply Co. (H. B. Fell, supt.) considering constructing reservoir with automatic electric pumps at Aristes, 1774 ft. above sea level to furnish Centralia, lying in the valley below, with better water service by gravity pressure.

Monaca, Pa.—A 1,000,000-gal. reservoir of reinforced concrete to be constructed in the spring. Michael Baker, engr., Beaver.

Reading, Pa.—Angelica Water & Ice Co., having plans prepared by W. H. Dechant & Son, Baer Bldg., Reading, for reconstruction, to include filtration plant, pumping station and complete hydro-electric development of the water power rights of the company owned on Angelica Creek.

Trappe, Pa.—Plans being prepared by Horatio Sands, 245 Beech St., Pottstown, for constructing waterworks to supply Trappe and Collegeville; H. L. Saylor, pres. Trappe-Collegeville Waterworks.

Abington, Va.—Abington Water Co., incorporated, with $100,000; plans constructing waterworks.

Belmont, N. C.—City having preliminary surveys made for waterworks and sewer system.

Charleston, S. C.—City Council about to be petitioned to hold election to decide whether city shall purchase property of Charleston Light & Water Co. for $1,360,000 and authorize $140,000 for improvements and extensions.

Swainsboro, Ga.—Election will be held Jan. 10 for issuing $50,000 bonds for waterworks plant and sanitary sewers.

Jacksonville, Fla.—Street improvement bonds for $250,000 will be sold by Bd. Bond Trustees. Bonds will be used for constructing sewers and paving a number of downtown streets.

Donaldsville, La.—Levee bonds for $250,000 will be sold Jan. 11 (not Jan. 15 as previously stated) by Bd. Comrs., John F. Truxillo, secy.

Kingsport, Tenn.—Kingsport Sewer Co., Inc., with $50,000 capital, to construct sewer system. J. F. Johnson, J. C. Stone and others among incorporators.

Hazard, Ky.—City considering the improvement of waterworks system, at $30,000, during 1917.

Scottsville, Ky.—Reported City Council has engaged Knight & Quayle, engrs., Chattanooga, Tenn., to make preliminary survey of city and surrounding territory for waterworks construction.

Whitesburg, Ky.—City considering construction of sewage-disposal plant on North Fork River.

Canton, O.—Survey being made by Asst. City Engr. Reese for pipe line from reservoir site southeast of Canton.

City considering construction of one or more natural reservoirs along east and west creek valleys, for supplying water to shops and mills. L. B. Ohliger, supt. waterworks.

Lorain, Ohio. — Waterworks improvement bonds for $50,000 will be sold Jan. 16 by Geo. N. Damon, city aud.; certified check for $1,000 to accompany each bid.

Mansfield, O.—Pumps for pumping station to be purchased by O. Hursh, serv. dir.; H. H. John, city aud.

St. Marys, O.—City Council has sold $45,000 waterworks and electric light improvement bonds.

Liberty, Ind.—Two new boilers for waterworks to be purchased at once. R. M. Duvall, city clk.

Holland, Mich.—Gardner S. Williams, con. engr., Ann Arbor, writes proposed water storage reservoir will cost $17,000. Contracts to be let by R. B. Champion, supt. bd. pub. wks.

Petoskey, Mich.—Election probably in April by city to vote on constructing sewage disposal plant.

Williamston, Mich.—L. A. Boulay Co., engrs., Toledo, O., has been engaged to prepare plans for waterworks, sewerage system, and for paving Grand River Ave and Putnam St.; cost about $125,000.

Wyandotte, Mich.—City proposes constructing filter plant to cost $110,000. R. Winthrop Pratt, engr., Cleveland. O. A. S. McClenahen, supt. water wks.

Normal, Ill.—Bonds have been voted for sewage disposal plant and septic tank, but no definite action taken as yet. McIlulish & Broyhill, engrs., Bloomington. F. H. Keys, city clk.

Streator, Ill.—City considering installing sewage disposal plant. F. Rentz, city engr.

East Milwaukee, Wis.—Plans being prepared by S. W. Ullius, village engr., for sewer system. Contract will probably be let about Feb. 15.

Green Bay, Wis.—Election will be held to vote $55,000 bonds for waterworks extensions.

Oshkosh, Wis.—Ordinance being considered by Comn. Council authorizing issue of $85,000 bonds to complete improvement of municipal water plant.

Dows, Ia.—Contracts for constructing sewer system will probably be let January or February; W. F. Wodekin, town clk.

St. Paul, Minn.—City Council considering construction of sewers as follows: Asbury, White Bear, Middleton, Rogers, Otis and Marlboro Aves., Saratoga, Montrose, Arch, Hyacinth and Congress Sts.

Benson, Minn.—City considering sewer improvements. L. M. Pederson, city clk.

Moran, Kan.—All bids opened Dec. 18 by city for constructing water and light plants have been rejected. New bids probably will be received in January. W. B. Rollins & Co., engrs., 208-10 Railway Exchange Bldg., Kansas City, Mo.

Carrollton, Mo.—Water & Light Co. planning extensive improvements if extension of franchise is granted. Matter will probably be submitted to vote in the near future. Harry W. Brand, city clk.

Cartersville, Mo.—City considering constructing district sewers. A. M. Baird, city clk.

Clarence, Mo.—City considering constructing waterworks. E. W. Ragland, city clk.

Kansas City, Mo.—See "Structural Steel."

Mexico, Mo.—City considering installing septic tanks. Wallace Dearing, city clk.

Columbus, Tex.—City desires plans for sewage disposal plant. Address J. H. Payne, co. health officer.

Dallas, Tex.—City Comrs. have authorized the extension of sewer mains on portions of Lemon St.; also sanitary sewer on Lake Ave.; the immediate correction of sewer system in Paris and Preston Sts. also ordered.

Forney, Tex.—Plans prepared by Myers & Noyes, archts. and contrs., Dallas, for the additional treatment of sewage disposal at the local plant.

Georgetown, Tex.—F. E. Bucham, mgr. Georgetown Sewer Co., reports alterations and extensive improvements contemplated to present plant.

Higgins, Tex.—Citizens voted $20,000 bonds for constructing waterworks. Address the Mayor.

Palestine, Tex.—Appraisal of city sewer system being made by Burns & McDonnell, Kansas City, Mo., with view to making extensions and improvements to system and treatment plant.

San Angelo, Tex.—San Angelo Water, Light & Power Co. has petitioned State Bd. Water Engrs. for permission to construct reservoir to impound 380,000 acre ft. of water annually from the flood waters and natural flow of Concho River.

Carnegie, Okla.—Bd. Trustees will call an election to vote $25,000 bonds for constructing sanitary sewers. Benham Engineering Co., Oklahoma City, selected to draw plans and supervise construction.

Drumright, Okla.—Election will soon be held to vote $43,000 bonds for waterworks extension and $25,000 bonds for sewers and culverts.

Forgan, Okla.—City considering extending water mains.

Gate, Okla.—City contemplates voting bonds for waterworks.

New Wilson, Okla.—Election Jan. 5 to vote $30,000 bonds for sewers and $10,000 for waterworks and electric light bonds.

Oklahoma, Okla.—City Comrs. rejected bids opened on 3 sections of reservoir, which were too high, and ordered the City Clk. to secure new bids for clearing shrubbery and trees from site; clear well; and for conduit main connection.
H. A. Pressey, selected by City Comrs., as consulting engr., on the construction of sanitary sewer, to cost $200,000.

Temple, Okla.—City contemplates voting bonds for waterworks.

Woodward, Okla.—In the spring additional water supply will be developed and about 2500 ft. 10-in. c. i. water line across North Canadian River will be constructed. F. H. Kilburn, supt. waterworks.

Colorado Springs, Col.—Improvements and extensions to city waterworks have been recommended by G. Anderson, engr., of California, at a cost of $750,000; recommendations will be considered by City Council and a bond issue to cover cost will probably be submitted at city election next spring.

Seattle, Wash.—H. W. Carroll, city comptr., reports council has passed resolution for water mains and sewers as follows: Portions of Chelan Ave., watermains, etc., $8,264; portions of West and North 54th St., $16,688. L. B. Youngs, supt. waterworks. Plans filed with Bd. Pub. Wks. by A. H. Dimock, city engr., for constructing sewers in East 54th St.

Seattle, Wash.—J. S. McBride, comr. of health, in report to Council recommends construction of sewers in following streets: 23d, 24th, 25th and 26th Aves., and Genesee, W. Stanton, W. Mary, W. Andover and Yancy Sts.

Estacada, Ore.—Council considering the extension of present sewer system to embrace entire town.

Madras, Ore.—Reported Town Council preparing plans for constructing waterworks system.

Portland, Ore.—City Water Bureau to purchase 250 tons of water pipe, ranging from 6 to 16-in.

Portland, Ore.—City Purchasing Agent will shortly let contract for 50 tons 6-in. pipe; 30 tons 10-in.; 70 tons 16-in. and 100 tons of pipe of various sizes; also 40 patent sleeves and couplings.

Crawley, Cal. — Citizens voted $17,000 bonds for constructing concrete settling basin at water plant and flushing sewer from Basin to New River.

Richmond, Cal.—City considering plans calling for $2,750,000 bond issue for taking over existing private water serving companies for improving distributing system and for connecting up with Marin system at the Alpine reservoir in Lagunitas canyon.

Santa Barbara, Cal.—Election will be held to vote $75,000 bonds for constructing sewer system. Plans being prepared by Olmsted & Gillelen, 1112 Hollingsworth Bldg., Los Angeles.

Lewiston, Idaho.—Reported City Council is considering acquisition of water supply from Lake Waha, a distance of 22 miles. Investigations have been made looking toward the feasibility of piping the water into the city at a cost of $500,000. A bond issue would be required.

Mackay, Idaho.—L. E. Dillingham, village clk., reports council passed an ordinance granting the Idaho Development Co. privilege of installing waterworks system in the corporate limits of the village; cost $13,000.

Moscow, Idaho.—Contracts will be let in the latter part of February for constructing sewer system. J. R. Strong, city clk.

Orofino, Idaho.—City Council accepted plans and estimates of Sawyer Bros. of Spokane, Wash., for sanitary sewer system; cost $35,000.

Pocatello, Idaho—Engineering Dept. has been requested to submit plans to Council for waterworks pipe line from Jack Creek to Meek Creek; $150,000 bond issue will be submitted to voters to cover cost of improvement.

Vancouver, B. C.—North Coast Power Co., Pittock Bldg., Portland, Ore., will install 150 water meters a month on the local system which it owns; also construct a new pipe line from Ellsworth Springs to Vancouver, an additional reservoir and extend and enlarge local distributing mains; cost $60,000.

Islington, Ont.—Engineer engaged to report on construction of sewer and water supply system; A. S. Barrett, clk., Etobicoke Twp.

BIDS DESIRED.

New York, N. Y.—Until Jan. 5 by William Williams, comr. water supply, gas and electricity, Room 2351, Municipal Bldg., New York, for laying water mains and appurtenances in Walker Ave. and Fort Schuyler Road, Bronx Boro.; security $10,000.

Yonkers, N. Y.—Until Jan. 2 (extension of date), by Bd. Contr. and Supply (Edw. Walsh, secy.), for installing 3,000,000-gal. pump in tube well station. Edw. L. Peene, Supt. Water Bureau.

Alliance, Ohio.—Until Jan. 18, by J. H. McConnell, dir. pub. serv., for improvement to sewage disposal plant; specifications may be obtained from City Engr. or from R. Winthrop Pratt, cons. engr., Hippodrome Bldg., Cleveland, advertised in this issue.

Cambridge, O.—Reported desired until Jan. 10, by City Council, for constructing waterworks.

Sidney, O.—Until Jan. 11 by C. B. De Weese, dir. pub. serv., for constructing about 3.45 miles of 6 to 12-in. sanitary sewer; advertised in this issue.

Flint, Mich.—Until Jan. 12, by D. E. Newcombe, city clk., for furnishing catchbasin manhole and crosswalk plate castings, Portland cement, sewer pipe, etc.; certified check for $500 to accompany each bid.

Milwaukee, Wis.—Until Jan. 11, by Sewage Comn. (J. H. Fowles, secy.), for constructing extension to intercepting sewer system; work includes 13,551 lin. ft. 72 in. concrete sewer in tunnel; 66 lin. ft. concrete sewer in open cutting; 511 lin. ft. 12 in terra cotta pipe sewer open cutting; 660 vertical ft. of standard manholes, 150 vertical ft. drop manholes; 19 manhole frames and covers, together with other appurtenances; advertised in this issue.

Dakota City, Ia.—Until Jan. 9 by C. F. Lowder, town clk., for constructing waterworks system. Plans may be secured from clk. or from Lawrence W. Cox, 1316 E. 12th St., Des Moines, upon payment of $4; advertised in this issue.

Carl Junction, Mo.—Reported desired, until Jan. 3, by A. W. McDowell, city clk., for sewers, including 6640 ft. 10 in. vitrified pipe, 17 manholes, and 50 6-in. on 10-in. wyes. A. C. Moore, 417 Frisco Bldg., Joplin, engr.

College Station, Tex.—Until Jan. 8 (new date), by Bd. Mgrs. of A. and M. College, for completing steam, water and light plant for Agricultural and Mechanical College; cost about $25,000; also for erecting building for veterinary science; cost about $100,000.

Houston, Tex.—Until Jan. 8 by E. B. Bonney, city secy., for constructing about 3 miles of 24-in. sanitary sewer main; cost about $110,000. E. E. Sands, city engr.

Marlow, Okla.—Until Jan. 10 by City Council for constructing system of main and sub-main sewers; work includes 26,400 lin. ft. trenching and from 6 to 15-in. vitrified pipe; 60 manholes, 8 flush tanks and sewage disposal plant complete with filters; certified check for $2,000 to accompany bid; specifications may be obtained from Benham Engr. Co., Oklahoma City, Okla., upon payment of $5.

New Cordell, Okla.—Until Jan. 15 by R. L. Harvey, mayor, for constructing system of main and submain sanitary sewers and sewage disposal plant; certified check for $2,000 to accompany bid; specifications may be obtained from Benham Engr. Co., 13th floor, Colcord Bldg., Oklahoma City, Okla., upon payment of $5. J. Reid, city clk.

Portland, Ore.—Until Jan. 3 (readvertisement) by A. L. Barbur, city aud., for constructing Tanner Creek sewer system.

Yuma, Ariz.—Until Jan. 12 by Imperial Irrigation Dist., El Centro, Cal., for constructing reinforced concrete intake; structure to be 745 ft. long x 60 ft. wide, on west side of Colorado River, 8 miles below Yuma; cost about $200,000.

PRICES AND LETTINGS.

★Indicates award of contract.

★Mt. Vernon, N. Y.—Contract awarded by city for constructing sewers in Pease St. and Beekman Ave. to Frank Nordone, Mt. Vernon.

★Mt. Vernon, N. Y.—Contract awarded by Westchester Lighting Co., to Toole & Sunderlin, contrs., Warner Bldg., Bridgeport, Conn., for laying two 24-in. gas mains under river at works at Mt. Vernon, near Pelham Parkway.

★Erie, Pa.—Contracts reported awarded as follows: To R. D. Wood Co., 400 Chestnut St., Philadelphia, for 1,000,000-gal. duty pump at $14,700, and for pipe and material for new pipe system and discharge line outside pumping station at $40,000; Pitt Constr. Co., Fulton Bldg., Pittsburgh, for reconstruction outside pipe line, $20,000; Eddy Valve Co., Troy, N. Y., for valves at $4,500; Simplex Valve Co., Philadelphia, for a Venturi meter at $1,084.

★North Wilkesboro, N. C.—Contract awarded for constructing dam for waterworks to Rand & Robbins, Winston-Salem, at $20,000. J. N. Ambler, engr., Winston-Salem.

★Coffeyville, Miss.—Contract awarded by city for waterworks construction includes 12,000 ft. pipe laying, 50,000-gal. reservoir, 50,000-gal. stand pipe and 650 ft. well, etc., to Sullivan, Long & Haggerty, Bessemer, at $18,000.

★Cleveland, O.—Contract awarded by City Bd. Control to Rensselaer Valve Co., Troy, N. Y., for valves for city waterworks, at $5,779.

★Greenville, O.—Contract awarded by City, Dec. 19, for constructing 12 to 60-in. sewers to W. J. Irwin & Son, Greenville, at $56,668.

★Lima, O.—Contract awarded by Dir. Pub. Service for constructing the billion-gal. reservoir to John H. Jones Co., Fostoria, at $257,000.

★Hammond, Ind.—Contract awarded for constructing main sewer system in State St., involving 1494 ft. 48-in. 2-ring brick, 978 ft. 42-in. 2-ring brick with manholes, catch basins, etc., to United Construction Co., Hammond, at $43,168.

★Oshkosh, Wis.—Council Dec. 12 awarded contract for constructing submerged crib and intake piping at waterworks to J. Rasmussen & Son Co., at $36,829.

★Stuart, Ia.—Following bids opened Dec. 12 by city for collection and outfall sewers: Dunnegan & Briggs (awarded contract) at total of $33,292; prices on clay pipe are $12,613; on trenching and backfilling, $17,312, and on manholes without tops, 1122 ft., $3,366; G. Mancini, Florence, Neb., total with concrete pipe, $30,436; total with vitri. pipe, $33,763; D. F. Peterson, Des Moines, total, $36,062; J. L. Hansman, 48th and Franklin Sts., Des Moines, total, $36,309.
Contract awarded Dec. 12 by city to Ward & Weighton, Sioux City, Ia., at $8,900 for disposal plant.

Fargo, N. D.—Following bids opened for constructing main trunk sewer: James Kennedy, Fargo, at $199,000; Dearborn Constr. Co., at $202,000. F. L. Anders, city engr.

Frost, Tex.—Contract awarded by city to Isaacs Co., Waco, for constructing sewer system and disposal plant, consisting of about 4 miles of 6 and 8-in. pipe; J. S. Presnall, city secy.

Oklahoma, Okla.—See "Foundations, Piers and Dams."

★Stroud, Okla.—Contract awarded for improving waterworks and electric light plant to Chicago Bridge & Iron Co., 105th and Throop Sts., Chicago, Ill., at $30,000.

Portland, Ore.—Following bids opened by City Council Dec. 13 for constructing Tanner Creek sewer: (a) Giebisch & Joplin, Rothchild Bldg., $309,312; (b) Jacobson & Jensen, Portland, at $383,620. Philip Dater, city engr., estimated work at $273,000. Following are unit prices on important items:

Tunnel Ex-Timbering—Concrete Backfill	(a)	(b)
1736 linear ft.	$ .11	$ .20
Ex. and refill 45,500 cu. yd	2.03	2.12
Lbr. in place 1100 M	.11	.13
Piles driven, 40,000 lin. ft.	.35	.40
Fill, old sewer, 4580 cu. yd.	2.00	2.50
Concrete Sewer Pipe		
10-in.	.52	.50
8-in.	.46	.40
6-in.	.30	.30
24-in. (in concrete)	3.50	4.00
24-in. (with gravel)	2.00	4.00
18-in.	2.00	3.00
14-in.	1.20	2.50
12-in.	.80	1.50
10-in.	.50	1.00
8-in.	.35	.60
6-in.	.25	.50
Concrete Pipe—Tunnel Section		
6 ft. 6 in. x 9 ft. 11 in.	$23.70	$30.00
6 ft. 6 in. x 9 ft. 5 in.	22.20	29.00
6 ft. 6 in. x 8 ft. 11 in.	21.00	28.00
6 ft. 6 in. x 8 ft. 5 in.	20.00	27.00
Above size reducing to 6 ft. 6 in. x 6 ft. 8 in.	19.25	26.00
6 ft. 6 in. x 6 ft. 6 in. reducing to 6 ft. x 6 ft. 8 in.	22.00	25.00
6 ft. x 6 ft. 8 in. (Type A)	14.00	10.00
6 ft. x 6 ft. 8 in. (Type B)	15.00	11.00
6-ft. circular	9.80	11.00

All above bids rejected. New bids Jan. 3.

★Whittier, Cal.—Contract awarded by City Trustees to Blair & Co., Sheldon Bldg., San Francisco, for c. i pipe and fittings as follows: 2642 ft. 10-in., 2656 ft. 8-in., 1568 ft. 6-in. class "B" c. i. pipe at $45.10 per ton; 4964 ft. 4-in. "B" c. i. pipe, $48.10 per ton, and c. i. pipe fittings at $72.60 per ton. Gate valves awarded to Whittier Hdwe. Co., Whittier, as follows: 8-in. $21.73, 6-in. $20 and 4-in. $11.50. Clarence O. Trueblood, city clk.

★Pocatello, Idaho.—Following bids opened Dec. 14 by City Council for constructing sanitary sewers in Lateral Sewerage Dist. No. 11: Strange-Maguire Co., 13 East 9th St., Salt Lake City, Utah, $11,075 (awarded contract); J. J. Carroll, Pocatello, $11,379; R. M. Bardson & Co., Pocatello, $11,404; Geo. Hicks, Pocatello, $13,419. Engineers' estimate $11,836. J. H. Giles, city engr.

STRUCTURAL STEEL WORK

PROPOSED WORK.

Chicopee, Mass.—Boston & Maine RR. (A. B. Corthell, ch. engr., Boston, Mass.) intends constructing bridge over its tracks at Grattan St. D. J. Coakley, mayor.

Greenfield, Mass.—Preliminary work for proposed bridge between here and Turners Falls, over Connecticut River, from which plans will be drawn, has been started by F. T. Lay & Co., Springfield, Mass. Cost will be borne by State and County and cities of Greenfield and Turners Falls. Fred. E. Wells, chmn. bridge com.

Riverside, N. Y.—Bertram E. Murray, co. supt. highways, Lake George, has recommended that bridge between here and Thurman over Hudson River, which was recently condemned, be replaced with $30,000 structure.

Ocean City, N. J.—Bd. Freeholders intend issuing $134,000 bonds for constructing bridge over Corson's Inlet on new Ocean City-Sea Isle City Blvd.

Pennsylvania.—Following applications for constructing bridges have been approved by State Water Supply Comn., Harrisburg:
Towanda, Bradford County, Troy Township, over south branch of Sugar Creek on Mud Creek Road, 2.5 miles southeast of Troy Boro., on cross road to East Troy-Granville Center Road.
Doylestown, Bucks County, Upper Makefield Township, over Wilson Run, 1 mile southwest of Taylorsville.
Uniontown, Fayette County, Luzerne Township, over Bull Run (Cox Run), 2 miles southwest of South Brownsville; Connellsville-Upper Tyrone Townships,

over Galley Run, ½ mile north of Broadford.

New Castle, Lawrence County, Pulaski Township, over run 3 miles northeast of Pulaski.

Pennsylvania RR. (Alex. C. Shand, ch. engr., Broad St., Philadelphia), to make extension to bridge No. 3.55 over Jacks Run, south of County Home Junction station, southwest branch, Westmoreland County.

Watsontown, Pa.—See "Reinforced Concrete, Proposed."

Williamsport, Pa.—Plans are being prepared for constructing Newberry-DeBoistown and Montgomery bridges that data including topographical survey of land on both sides of approaches to these bridges for ¾ mile may be submitted to State Water Supply Comn., Harrisburg, and War Dept., Washington, Henry C. Reeder, engr., Court House, Williamsport.

Chattachoochie, Fla.—Bonds for proposed bridge over Apalachicola River here between Jackson and Gadsden counties, on Old Spanish Trail, voted by latter county. Federal Government has appropriated $42,000 with which to construct same. Address Co. Clk., Quincy.

De Land, Fla.—Comrs. of Volusia (De Land co. seat) and Lake (Tavares, co. seat) Counties have granted franchise to construct 500-ft. bridge, 18 ft. wide, over St. Johns River at Crow's Bluff.

Williamsburg, Ky.—Contracts will probably be let in January by county for constructing 2 bridges, one 300 ft. long, other 100 ft. long. B. F. Rose, co. judge.

Galion, O.—Plans being prepared by Howard Keller, co. engr., Bucyrus, for $10,000 steel bridge, to be constructed at Gill St.

Springfield, O.—Bridge improvement bonds for $60,000 will be sold Jan. 2 by Bd. Co. Comrs., certified check for 5 per cent to accompany each bid. J. M. Pierce, co. aud.

Decatur, Ind.—Plans being prepared by P. L. Macklin, engr., for constructing following County bridges known as: Herman Reese, Ed. Gellemayer, Philip Scheferstein, Isaac Burr, John Burke, Marion French, John Felty, Alfred Graham and Albert Spuller bridges.

Millersburg, Ind.—Expense of eliminating grade crossings in city will be borne entirely by railroads. Viaduct will be constructed over New York Central RR. (G. W. Kittredge, ch. engr., Grand Central Station, New York City) tracks, and under Wabash RR. (A. O. Cunningham, ch. engr., St. Louis, Mo.) tracks.

Lewistown, Ill.—Kerson Township voted $5,000 as its share toward constructing $10,000 bridge over Olter Creek. E. F. Motsinger, co. supt. highways.

Minneapolis, Minn.—Representatives of South Side business organizations have presented to county and city officials petition for improving Franklin Ave. bridge over Mississippi River at estimated cost of $200,000. Street car line is contemplated over this bridge between here and St. Paul.

Hennepin (Minneapolis, co. seat), Scott (Shakopee, co. seat) and Dakota (Hastings, co. seat) counties have under consideration constructing bridge 2.2 miles long, with fills on Dakota and Hennepin sides, on Lyndale road between here and St. Paul, over Minnesota River; estimated cost between $150,000 and $300,000. E. E. Terrell, co. surv., Minneapolis.

Stanton, Neb.—All bids received Dec. 20 by W. F. Fullner, co. clk., for constructing proposed bridges in county during 1917 were rejected; uncertain when bids will be readvertised.

Hardin, Mont.—County intends constructing bridge over Big Horn River at estimated cost of $37,000. J. E. Graham, co. engr.

Kansas City, Mo.—Bridge and viaduct bonds for $250,000 and levee and drainage bonds for same amount will be sold Jan. 4 by George H. Edwards, mayor.

Chehalis, Wash.—Plans being prepared by J. D. Neville, co. engr., for constructing steel bridge over North Fork of Newaukum River at Kylak Place and for widening bridge over Mill Creek at Salkum.

Eugene, Ore.—See "Roads and Paving."

Stockton, Cal.—City has under consideration either constructing new bridge over Mormon channel at San Joaquin St., at estimated cost of $20,000, or repairing present bridge, which has been declared unsafe, at estimated cost of $2,000. H. T. Compton, city engr.

Vallejo, Cal.—Plans under consideration for constructing causeway between here and Mare Island. M. H. Peck, engr., 1121 Colusa Ave., Berkeley, Cal.

Clifton, Ariz.—Election in City, Jan. 15, to vote $160,000 flood-protection bonds, funds from which will be used to construct 4 steel bridges, retaining walls, and flood gates.

Lewiston, Idaho.—Because of highway development, county contemplates bond issue for constructing bridges along Clearwater River at Spalding, Myrtle, Lenore and Peck.

Mackay, Idaho.—County voted at recent election $75,000 bonds for bridge work during 1917.

BIDS DESIRED.

Yonkers, N. Y.—Until Jan. 15 by Bd. Supervs. for erecting bridge over Bronx River, on Tuckahoe Road, between Yonkers and Bronxville, to be of natural stone about 60 ft. wide; cost about $17,000. Alfred Metz, chmn. of Com. on Roads and Bridges.

Freehold, N. J.—Until Jan. 10, by Bd. Freeholders (C. E. Close, clk.) for constructing bridge over Quigley's Creek and improving other bridges. George D. Cooper, co. engr.

Lafayette, Ind.—Reported desired until Jan. 13 by Chambers Co. Comrs. for constructing with masonry substructures and flooring complete 350 ft. bridging for bridges over Osanippa and Davis Creeks on state highway near Fairfax. Address S. E. Fitch, co. engr.

Emporia, Kan.—Reported desired, until Jan. 4, by H. A. Osborn, co. clk., for constructing steel and concrete bridge in Waterloo Twp.; 45 ft. steel and concrete bridge in Center Twp., and 32 ft. I-beam span across Dry Creek, near Emporia. W. S. Ruggles, engr.

Falls City, Neb.—Reported desired until Jan. 8, by O. O. Marsh, co. clk., for constructing several bridges.

Salt Lake City, Utah.—Reported desired until Jan. 3, for constructing 8-span pile bridge across Jordan River, at California Ave.; S. Q. Cannon, city engr.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Americus, Ga.**—Contract awarded by County to Southern Bridge Co., Birmingham, Ala., at $11,200, for constructing 210-ft. steel bridge with 2 concrete piers.

★**Youngstown, O.**—Contract awarded by city and New York Central RR. (G. W. Kittridge, ch. engr., Grand Central Terminal, New York City) to Carmichael-Cryder Co., Rialto Bldg., St. Louis, Mo., at $124,384, for constructing substructure to 7-span steel bridge, 750 ft. long, 50 ft. wide, with concrete foundation over RR. tracks and Mahoning River from Cedar St. to Himrod Ave. and Federal St. bridge. Frank M. Lillie, city engr.

★**Montana**—Following are 4 lowest bids opened Dec. 19 by State Highway Comn. (Geo. R. Metlin, secy.), Helena, for constructing (a) Alberton bridge, 371 ft. long, with 4 spans, one 140 ft., one 175 ft., and two 28 ft. long; (b) St. Regis bridge, 458 ft. long, with 3 spans, one 175 ft. and two 140 ft. long: (c) Lord Constr. Co., Hamilton, Mont., at $20,390 (awarded contract); Wausau Iron Works, Wausau, Wis., $20,806; J. T. Harrington, Missoula, Mont., $21,178; Hugh Perham, St. Anthony, Idaho, $21,930. (d) Wausau Iron Works, at $30,410 (awarded contract); Missouri Valley Bridge Co., Kansas City, Mo., $30,993; Lord Constr. Co., $31,200; C. Afton Applegate, Anaconda, Mont., $34,500.

★**Santa Fe, N. M.**—Contract awarded by county to Missouri Valley Bridge & Iron Co., Leavenworth, Kan., at $23,987, for constructing two 150-ft. steel span bridges over Canadian River.

REINFORCED CONCRETE

PROPOSED WORK.

Providence, R. I.—Reported Workingmans Circle Bakery will erect 3-story 55 x 110 ft. concrete block bakery on No. Main St. Page & Page, archts., Weybosset St.

Jersey City, N. J.—Reported Air Reduction Co. has plans prepared for erecting 4-story concrete factory on Pacific Ave.; cost about $60,000.

Johnstown, Pa.—Cost for constructing proposed concrete bridge between 8th and 17th Wards will be borne approximately as follows: $25,000 by county, $32,000 by city and $20,000 by Johnstown Traction Co. (G. Nelson Smith, ch. engr., Johnstown).

Philadelphia, Pa.—Estimated cost of proposed reinforced concrete viaduct at Washington Ave., including elevation of Pennsylvania R.R. (Alex. C. Shard, ch. engr., Broad St., Philadelphia) tracks placed at $4,500,000. Preliminary plans called for all steel viaduct.

Watsontown, Pa.—Plans being prepared by M. J. Flynn, co. engr., Sunbury, to be submitted to resident engr. here, for constructing reinforced concrete or steel viaduct with 16 spans over Susquehanna River; four approach spans will be 52 ft. long, river spans will be 115 ft. long, both with 20-ft. roadway and 5.75-ft. promenade.

Pioneer, O.—See "Roads and Paving."

Sheyboygan, Wis.—Plans being prepared by Klug & Smith, 40 Mack Block, Milwaukee, Wis., for constructing reinforced concrete viaduct at S. 14th St. from Alabama to Indiana Aves. It will be 519 ft. long, with 15 reinforced concrete spans from 35 ft. to 41 ft. long and

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one 90 ft. steel span, and with roadway 24 ft. wide and 2 sidewalks each 7 ft. wide. Foundations to be of steel and concrete. C. U. Boley, city engr.

Omaha, Neb.—Reported Kirchbraum & Sons plan erecting reinforced concrete and brick creamery and cold storage plant in spring; cost, $150,000.

Fort Worth, Tex.—Reported J. M. Vincent will erect 2 or 3-story reinforced concrete business bldg. at 5th and Commerce Sts.; cost about $50,000. Work will start in near future.

Houston, Tex.—City Council will ask bids for erecting warehouse at turning basin on the Houston ship channel; building will be 3 stories, 430 x 198 ft., and concrete construction; cost about $430,000.

McKenna, Wash.—Comrs. of Thurston (W. H. Yaeger, Jr., co. engr., Olympia) and Pierce (D. W. White, co. engr., Tacoma) Counties intend constructing 200-ft. concrete bridge here.

Oregon City, Ore.—Reported Oregon City Mfg. Co. (Adolph Jacobs, pres.) will erect 3-story, 80 x 250 ft., reinforced concrete addition to its woolen mills.

Salem, Ore.—Polk and Marion Counties and State Highway Comm., Salem, have under consideration selection of site for proposed $250,000 concrete bridge over Willamette River here. E. C. Kirkpatrick, co. judge, Dallas.

Riverside, Cal.—Pacific Elec. Ry. (G. E. Pillsbury, ch. engr., Los Angeles, Cal.) will bear $16,000 of cost of proposed concrete bridge over Victoria Ave., estimated at $50,000. A. P. Campbell, city engr.

BIDS DESIRED.

Baltimore, Md.—See "Paving."

New Orleans, La.—See "Foundations, Piers and Dams."

Greenup, Ill.—Until Jan. 20 by State Highway Dept., for constructing Toledo Road Bridge near here, 4 spans with 60-ft. roadway; cost about $18,950; specifications may be obtained from Clifford Older, bridge engr., State Highway Dept., Springfield, Ill.

Rock Island, Ill.—Until Jan. 10, by Col. Geo. W. Burr, Ord. Dept., U. S. A., for erecting concrete hollow tile storehouse for artillery vehicles and constructing 350 ft. standard railroad thereto; certified check for $1,000 to accompany bid.

Topeka, Kan.—Reported desired, until Jan. 8, by O. K. Swayze, co. clk., for 160 ft. Marsh Rainbow arch reinforced concrete bridge over Soldier Creek on N. Kansas Ave., with 18-ft. roadway, 4-ft. sidewalk; certified check for $50 to accompany bid. W. J. Arnold, engr.

Houston, Tex.—Until Jan. 22 by E. B. Booney, city secy., for erecting 3-story reinforced concrete municipal warehouse at Houston Turning Basin; cost about $400,000; certified check for $20,000, payable to Ben Campbell, mayor, must accompany each bid; specifications may be obtained from E. E. Sands, city engr., upon deposit of $40.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Clairton, Pa.**—See "Miscellaneous."

★**Cleveland, O.**—Contract awarded National Acme Mfg. Co., 7500 Stanton Ave., to Reaugh Const. Co., 2835 E. 51st St., for erecting fireproof brick, 482 x 603-ft. bldg. at Coit Rd. and E. 131st St.; cost $375,000. George S. Rider Co., 512 Century Bldg., engrs. and archts.

Contract awarded by Isaac Leisy Brewing Co., Fulton Road and Vega Ave., to Walther Engineering & Construction Co., 418 American Trust Bldg., for erecting 1-story, 120 x 172 ft., concrete building; cost, $85,000. S. L. Reily, archt., 1712 Marquette Bldg., Chicago.

★**Cleveland, O.**—Contract awarded by National Acme Mfg. Co., 7500 Stanton Ave., to Reaugh Constr. Co., 2835 E. 51st St., for erecting 2-story concrete, 52 x 603-ft. building at Coit Rd. and E. 131st St.; cost $90,000. Geo. S. Rider Co., engrs. and archts., 512 Century Bldg.

★**Des Moines, Ia.**—Following are 4 lowest bids opened Dec. 22 by city for constructing reinforced concrete bridge over Des Moines River at Court Ave.: Koss Constr. Co., at $210,900, for Bedford stone faced design (awarded contract); N. M. Stark & Co., $222,192, both of Des Moines; Wm. Horrabin, Iowa City, Ia., $224,581; Winston Bros., St. Paul, Minn., $225,130. Marsh Engr. Co., engrs., Masonic Temple, Des Moines, Ia.

ROADS AND PAVING

PROPOSED WORK.

Batavia, N. Y.—Bd. Supervs. estimate cost of road work during 1917 at $75,000, divided as follows: $47,317 for maintenance, $13,150 for bridges, $10,000 for removing snow and miscellaneous work.

Boston, Mass.—Estimated cost of widening Chelsea St., Charlestown, from City Sq. to Bunker Hill placed at $450,000. Contracts will soon be let for widening and paving section from City Sq. to Foss St., estimated cost, $100,000, to be divided as follows: $79,000 for buildings and $16,000 for constructing street on widened line. J. M. Curley, mayor.

Wallingford, Conn.—Contracts will be let by city during 1917 for $18,000 worth of paving work. W. A. McKenzie, city engr.

Bath, N. Y.—Bd. Supervs. intend issuing $100,000 bonds for extension of County highway system. Some of towns in which roads will be extended are: Campbell, Dansville, Pulteney and Wayland.

New York, N. Y.—Broadway Paving Com., Municipal Bldg., has voted in favor of paving Broadway from Vesey to 14th St. with asphalt. Marcus M. Marks, boro. pres.

Plattsburgh, N. Y.—Bd. Supervs. approved plans of State Highway Comn., Albany, N. Y., for improving section Altonia-Chazy road, estimated cost $81,000, county's share being $12,960, and section (3.34 miles long) of state road in town of Champlain from Mooers Corners northerly to south end of county highway at south corporate limits of village; estimated cost $41,000, county's share $6,400.

Atlantic City, N. J.—Contracts will soon be let for improving, including curbing, driveways and bridges, Boulevard entrances at Virginia, Adriatic and Indiana Aves. to Virginia Park.

Sussex, N. J.—Plans being prepared by Harvey Snook, co. engr., for paving Ross' Corner-Sussex road, 7 miles, with concrete.

New Eagle, Pa.—Borough intends paving with brick portions of Main, Pine and Hemlock Sts., total of 2780 lin. ft., at estimated cost of $20,000. A. L. McVickar, engr., Monongahela, Pa.

Fairmont, W. Va.—City voted $40,000 street improvement bonds. Albert J. Kern, city clk.

Parkersburg, W. Va.—County intends voting on $1,400,000 bonds for road improvement purposes.

Petersburg, Va.—City considering $250,000 bond issue for paving and extending sewer and water mains. N. T. Patteson, chmn. finance com.

Anderson, N. C.—Constitutional amendment allowing city to increase its indebtedness passed by citizens. This will allow $200,000 additional paving work to be done, one half of expense to be borne by city, other half by abutting property owners. Some of streets to be paved are Franklin, Fant and Orr Sts.

Wilson, N. C.—City voted $250,000 street improvement bonds.

Monticello, Ga.—Contracts will soon be let by city for constructing 2 miles of sidewalks. A. H. Burney, chmn. street com.

Ft. Myers, Fla.—Seldon L. Stewart, engr., Labelle, Fla., has been selected to prepare plans for hard surfacing about 50 miles of road from near Denaud to Lake Okeechobee, passing through Labelle and Immokolee, distance being approximately 20 miles between latter places.

Birmingham, Ala.—Estimate of Julian Kendrick, city engr., for paving 60 ft. wide, east and west highway from 85th to 41st Sts., placed between $135,000 and $140,000. Paving between tracks of Birmingham Ry., Light & Power Co. (Lee C. Bradley, gen. mgr., 2100 1st Ave.) will be extra and paid for by this company. J. D. Truss, comr.

Surveys being made for constructing road from filter plant on Shades Mountain to pumping station on Cahaba River. Address Co. Clk.

Leakesville, Miss.—County sold 100,000 road bonds with which to construct with federal aid 2 national highways, one east and west, other north and south, intersecting at Leakesville and making continuous route to Mobile. R. D. Cochran, clk. bd. supervs.

New Augusta, Miss.—Bd. Supervs. appropriated $200,000 for constructing roads in county.

Hohenwald, Tenn.—County voted $100,000 road construction bonds.

Jonesboro, Tenn.—County has under consideration $800,000 road improvement bond issue. Address J. M. Martin, Johnson City, Tenn.

La Grange, Ky.—County intends issuing $50,000 bonds for road and bridge work during 1917. S. E. De Haven, co. judge.

Versailles, Ky.—County contemplates 20 miles of road reconstruction.

Wickliffe, Ky.—Contracts will be awarded in spring by county for constructing about 28 miles of gravel roads; estimated cost $3,000 per mile. G. O. Johnson, co. clk.

Cleveland, Ohio.—Grade crossing bonds for $60,000 will be sold Jan. 15 by C. J. Neal, dir. finance; certified check for 3 per cent to accompany bid.

Columbus, O.—Estimated cost of city's street improvement plans placed at $400,000, which includes $75,000 for widening and paving portion of High St.; also widening and repaving of 3d and 4th Sts.

Hamilton, O.—Street improvement bonds for $15,000 will be sold Jan. 16 by Ernst E. Erb, city aud.; certified check for 5 per cent addressed to treas. to accompany each bid.

Marion, O.—City intends grading and paving and constructing necessary drains, retaining walls, gutters, catch basins, curbs and crossings in portions of Washington and Bellefontaine Aves. and Mary St., and 5 alleys.

Pioneer, O.—Plans being prepared by L. A. Boulay Co., engrs., 1248 Nicholas Bldg., Toledo, O., for paving First, State, Baubice, Church, and Elm Sts.; also for concrete bridge at Third St., and various storm sewers.

Ravenna, O.—Co. Comrs. sold $13,400 bonds for improving Atwater-Randolph road.

Springfield, O.—City considering paving 22 streets. M. J. Bahin, engr.

Tiffin, O.—City has under consideration paving Washington St. with asphalt at estimated cost of $20,000.

Warren, O. — Highway improvement bonds for $17,000 will be sold Jan. 8 by Bd. Co. Comrs. (W. L. Hoffman, clk.); certified check for $300 payable to J. C. Cratsley, treas., to accompany each bid.

Saugatuck, Mich.—Village intends constructing macadam road 20 ft. wide at estimated cost of $12,000.

Cambridge, Ill.—Plans prepared by H. G. Stokes, engr., Kewanee, for paving with brick portion of street here; estimated cost $12,000.

Chicago, Ill.—City Plan Comn. (Chas. H. Wacker, chmn.) has recommended, at estimated cost of $8,000,000, following street extensions, widenings and connections: Opening, widening and extending of Robey St. throughout city, using subways at river crossings, $5,700,000, using viaducts and bridges, $3,238,500; extension of Ogden Ave., 2.8 miles long, from Union Park to Lincoln Park, estimated cost $4,649,000; opening N. Ashland Ave., connecting north and south sides of city by new viaduct and bridge across north branch of river, being 100 ft. wide between Cortland St. and Fullerton Ave., estimated cost including bridge, $1,275,000; also opening, widening and extending of Western Ave. throughout city and opening Ashland Ave. on south side through to city limits.

Hillsboro, Ill.—Bd. Supervs. have appropriated $23,636 toward constructing state aid roads, as follows: $15,758 on Fillmore road; $7,878 on 4.33 miles of road starting at north end of road recently completed to Litchfield.

Kewanee Ill.—Contract will be awarded in spring for paving with asphaltic concrete 20,000 sq. yd. of streets. H. C. Stokes, city engr.

Princeton, Ill.—Contract will probably be let about Feb. 15 by city for brick paving, estimated at $140,000. H. L. Parker, city engr.

Rockford, Ill.—Bd. Supervs. considering expenditure of $18,000 for macadamizing following roads: $15,350 on route No. 6, from Harrison Ave. on Kishwaukee road south; $2,650 on Trask Bridge road, commencing at end of concrete pavement.

Waukegan, Ill.—About $218,000 planned by 3 townships in county for road construction work. Chas. E. Russell, co. highway supt.

Racine, Wis.—Bd. Supervs. appropriated $30,257 for improving state highways and $8,000 for maintaining same. Contracts will be let by State Highway Comn., Madison.

East End, Ind. Sta., Superior, Wis.—Estimated cost of road work for 1917 placed at $100,000. C. J. Morissett, co. highway comr.

Des Moines, Ia.—Election will be held in county to vote $400,000 bonds for constructing complete system of highways. E. J. Alber, co. aud.

Grundy Center, Ia.—Reported desired until Jan. 8, by Bd. Pub. Wks., for 45,000 sq. yd. pavement; cost about $80,000.

Duluth, Minn.—County intends spending $746,000 for road work during 1917. O. Halden, co. aud.

Little Falls, Minn.—State Highway Comm., St. Paul, has been asked by County to improve road from Royalton to Little Falls and then to County line; estimated cost $50,000. B. Y. McNairy, co. aud.

Madison, Minn.—Preliminary estimate of Fred Roe, state highway engr., St. Paul, for road work in county during 1917 is $41,225. A. G. Shogren, co. aud.

Minnesota.—State Highway Comn., St. Paul, will construct about 30 miles of roads during 1917 in Fairmont County; estimated cost $1,000 per mile. Address Co. Clk., Fairmont.

St. Paul, Minn.—City Council recommends that section of Laurel Ave. be paved at estimated cost of $26,292 and section of James St. at estimated cost of $18,187.

Mandan, N. D.—County has under consideration construction of 100 miles of highways during 1917. L. Nichols, co. aud.

Helena, Mont.—City intends paving Helena Ave. for 5350 ft. and 33 ft. wide with concrete at estimated cost of $33,000.

Thompson Falls, Mont.—County has appropriated $30,000 and has asked Federal Government for like amount for road work.

Kansas City, Mo.—Bd. Pub. Wks. (L. Oppenstein, pres.) intends paving portions of Denver, Tracy and Garfield Aves. with Portland cement concrete, 6 to 8 in. thick and construction of artificial stone sidewalks 5 ft. wide on both sides of portion of 46th St. and of Garfield Ave.

Lake Village, Ark.—County has under consideration election to vote $250,000 highway construction bonds.

Waldron, Ark.—Contracts will soon be let by State Highway Comn., Little Rock, Ark., for constructing 39-mile gravel road from here to Sebastian County line, estimated cost $140,000.

Amarillo, Tex.—City taxpayers at mass meeting recently voted in favor of paving 45 to 50 more blocks.

Dallas, Tex.—City intends paving portions of following streets: Leonard and 9th with bitulithic, Ann with asphalt, and Watt with vibrolithic.

Denton, Tex.—Election Feb. 3, 1917, to vote $150,000 road bonds in Justin Road Dist. Address Co. Clk.

Dickens, Tex.—County intends improving about 12 miles of roads during 1917. T. H. Blackwell, co. surv.

San Angelo, Tex.—Election Jan. 9 in city to vote $25,000 street paving bonds.

Victoria, Tex.—City considering setting date for election to vote $150,000 street paving bonds. This under co-operative paving plan means expenditure of about $450,000 for paving 150 blocks, approximately 10 miles of streets.

Waxahechie, Tex.—Contracts will soon be let for paving work in city, estimated at $160,000. J. D. Kirven, city engr.

Oklahoma City, Okla.—Preliminary plans for expenditure of proposed $1,225,000 good roads bond issue for which an election has been petitioned are as follows: Concrete road through county, east, west, north and south, about 76 miles; bituminous macadam road, northeast to county line near Luther and northeast connecting with Kingfisher road, about 56 miles, making total of 132 miles; estimated cost of concrete road being $10,000 per mile, of bituminous macadam road $6,000 per mile.

Comanche, Tex.—County considering improving roads leading to Brown county line.

Tulsa, Okla.—Park and boulevard bonds for $100,000 will be sold Jan. 8, by Frank Newkirk, city aud.

Kent, Wash.—City has under consideration paving of several streets during 1917 at estimated cost of $15,000 to $20,000. B. Bouldron, city engr.

Seattle, Wash.—Reported $500,000 County Highway bonds will be sold Jan 16 by Co. Comrs.

Following are approximate estimates of street improvements before City Council: Grading portions of 30th Ave. N. E. and 35th Ave. N. E., $29,000; regrading and extending portion of Western Ave., $111,474; grading and regrading portion of Elliott Ave., $138,472; paving portion of 17th Ave. S., $40,000; doubling width of paving on Westlake Ave. and Westlake Ave. N.; replacing planking with permanent pavement on portion of Leary Ave.; filling and paving on Elliott Ave., 15th Ave. and 9th Ave. S., and constructing higher level bridge over West Waterway for improvement of W. Spokane St., $100,000 to $150,000; improvement on 31st Ave., N. W. Dist. by paving, $29,816; construction of elevated wooden viaduct and paving roadway with asphalt or other suitable material, $62,000; paving 1st Ave. N. and Emmons Place, and grading and constructing concrete walks on 37th Ave. S., and paving with asphalt and constructing brick gutters and armored concrete curbs on Roy St. A. H. Dimock, city engr.

Spokane, Wash.—City intends improving portions of 4 streets: Sinto Ave., by constructing concrete curbs; Montgomery Ave., curbing and draining; 32d and 29th Aves., by constructing sewers. Leonard Funk, comr. pub. wks.

Albany, Ore.—County intends spending $105,000 for road work and $15,000 for bridge work during 1917. Alfred L. Geddes, co. engr. R. M. Russell, co. clk.

Astoria, Ore.—Reported that plans will be prepared by county (G. F. Parker, co. engr.) for hard surfacing proposed Lewis and Clark road; estimated cost $70,000.

Eugene, Ore.—County budget for 1917 includes $20,000 for coast and other roads if state or Federal Government appropriates equal amount for same, $10,000 for general work, $10,000 for constructing and repairing macadam roads, $30,000 for bridges and $12,000 for rock crushers. Stacy M. Russell, co. clk.

Albany, Cal.—City voted $20,000 bonds as its share for proposed pavement of San Pablo Ave. from state highway at Contra Costa County line through Oakland, Berkeley and Albany.

Chino, Cal.—Contract will be let in early part of 1917 by City Trustees for grading, constructing cement curbs and sidewalks and paving with 1½-in. asphaltic concrete on 4-in. concrete base 6th, 7th and D Sts. E. L. P. Wetmore, city clk.

Eureka, Cal.—Plans being prepared by J. A. Shaw, co. engr., for constructing highways from Bull Creek to Mattole and from Ettersburg to Shelter Cove, combined total length 29.5 miles.

Lemoore, Cal.—Plans being prepared by Eric Wold Engr. Co., Call Bldg., San Francisco, for paving several streets here

Marysville, Cal.—Estimates of W. H. Lynch, federal highway engr., U. S. Dept. of Agriculture, for improving main County highways, with asphaltic surface on concrete base, is $450,000, as follows: Marysville-Oroville road, $150,000; Marysville-Nevada County line, $175,000; Marysville-Dobbins, $90,000; Laporte, $35,000; Camptonville-Butte County line $10,000. Cost per mile for 15-ft. wide roadway placed between $8,000 and $10,000.

San Jacinto, Cal.—Street improvement bonds for $28,000 voted. George Grover, city clk.

Willows, Cal.—Plans are under consideration by Glenn and Mendocino Counties and U. S. Forestry Service for construction of highway from here to coast via Alder Springs; address Co. Clk.

Lewiston, Idaho.—Bond issue of $150,000 for road construction work in Lapwai Valley Highway Dist. (D. J. Wyatt, secy.) carried at Dec. 5 election.

Perth, Ont.—Provincial Government, municipalities of Perth and Smith's Falls and township of N. Elmsley considering construction of Perth-Smith's Falls road; estimated cost $21,000.

BIDS DESIRED.

Amsterdam, N. Y.—Until Jan. 16, at Common Council Chambers, for 35,000 sq. yd. asphalt block pavement. Edward H. Prentice, city engr.

Freehold, N. J.—Until Jan. 10 by Bd. Freeholders (C. E. Close, clk.) for reconstructing Keyport-Red Bank Road, 1st section, with 24,381 sq. yd. Warrenite surface pavement upon same amount concrete foundation; also for constructing Wrightsville-New Canton Road, as well as improving Brighton Ave., Long Branch, with an amiesite surface of 8920 sq. yd. upon macadam foundation.

Neshanic, N. J.—Until Feb. 6 by Township Com. (Clarence Van Cleef, clk.) for improving Flagtown-South Branch Road with macadam surface; estimated amount of surface pavement needed is 12,155 sq. yd.

Baltimore, Md.—Until Jan. 10, separate bids, by H. K. McCay, harbor engr., for constructing 3d sect. of Key Highway; work includes grading about 135,000 cu. yd., paving about 28,000 cu. yd., and granite paving 5,000 cu. yd.; also for constructing concrete highway bridge, 80 ft. long and 70 ft. wide, 2 spans, 40 ft. each, and necessary abutments.

Kent, O.—Reported desired until March 18 by Fred Bechtel, village clk., for paving Lake St., involving 13,000 yd. brick, concrete and slag base; Columbus St., 1500 yd. monolithic brick or concrete; Prospect St., 3000 yd. monolithic brick, concrete or asphaltic concrete and curbing.

New Albany, Ind.—Until Jan. 11, by Emil Dupaquier, co. aud., for constructing Greenville-Georgetown road, about 3 miles long, in Georgetown Township.

Cicero, Ill.—Reported desired until Feb. 1 for 8290 sq. yd. asphaltic concrete pavement and 5800 ft. concrete curbs. Address Lewis Mangreig, engr.

Albert Lea, Minn.—Reported desired until Jan. 3 by Fred Travis, co. aud., for two 12-ft. graders and 1 tractor large enough to handle 2 graders.

Washburn, N. D.—Reported desired until Jan. 2 by E. C. Stocker, co. aud., for furnishing 3 gas tractors, 30 to 60 hp. at drawbar; also 2 or more 12-ft. road graders for engine use and 1 or more road levelers or planers.

Mt. Vernon, Tex.—Until Jan. 4 by County Judge Reeves for constructing complete road system with bridges and culverts in road dist. No. 1; cost about $75,000.

Tulsa, Okla.—Until Jan. 8, at office of City Aud., for paving and improving portions of Chicago Pl., Cameron St., Cincinnati Ave. and many other streets; bond for 25 per cent. to be furnished on award of contract. H. H. Wyss, city engr.

Everett, Wash.—Reported desired until Jan. 15 by M. Weatherbee, co. aud., for constructing 12 miles of permanent highway; plans may be obtained from W. C. Bickford, co. engr., upon deposit of $25.

Seattle, Wash.—Reported desired until Jan. 10 for grading and draining 2 miles of road. Address C. D. Nims, co. engr., South Bend.

South Bend, Wash.—Reported desired until Jan. 10, by Co. Comrs., for constructing 3 mile highway; plans from C. B. Nims, co. engr., upon deposit of $2.

Bakersfield, Cal.—Reported desired until Jan. 9 by Bd. Supervs. (F. E. Smith, clk.) for grading and constructing culverts and broken stone surfacing on Div. 1, Delano County Line Road, 8.57 miles Div. 9, Sect. 5, Bakersfield-Glenville Road, between end of Sect. 4 and Glenville, 11.5 miles; specifications may be obtained from Co. Highway Comm. upon $5 and $3 for each road separately; certified check for 10 per cent to accompany each bid.

Hanford, Cal.—Reported desired until Jan. 3 by D. C. Williams, for constructing bitulithic pavement on concrete base on about 60 blocks of streets.

Modesto, Cal.—Until Jan. 9 by Hugh Benson, co. clk., for constructing with concrete 16-ft. wide Waterford highway from Modesto to Empire section of Paradise highway, 5.4 miles long, section of Maze highway 4 miles long, these being first sections to be advertised of proposed county highway system for which $1,482,000 bonds have been sold.

Oroville, Cal.—Reported desired, until Jan. 5, C. F. Belding, co. clk., for constructing Bangor Highway.

Upland, Cal.—Reported desired until Jan. 22 by Chas. P. Fuller, city clk., for improving 11th Ave. between Washington Blvd. and 10th St.; work includes grading, scarifying, oiling with liquid asphalt, rolling and surfacing with broken stone screenings and liquid asphalt; certified check for 10 per cent to accompany bid.

PRICES AND LETTINGS.

★Indicates award of contract.

★Salem, N. J.—Contract awarded by Bd. Freeholders to Fox & Powell, Ocean City, N. J., at $15,696, for constructing Sect. 2 of Pennsgrove-Malaga road.

Somerville, N. J.—Lowest bid received by Bd. Freeholders for macadamizing Chimney Rock Road, about 1½ miles, including elimination of curves and cutting down mountain for suitable grade, was from Richards & Gaston, Somerville, at $67,041.

Stone Harbor, N. J.—Following bids were opened by Common Council for improving streets and avenues of South End: South Jersey Realty Co., 3d and Walnut Sts., Philadelphia, Pa., $14,499; Sutton & Corson Co., Ocean City, $17,954; Lewis S. Chester, Sea Isle, $21,267.

Philadelphia, Pa.—Following are lowest bids opened by Bd. Pub. Wks. (Wm. H. Connell, chmn.) for grading 100,512 cu. yd., total of $57,315, from M. H. Kelly, R. B. Wenner and W. P. Mahony, Harrison Boule., and for repairing and patching asphalt streets, at $75,000, from Union Paving Co., 30th and Locust Sts.; all of Philadelphia.

★Washington, D. C.—Contract awarded by Comrs. Dist. Columbia (bids opened Dec. 14) to G. B. Mullins, 14th and Kennedy Sts., N. W., Washington, D. C., for grading following streets: 16th St. N. W., Sect. 1, 33,000 cu. yd., at $7,095; same street, Sect. 2, 87,000 cu. yd., at $21,715; New Hampshire Ave., 57,000 cu. yd., at $11,995. Daniel E. Garges, ch. clk., engr. dept.

★Welch, W. Va.—Contract awarded by County (bids opened Dec. 15) for grading and constructing bridges (one sect. each) to S. S. Walker & Co., at $241,678; T. Towles & Co., Princeton, W. Va., at $279,812; M. L. Tackett, Mt. Sterling, Ky., at $61,278.

★Wheeling, W. Va.—Contract awarded by County to Ball Engr. Co., Wheeling, at $40,000, for grading with asphalt 5 miles of Peter's Run Road from National Pike to Bloch's Hill.

★Arcadia, Fla.—Contract awarded by city to Stidham & Hughes, Limestone, Fla., at $145,395, for grading, paving 158,000 sq. yd. with asphaltic concrete and constructing concrete bridges; also to Fargo Constr. Co., Jacksonville, at $50,650, for 140,000 ft. concrete curbs, gutters and headers.

★De Land, Fla.—Contract awarded by County to F. G. & A. C. Proudfoot, Tampa, Fla., at $100,000, for constructing 9 miles of road in Halifax Special Road and Bridge Dist., Sects. 2-A and 2-B, requiring 1,000,000 asphaltic blocks.

★Fort Myers, Fla.—Contract awarded by Road and Bridge Dist. No. 3 to J. B. McCrary Co., Atlanta, Ga., at $111,800, for clearing and grading road from Marco to Dade County line.

★St. Cloud, Fla.—Contract awarded by city to Georgia Engr. Co., Augusta, Ga., at $14,245, for paving 11,000 sq. yd. with repressed brick on sand base with sand filler. Fred. B. Kenney, clk.

★Grove Hill, Ala.—Contract awarded by County (bids opened Dec. 15) to J. H. Linch, Dadeville, Ala., at $70,000, for improving roads in county. A. L. Smith, co. engr.

★Hernando, Miss.—Contract awarded by county to F. D. Harvey Co., Olive Branch, Miss., for constructing 3¾ miles of dirt road, requiring 32,200 cu. yd.

★Oklahoma City, Okla.—Contract awarded by city to Sandringham Constr. Co., Oklahoma City, at $16,638, for paving Lincoln Boulevard.

★Lake Charles, La.—Contract awarded by city (bids opened Dec. 14) to De Jersey & Maff), Lake Charles, at $38,982, for paving with vibrolithic, Miller Ave., Mill, Pine, Moss and other streets. E. L. Gorham, city engr.

★Owensburg, Ky.—Contract awarded by Pub. Roads Dept., Rodman Wiley, comr., Frankfort, Ky., to Montgomery Perkins Co., for reconstructing Leitchfield, St. Joseph, Hawesville and Rockport roads; the Leitchfield road consists of 533,401 lb. reinforced steel, 164,219 cu. yd. earth excav., 31,401 cu. yd. river gravel 53,350 tons broken stone, 3125 cu. yd. concrete, 42,401 cu. yd. bank gravel, and was awarded at $185,038.

★Williamsburg, Ky.—Contract awarded by county to Mason Constr. Co., Emanuel, Ky., at $36,510, for constructing 17 miles of roads.

★New Albany, Ind.—Contract awarded by Co. Comrs. to Sam. T. Games, Louisville, Ky., for constructing Ford road, 6691 ft. long, at $8,500, and Graybrook road, 4850 ft. long, at $7,050, both 15 ft. wide and in New Albany Township. Matthias Engle and Wm. Bigler, road supts.

★Van Buren, Ind.—Contract awarded by Co. Comrs., Marion, to Hutton-Harris Constr. Co., North Vernon, Ind., at $35,618, for constructing A. A. Orn road in Van Buren Twp., about 3 miles long. Other bidders were I. J. Waller, Huntington, Ind., $36,549; Kernodle & Miller, Lebanon, Ind., $36,800; J. R. Bowlin, Tipton, Ind., $37,500.

★Amboy, Ill.—Following are 4 lowest bids opened by city for paving E. Main St.: Henry Zolper & Sons, Mendota, Ill. (awarded contract); Gund & Graham, Freeport, Ill., $23,461; Bertram & Wiess, Streator, $24,074; Rink & Schnell, Dixon, $24,401.

Denton, Tex.—Following are 4 bids opened Dec. 11 by city for paving 15,000 sq. yd. of streets with asphalt macadam: Whitley & Co., Mineral Wells, Tex., $17,250; Healey Constr. Co., Ft. Worth, Tex., $17,550; Whitlock & Millican, Denton, Tex., $18,750; J. C. Field & Co., Denison, Tex., $20,000.

★Camas, Wash.—Contract awarded by city (bids opened Nov. 28) to United Contracting Co., Northwest Bank Bldg., Portland, at $13,968, for paving with bitulithic portions of Fourth St.

★Mt. Vernon, Wash.—Contract awarded by city to Skagit Constr. Co., Mt. Vernon, at $18,376, for paving 4th St. N. with concrete.

Seattle, Wash.—Lowest bid received by Bd. Pub. Wks. (C. B. Bagley, secy.) for paving Terry and Boren Aves. was from McGuire Bros., 523 First Ave. W., Seattle, at $13,438.

★Contract awarded by Bd. Pub. Wks. to Superior Constr. Co., 1642 Lane St., Seattle, at $13,330, for grading on E. 71st St., and at $39,213 for grading and constructing walks on 80th St.

★Los Angeles, Cal.—Following are 4 lowest bids opened by Bd. Pub. Wks. for 154,400 sq. ft. grading and asphalt paving, 6939 sq. ft. vitrified brick gutters, 8645 sq. ft. cement walks, 2800 lin. ft. cement curbs, etc., on portion of 8th St.: Tryon & Brain, 502 Merchants Trust Bldg., $31,066 (awarded contract); Geo. R. Curtis, 552 S. St. Louis St., $32,356; R. H. McCray Co., $32,407; Los Angeles Paving Co., Wilcox Bldg., $33,621, all of Los Angeles.

★San Francisco, Cal.—Contract awarded by city to Federal Constr. Co., Sharon Bldg., San Francisco, at $68,742, for improving Innes Ave.

★Somis, Cal.—Following are 4 lowest bids opened Dec. 15 by Bd. Supervs. (J. B. McCloskey, clk.), Ventura, for grading and constructing with 4-in. concrete pavement, 16 ft. wide, on 1.42 miles of road from here to Moorpark, Div. 8, about 23,710 cu. yd. excav., 39,187 lin. ft. grading, 7756 cu. yd. concrete in pavement, 196 cu. yd. concrete in culverts, 12,900 lb. reinforced steel, 390 ft. iron pipe, etc.: C. H. Hudson, 408 Marsh-Strong Bldg., Los Angeles, Cal., $26,340 (awarded contract); White & Gaskill, Long Beach, Cal., $26,990; Isbell Constr. Co., Ventura, Cal., $29,263; Connor Constr. Co., Los Angeles, Cal., $29,183.

RAILWAYS
Steam and Electric

PROPOSED WORK.

Boston, Mass.—State Pub. Service Comm. has authorized North Eastern St. Ry. Co. (Franklin Woodman, gen. mgr., Haverhill) to issue $100,000 bonds for construction work and new car barn equipment.

Syracuse, N. Y.—Blon Arnold, engr., of Chicago, Ill., is reported to have indorsed the plans of city engineer, Henry C. Allen, for elimination of grade crossings on the New York Central, West Shore and Lackawanna RR., to cost $8,000,000, including electric track installation, cost to be divided between city, state and railroads.

Montoursville, Pa.—Reported Montoursville Passenger Ry. (Frank H. Renninger, gen. mgr., Montoursville) plans to construct 1½ miles of track in Loyalsock Twp. and in Montoursville.

Norfolk, Va.—City Finance Committee approved resolution appropriating $200,000 as the city's contribution toward cost of construction of the proposed Washington-Newport News Short Line Ry; according to Frank S. Gannon, pres., the proposed road, the cost of construction would be about $14,000,000.

Valdosta, Ga.—Reported Valdosta St. Ry. Co. (J. G. Cranford, v. pres., Valdosta) plans constructing 3 miles of track in February.

Wetumpka, Ala.—Montgomery Light & Traction Co. (Ray Rushton, pres., Montgomery) plans constructing 9-mile extension from Pickett Springs to Wetumpka.

Vicksburg, Miss.—Indianapolis capitalists planning the construction of an electric railway from Vicksburg to Jackson, about 40 miles. H. C. McCabe, secy., Vicksburg Young Men's Business Club, reported interested.

Leesville, La.—Crowell & Spencer Loom Co., Forest Hill, surveying new railroad from Long Leaf Mill on the Iron Mountain RR. to Hornbeck. This railroad will make a shorter route from Le Compte, on Texas & Pacific, and Meridian, on the Rock Island RR., to Leesville and other points on Kansas City Southern road.

Harlan, Ky.—Harlan-Clinchport Ry. Co. (W. G. Coutts, engr.) has completed surveys for road from Harlan through Black Mountain and the "Pockett" section of Lee Co., Va., to Clinchport, Va. Harlan coal interests have contributed $1,000,000 to finance road; New York bankers will also contribute to the construction. Total cost of road will be determined later.

Jenkins, Ky.—Baltimore & Ohio RR. Co. (R. N. Bergien, ch. engr., Baltimore, Md.) plans constructing 15 miles of track on the Shelby extension.

Wayland, Ky.—Baltimore & Ohio RR. Co. (R. N. Begien, ch. engr., Baltimore, Md.) will construct 22 miles of new line between The Forks and the headwaters of Left Beaver Creek, including the Jack's Creek extension.

Whitesburg, Ky.—Louisville & Nashville RR. Co. (Milton H. Smith, mgr.) will construct 6-mile branch coal road up Colly Creek in coal fields. The company will also build yards at mouth of Colly Creek.

Toledo, O.—City has sold $96,000 bonds, its share of grade crossing elimination on E. Broadway under New York Central RR. (G. W. Kittredge, ch. engr., Grand Central Station, New York City) tracks; RR. will let contracts for excavating, concrete and steel work; city for paving, sewers, etc. H. C. McClure, comr. of engr. and constr.

St. Joseph, Mich.—Big Four RR. Co. (C. A. Paquette, ch. engr., Cincinnati, O.) will extend road from Benton Harbor to St. Joseph and construct a depot and freight switching yards.

Kewanee, Ill.—Kewanee & Eastern R. R. Co. was granted permit by Pub. Utilities Comm. to construct steam railroad from Kewanee to Henry Junction, a distance of 42 miles. Chas. Lampman, 2d and Tremont Sts., Kewanee, reported interested.

Pekin, Ill.—Reported Pekin City Municipal Ry. (Daniel M. Sheplar, supt., Pekin) plans to construct 2 miles of track during 1917.

Springfield, Ill.—Illinois State Pub. Utilities Comm. has granted certificate to Kewanee & Eastern Ry. Co. to construct a steam road from a point on Mississippi River opposite Muscatine, Ia., through the counties of Rock Island, Henry, Stark, Bureau, Putnam and La Salle in Illinois, a distanec of 120 miles.

La Crosse, Wis.—Reported Wisconsin Ry., Light & Power Co. plans on double-tracking and reconstructing some of its lines during 1917.

Mason City, Ia.—Mason City & Clear Lake RR. Co. (W. E. Brice, v. pres., Mason City) reports it will construct 7 miles of track during 1917.

Minneapolis, Minn.—A belt line to connect most of the railroads in Minneapolis and St. Paul is being considered. Total cost of project about $7,000,000. Great Northern Ry. Co. to spend $5,000,000 building cut-off from St. Cloud across the Mississippi to Northern Junction; $2,000,000 connecting belt line to Twin City roads will be built for the roads which have membership in St. Paul Union Depot Co.

St. Paul, Minn.—St. Paul Southern Ry. Co. (A. Hirschman, pres.) plans constructing a line through White Rock, Dumbrota, Rochester, Chatfield, Preston and Harmony, Minn., and Burr Oak, Ia., to Decorah, a distance of 126 miles.

Great Falls, Mont.—Reported surveys begun on proposed 20-mile railroad from Conrad to connect with the Havre-Great Falls line of the Great Northern RR. (M. A. Butler, ch. engr., St. Paul, Minn., in charge of work).

Ft. Smith, Ark.—Ft. Smith Light & Traction Co. (H. C. Hogeland, v. pres., Ft. Smith) plans constructing mile of new track.

Kingston, Ark.—Ozark & Midland Ry. Co. chartered with $750,000 capital; incorporators, L. B. Smith, Dallas, Tex.; W. A. Mundell, Rogers, Ark., and C. P. Humell, Monte Ne, Ark., and others, for constructing a line from Rogers to Kingston, a distance of 50 miles, and to acquire about 8 miles of road near Monte Ne.

Newport, Ark.—Work will begin soon in $1,000,000 improvements on the Iron Mountain RR. (W. L. Cole, gen. mgr., Keswick, Cal) properties in White River Country, including the cities of Newport and Joplin.

Dallas, Tex.—Missouri, Kansas & Texas Ry. Co. (L. F. Tonnbladh, ch. engr.) will double-track its main line from present yards at Pacific Ave. to Walters St., the northern city limits; work includes elimination of gradecrossings at Cedar Springs Road, Maple and Lemmon Aves., Sneed and Routh Sts., cost of improvement about $600,000.

Bartlesville, Okla.—Oklahoma & Northern Traction Co. reported incorporated with capital of $100,000. F. M. Overlees, D. B. Mason and H. M. Gilchrist, all of Bartlesville, incorporators.

Chehalis, Wash.—City Comn. has passed an ordinance granting permission to the Cowlitz-Chehalis & Cascade RR. to lay tracks on Front St. and Railroad Ave.

Seattle, Wash.—Reported Seattle & Rainier Valley Ry. Co. plans to construct 3 miles of track during 1917.

Crane, Ore.—James Weston, mgr., Intermountain Telephone & Telegraph Co., reported interested in constructing 32-mile railroad between Burns and Crane; cost about $600,000.

San Bernardino, Cal.—Atchison, Topeka & Santa Fe RR. Co. (W. G. Harris, ch. engr., Coast Lines, Kerchoff Bldg., Los Angeles) plans reconstructing its line from San Bernardino to Hemet and San Jacinto, about 75 miles, with rock ballast and 85-lb. rails.

Stockton, Cal.—Tidewater Southern Ry Co. granted permission by State RR. Comn. to issue securities for making improvements as follows: $109,700 for 8-mile extension from Hatch, Stanislaus Co., to Erwin City, 16 miles; $40,000 for terminal facilities at Modesto; $10,000 for improvements in Turlock; $15,000 for bridge across Tuolumne River.

Clarksdale, Ariz.—Extension of Santa Fe RR. from Clarksdale to site for United Verde Extension smelting plant is contemplated. Distance 2 miles.

Fallon, Nev.—Fallon Electric Ry. (E. S. Berney, gen. mgr., Fallon) planning a 4-mile line from Fallon to Stillwater during 1917.

Caldwell, Idaho—Caldwell Traction Co., Ltd. (W. R. Sebree, gen. mgr., Caldwell) plans to electrify the line between Caldwell, Greenleaf, and Wilder, 10.3 miles, leased from the Oregon Short Line, and now operated with steam.

Brantford, Man.—Reported Brantford Municipal Ry. (L. G. Ireland, mgr., Brantford) plans a 2-mile extension during 1917.

BIDS DESIRED.

New York, N. Y.—Until Jan. 10, by Pub. Serv. Comn. for 1st Dist. (Oscar S. Straus, chmn.), 120 Broadway, New York, for constructing Livonia Ave. elevated extension of Eastern Parkway Subway in Brooklyn—(a) constructing line and furnishing about 15,700 tons of steel, (b) for constructing Route No. 31, exclusive of furnishing steel, to be a 2-track elevated railroad, (c) for supply of structural steel for same road.

Rock Island, Ill.—See "Reinforced Concrete."

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Lawrence, Mass.**—Following bids opened Dec. 20 by John J. Donovan, chmn. bridge comn., for laying rails on Central bridge across Merrimack River: Joseph Wagenbach & Son, Lawrence, at $19,987 (awarded contract); Louis J. Sieling, 171 Madison Ave., New York, at $23,965; Goff, Wells Const. Co., Lawrence, at $26,610; Alco Const. Co., Boston at $29,250.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Bloomfield, N. J.—Plans being prepared by Fred Pierson, Bloomfield, for erecting factory in group near Erie RR. in Bloomfield Ave. at corner of Brookside Pl. for Owen Rodgers. Bldg. will be 3-story and brick; cost about $60,000.

Jersey City, N. J.—See "Reinforced Concrete."

Gleasanton, Pa.—Reported L. R. Gleason & Son, Gleasanton, plans doubling size of plant at cost of $60,000.

Pottstown, Pa.—North American Motor Co., Pottstown, will erect addition to present plant; cost, $75,000.

South Bethlehem, Pa.—Bethlehem Steel Co. will erect 250 x 550-ft. ingot mold foundry; cost about $750,000.

Newport News, Va.—Newport News Shipbuilding & Drydock Co. plans to improve plant; cost $850,000.

Gastonia, N. C.—R. G. Rankin organized company to erect 5000 spindle cotton mill; cost $150,000.

Savannah, Ga.—Reported Savannah Abbatoir & Packing Co., incorporated with $100,000 to erect abbatoir and meat packing plant for cattle.

Jacksonville, Fla.—American Pine & Cypress Co., incorporated with $100,000 and will erect mill with daily capacity of 25,000 ft. of lumber.

New Orleans, La.—Contract soon to be let by Stern Foundry & Machine Co., New Orleans, for extension to its plant; cost about $100,000.

Reported Trans-Mississippi Terminal Co. will erect $350,000 addition to present warehouse facilities.

Preliminary plans being prepared for Morris & Co., packers, Front and St. Joseph Sts., for erecting big storage plant; cost about $100,000.

Irvine, Ky.—Reported Schell Syndicate, Lexington, will build refinery here to cost between $600,000 and $800,000 and give employment to nearly 1,000 men. Work will begin in spring.

Cleveland, O.—Valley Smelting Co. will erect smelting plant at Bradley Rd. & B. & O. R. R.; cost about $125,000. Harrison B. McGraw, secy., 1324 Citizens Bldg.

Milwaukee, Wis.—Reported Pattern storage plant recently destroyed by fire with loss of $350,000 will be rebuilt immediately. Filer-Stowell Co., owners, Milwaukee.

Minneapolis, Minn.—Reported Maxwell Motor Sales Co., Detroit, Mich., will erect $300,000 auto assembling and distributing plant at 26th Avenue, S. E., one block south of University Avenue.

St. Paul, Minn.—Reported Dodge Bros. Motor Car Co., Detroit, Mich., will purchase site in Midway for erecting $300,000 assembling and distributing plant for Northwest territory.

Koppers Co., Hamline Ave., will erect three structures of its proposed coke plant at Midway; cost about $258,000.

Omaha, Neb.—See "Reinforced Concrete."

Omaha, Neb.—Plans being prepared by John McDonald, 908 Omaha National Bank Bldg., for erecting $150,000 factory. Owner, M. F. Schafer & Co., Omaha; work to begin in February.

Vancouver, Wash.—Reported Thomas Pulp & Paper Co., recently incorporated, plan erecting $1,000,000 paper manufacturing plant. Robert Thomas, pres., Vancouver.

Bend, Ore.—Reported Bend Water & Power Co. will double its capacity; work will involve new building and extensive betterments in equipment and services; cost $50,000.

Oregon City, Ore.—See "Reinforced Concrete."

Portland, Ore.—Twohy Bros., 219 East 60th Street, will erect addition to factory; cost about $2,000,000.

Oakland, Cal.—Reported plant of California Cotton Mills Co. will be enlarged; cost about $500,000.

Tucson, Ariz.—Reported Mineral Hill Mining Co. plans erecting smelter and concentrating plant. Frederick Minard, engr., 111 Broadway, New York City.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Pittsfield, Mass.—General Electric Co. will erect 3 factory bldgs. at local plant and has appropriated $100,000 for the first one.

★**Philadelphia, Pa.**—Contract awarded by Morris Wheeler & Co., owners, to Wm. Steele & Sons Co., 1600 Arch St., for erecting concrete and iron, 120 x 316-ft. storage house; cost $75,000.

Cleveland, O.—See "Reinforced Concrete."

Texas City, Tex.—Reported Pierce Oil Corporation, Bank of Commerce Bldg., St. Louis, Mo., will double capacity of and generally improve its oil refining plant here; cost $300,000.

Seattle, Wash.—Contract awarded by Ames Shipbuilding & Drydock Co. to H. D. Stewart, American Bank Bldg., for erecting buildings at $80,000.

★**San Bernardino, Cal.**—Contract awarded William Simpson Constr. Co., 527 Marsh-Strong Bldg., Los Angeles, at about $65,000, for erecting 134 x 275 ft. car shop and 80 x 220 ft. planing mill, both of brick and steel, for Atchison, Topeka & Santa Fe RR. (G. W. Harris, ch. engr., Kerckhoff Bldg., Los Angeles).

★**Clarksdale, Ariz.**—See "Foundation Piers and Dam."

BUILDINGS Public and Private

PROPOSED WORK.

Boston, Mass.—Frederick O. Woodruff, 95 Milk St., representing a syndicate, will erect 7-story concrete public garage covering 16,000 sq. ft. of site on Hudson, Kneeland and Tyler Sts.

Weymouth, Mass.—Citizens voted $62,000 for erecting school in South Weymouth and to accept gift of land for site given by widow of late Senator Ed. B. Nevins.

Burrillville, R. I.—Plans completed by Thos. S. McLaughlin, 87 Weybosset St., Providence, for erecting 10-room schoolhouse of hard-burned red brick, concrete with stone trimmings; cost about $65,000. Clovis E. Rounds, chmn. Burrillville School Committee.

Providence, R. I.—Plans being prepared by Hoppen & Field for erecting 3-story, 40-room, with ells and assembly hall, school building on Bond St. Address Bd. Educ.

Providence, R. I.—See "Reinforced Concrete."

Albany, N. Y.—Until Jan. 17, by W. W. Wotherspoon, supt. pub. wks., for erecting barge canal terminal warehouses; contract No. 204, at Schenectady, Amsterdam, Fonda, Ilion and Franfort; contract No. 205, at Utica and Rome; contract No. 206, at Spencerport and Holley; advertised in this issue.

New York, N. Y.—Reported Joseph J. Lannin, prop. Garden City Hotel, Garden City, L. I., will erect 16-story, 1000-room hotel on corner 7th Ave. and 56th St.,; site cost $1,800,000.

New York, N. Y.—St. Nicholas Hospital to be erected on 148th St. between St. Nicholas and Edgecombe Aves.; cost about $75,000. Stephen Birch, pres. bd. dir., 120 Broadway.

New York, N. Y.—Reported Henry Miller, actor-manager, 214 W. 42d St., has purchased property at 124-130 W. 43d St., between Cohan Theater and Elks Club, for erecting theater; cost about $1,000,000.

Rochester, N. Y.—See "Waterworks and Sewerage Systems."

Jersey City, N. J.—Reported Louis F. Blumenthal, prop. National Theater, Bleeker St. and Central Ave., will erect new theater on Central Ave.; cost about $60,000.

Newark, N. J.—Fidelity Trust Co. purchased property at Broad and Clinton St. and plans erecting 4-story office building; cost about $750,000.

Salem, N. J.—Reported government will erect post-office at 5th St. and Broadway; cost, $50,000.

Summit, N. J.—Bd. Educ. plans erecting high school building on Maple St.; cost $175,000.

Allentown, Pa.—Reported Advisory Bd. Good Shepherd Home will erect new bldg. as result of recent $100,000 campaign.

Allentown, Pa.—Reported Masonic Lodge, Allentown, has purchased site at 17th and Hamilton Sts. for erecting Masonic building; cost about $100,000.

Byberry, Pa.—Reported five 2-story brick, stone and concrete buildings for Philadelphia Institute for Feeble-Minded will be erected; cost about $600,000. Philip H. Johnson, archt., Land Title Bldg., Philadelphia.

Glenside, Pa.—Plans being prepared for erecting 68 x 150-ft. stone church for Sacred Heart R. C. Parish. H. G. Hammer, archt., Glenside.

Haverford, Pa.—Reported Haverford College plans erecting new hall to be known as Sharpless Hall, at cost of $100,000.

Newcastle, Pa.—Reported 4-story dry goods store of J. N. Ever & Sons, recently destroyed by fire with loss of $250,000, will be rebuilt at once.

Overbrook, Pa.—Plans being prepared by Paul Monaghan, Drexel Bldg., Philadelphia, for erecting 3-story brick and stone, 43 x 111-ft. with one-story wing, 44 x 78-ft. service bldg. for Philadelphia Theological Seminary.

Philadelphia, Pa.—Reported Divinity School of Protestant Episcopal Church will erect building on 5-acre tract at 42d and Spruce Sts.; cost about $500,000. Rev. W. Arthur Warner, secy. bd. overseers, Protestant Episcopal Divinity School, Philadelphia.

Reported Bd. Educ. will erect addition to public school at 8th and Wolf Sts., to cost $67,000.

Pittsburgh, Pa.—Reported First Presbyterian Church will erect new edifice to cost $192,200; $144,000 already available. Address Bldg. Com.

Pottsville, Pa.—Reported Jos. Ogden, Lansdale, has purchased site in Catawissa Valley, near Pottsville, for $40,000 and plans erecting sanitorium to cost $100,000.

York, Pa.—Plans being prepared by Gemhill & Billmeyer, York, for erecting brick and stone, 45 x 80-ft. building for 1st National Bank of York; cost about $100,000.

Washington, D. C.—Plans being prepared by Hewitt & Granger, Bullitt Bldg., Philadelphia, Pa., for erecting 8-story, 266 x 123-ft. hotel here.

Newberry, S. C.—Exchange Bank (W. L. Spearman, chr.) will erect 5-story, 60 x 60 ft., brick and cement, fireproof bank and office building; cost, $75,000.

New Orleans, La.—Reported Y. W. C. A. will raise $75,000 for erecting 3 or 4-story building in Gravier St. between Baronne and Dryades St.; cost $75,000.

Cincinnati, Ohio.—School bonds for $300,000 will be sold Jan. 8, by Bd. Educ. (Dr. J. M. Withrow, pres.), Denton Bldg., 7th and Race Sts.

Cleveland, O.—Reported congregation of Hough Ave. Congregational Church, 8273 Hough Ave., has selected Hubbell & Benes archts., 4500 Euclid Ave., and Ernest McGeorge, engr., 854 Leader-News Bldg., to prepare plans for rebuilding edifice recently destroyed by fire; building to cost about $95,000. Rev. Ernest H. Tippet, 7700 Sagamore Ave., pastor.

Reported Willowick Club will rebuild clubhouse on Lakeshore Blvd., recently destroyed by fire; new building to cost $75,000. Address Henry Dreher, 1028 Euclid Ave.

Superior-Walnut Co., represented by Jos. Laronge Co., 215 Williamson Bldg., will erect 5-story addition to General Film Co. building, at Superior Ave. and E. 12th St.; cost about $50,000.

Bids soon to be asked by Bd. Educ. for erecting 12-room addition to Corlett School, Corlett Ave., near E. 131st St.; cost, $100,000. W. R. McCormack, E. 6th St. and Rockwell Ave., school archt.

Reported Smythe Realty Co. (A. B. Smythe, Erie Bldg., pres.) will erect 8-story garage on Chestnut Ave., near E. 12th St., to cost $200,000, and within year will replace Standard Bldg., on Euclid Ave., near E. 4th St., with $1,500,000 office and mercantile building.

Cleveland, O.—Plans being prepared by Max H. Weis, 1444 E. 85th St., for Max Morris, 1657 E. 66th St., for erecting 4-story, 65 x 190-ft., brick apartment building at St. Clair Ave. and E. 128th St.; cost about $110,000.

Dayton, O.—Plans being prepared by Schenck and Williams, Ludlow Arcade, for erecting brick and stone church; cost, $150,000; Grace M. E. Church, owners.

Lebanon, O.—School building bonds for $60,000 will be sold Jan. 12 by Howard W. Ivins, pres. Bd. Educ.; certified check for $1,000 to accompany bid. Address H. C. Southard, clk. Bd. Educ.

Painesville, O.—Plans being prepared by Abram Garfield, 915 Garfield Bldg., Cleveland, for erecting 3-story and basement, fireproof tile, steel and brick gymnasium and dormitory, 2 buildings; cost, $125,000.

St. Paris, O.—Plans being prepared by Rusk & Sheets, Brunson Bldg., Columbus, for erecting school building; cost $70,000.

New Albany, Ind.—Plans and specifications being prepared by Clarence Martindale, Indianapolis, for erecting Masonic Temple at E. 11th and Market Sts. C. D. Knoefel, chmn. gen. bldg. com. of Masonic Temple Assn.; cost $60,000.

Duquoin, Ill.—Reported Bd. of Supervisors of Jackson County will call special election Feb. 9 to vote on $150,000 bond issue for erecting court house.

Kenosha, Wis.—Reported Bd. Educ. plans erecting $75,000 school bldg. on north side of city.

Madison, Wis.—Plans being prepared for erecting 6-story and basement bank and office building for Bank of Wisconsin, Jos. M. Boyd, Pres., 1 E. Main St.; cost $250,000.

Milwaukee, Wis.—Archt. Amamand D. Koch, Wells Bldg., Milwaukee, is taking bids for erecting Milwaukee Athletic Club. Foster Constr. Co., supervising contractors; cost $750,000.

Cedar Rapids, Ia.—Plans being prepared by Edw. L. Tilton, 52 Vanderbilt Ave., New York City, for erecting addition to Quadrangle Bldg., at Coe College; cost, $100,000.

Clinton, Ia.—Reported local Knights of Columbus will erect home here in spring.

Sac City, Ia.—Auburn Consolidated School District will have new $50,000 school bldg.

Sioux City, Ia.—Reported Sioux City Bond & Mortgage Co. plans erecting office bldg.; cost, $50,000. W. L. Montgomery, pres.

Lakefield, Minn.—Bond issue of $80,000 for erecting school bldg. will be voted Jan. 2. H. J. Hayden, clerk.

Mankato, Minn.—Plans being prepared by Geo. J. Hoffman & Co., Rochester, for erecting 2-story and basement, 35 x 100-ft. tubercular sanitarium; cost $50,000.

Minneapolis, Minn.—Campaign for raising fund to build $100,000 Y. M. C. A. Building on University of Minnesota campus for use of students completed. Work on plans to begin shortly.

Waconia, Minn.—All bids received Dec. 20 for erecting school building rejected as being too high. P. J. Nimmer, clk.

St. Paul, Minn.—Plans being prepared by Clarence H. Johnston, 2 Crocus Hill, for erecting Charles T. Miller memorial hospital on College Ave., between Summit Ave. and Ninth St.; cost $250,000. Dr. A. B. Ancker, supt. of city hospital reported interested.

Hastings, Neb.—Plans being prepared by C. W. Way Co., Hastings, for erecting brick junior high and grade school and addition; cost $196,000. Henry E. Davidson, secy. Bd. Educ.

Lincoln, Neb.—Plans being prepared by Coolidge & Hodgdon, Corn Exchange Bank, Chicago, Ill., for erecting political and social science building, of brick and stone trimmed, 3-story and basement. University of Nebraska (J. S. Dales, Secy. Bd. Regents, Lincoln), owner; cost $350,000.

Killdeer, N. D.—Hospital Association being organized for erecting $50,000 hospital. State Atty. Thos. G. Johnson reported interested.

Helena, Mont.—Plans being prepared for erecting theater; cost $100,000. Montana Opera House Co., owner.

Roundup, Mont.—Reported D. R. Ogden, Miles City, Mont., plans erecting $75,000 hotel here; construction in spring.

Kansas City, Mo.—Reported Kansas City Automobile Club will erect 5-story garage between 8th and 12th Sts., Baltimore and Grand Aves.; cost about $100,000.

Dallas, Tex.—Plans being prepared by Orlopp & Orlopp, this city, for George S. Leachman for erecting 2-story enamel brick terra cotta, and marble natatorium building, with composition roofing; cost $50,000. Contract soon to be let.

Plans being prepared by Orlopp & Orlopp, local archts., for erecting 5-story modern apartment bldg. for Mrs. J. C. Puett; cost about $150,000.

Fort Worth, Tex.—See "Reinforced Concrete."

Refugio, Tex.—Citizens voted $75,000 bonds for erecting courthouse; address County Judge.

San Angelo, Tex.—Plans have been completed by George Burnett Co., Waco, for erecting 7-story modern hotel bldg.; cost about $150,000.

Seattle, Wash.—V. W. Vorhees, Inc., Eitel Bldg., Seattle, desires bid about Jan. 1, closing date not yet set, for erecting 4-story and basement, 60 x 120-ft., reinforced concrete walls, mill construction interior, garage, on 11th Ave., between Pike and Pine St., for Frank W. Palmer; cost $50,000.

Spokane, Wash.—Supt. of City Schools, O. C. Pratt, recommends to school board the erection of third high school; cost $175,000, also erecting addition to North Central and Lewis and Clark high schools to cost $75,000, and other smaller structures; total expenditure of from $362,000 to $417,000.

Enterprise, Ore.—Plans being prepared by Tourtellote & Hummel, Rothchild, Bldg., for erecting proposed school bldg.; cost, $80,000.

Portland, Ore.—Plans being prepared by Lewis I. Thompson, Chamber of Commerce Bldg., Portland, for erecting proposed live-stock exposition building to be erected near Union Stock Yards by popular subscription. Structure will be 200 x 300 ft., costing about $100 000.

Plans being prepared by Houghteling & Dugan, Portland, for erecting 7-story annex to Benson Hotel; cost, $500,000.

Bakersfield, Cal.—Election will be held January 16 to vote on bond issue of $90,000 for erecting school buildings.

Bakersfield, Cal.—Citizens asked to vote $90,000 bonds for erecting school bldg.; address James Egan, clk. Bd. Educ.

Los Banos, Cal.—Citizens voted $63,000 bonds for erecting school bldg.; address Clk. Bd. Educ.

San Diego, Cal.—City will vote $150,000 bonds for erecting school bldgs.; address Clk. Bd. Educ.

San Francisco, Cal.—Plans being prepared by Reid Bros., 105 Montgomery St., for erecting 10-story bldg. to be built by Matson Navigation Co. at Main and Market Sts.

Phoenix, Ariz.—Southern Pacific Co. (J. D. Mathews, engr., Tucson) plans erecting $100,000 tourist hotel at Roosevelt Dam, 80 miles from Phoenix.

Salt Lake City, Utah.—Reported Covey Investment Co., 239 E St., will erect apartment house; cost about $85,000.

Sandpoint, Idaho.—Special election will be called Jan. 17 to vote on $90,000 bond issues for erecting new high school; Earl Rowe, clk. school bd.

BIDS DESIRED.

Cobleskill, N. Y.—Until Jan. 9 by Hon. D. D. Frisbie, pres. bd. trustees, Agricultural Hall, State and Lodge Sts., Albany, N. Y., for erecting, heating, plumbing, drainage and electric work for Dairy Bldg. at Schoharie State School of Agriculture, advertised in this issue.

Harmon, N. Y.—Reported desired, until Jan. 2, by New York Central & Hudson River RR. Co., 70 E. 45th St., New York, for erecting 4-story brick and tile storage house, platform, and canopy, 98 x 160 ft.

Waterloo, N. Y.—Until Jan. 26, by Treas. Dept., Office Superv. Archt., Washington, D. C., for erecting post office building.

Aspinwall, Pa.—Until Jan. 16, by J. R. Brantlinger, secy. School Dist., for erecting high school building; separate bids will be received for excavating and grading, concrete foundations, and French drains, cut stone work, brick and terra cotta, steel work, fireproofing, plastering, etc. Press C. Dowler, 609 Arrott Bldg., Pittsburgh, archt.

Philadelphia, Pa.—Until Jan. 21, by Bd. Health and Charities, for erecting 5 new buildings for Philadelphia Institute for Feeble-Minded; each will be two stories, of brick, stone and concrete; cost $100,000 each. P. H. Johnson, archt.

Columbus, O.—Until Jan. 16, by Bd. Co. Comrs. (John Scott, clk.)) for erecting additional building or dormitory to Children's Home; specifications may be obtained W. H. Tremaine, 602 Chamber of Commerce Bldg., Columbus.

Lima, O.—Until Jan. 2, by Secy. Eberhardt, for erecting Y. M. C. A. building; must be completed within 2 years after award of contract.

Escanaba, Mich.—Reported desired, until Feb. 15, by Secy. Bd. Ed., for erecting manual training building at the high school.

Lapeer, Mich.—Until Jan. 3, by Co. Clk., for erecting infirmary building; certified check for 5 per cent. to accompany bid; specifications may be obtained from Geo. L. Harvey, Port Huron, archt.

College Station, Tex.—See "Waterworks and Sewage Systems."

PRICES AND LETTINGS.

★*Indicates award of contract.*

Hartford, Conn.—Contract awarded by Travelers Insurance Co., Hartford, to Marc Eidlitz & Sons, 30 E. 47th St., New York, for erecting 11-story addition to present office bldg.

★**Roslyn, L. I.**—Contract awarded Thos. O'Reilly & Sons, 30 E. 42d St., New York City, for construction work on 3-story brick and stone bldg. with garage, measuring about 60 x 210 ft.; cost $200,000. Carrere & Hastings, 52 Vanderbilt Ave., New York City, archts.

★**Amboy, N. J.**—Contract awarded Geo. E. Mills & Co., 101 Park Ave., New York City, for erecting 2½-story, 51 x 75-ft. fireproof bank, store and office bldg.; cost $55,000. Holmes & Winslow, archts., 110 W. 40th St.

★**Jersey City, N. J.**—Contract awarded by Bd. Educ. as follows for erecting proposed Lincoln High School: General contract, M. T. Connolly Co., 238 17th St., Jersey City, at $[illegible],000; plumbing, Jehing & Peoples Co., Jersey City, at $19,984; heating, John Cooney, 210 N. 4th St., Harrison, N. J., at $23,947; electrical work, W. J. Coleman, 29 Willow Court, Jersey City, at $13,849.

Contract awarded Jos. Jewkes & Sons, 676 Montgomery St., Jersey City, for erecting building at Duncan Ave. and Blvd. for Carteret Club; cost $88,000.

Philadelphia, Pa.—Contract awarded John R. Wiggins Co., 1215 Filbert St., for office erecting addition at 10th and Chestnut St. for Philadelphia Electric Co.; cost $500,000.

Contract awarded Doak Const. Co., 213 Arch St., for erecting 8-story, brick, steel, terra cotta and stone apartment house at Arch St., west of 17th St. Neubauer & Boyd, archts.

Contract awarded Doak Const. Co. for erecting 6-story stone, brick and terra cotta, 43 x 161-ft. hotel at Franklin Sq.; cost $250,000. Neubauer & Boyd., archts.

Contract awarded by Bd. Educ. to Melody & Keating, 1322 Race St., for erecting 3-story, 66 x 105-ft. school bldg. at 8th and Wolf Sts.; cost $67,000.

Jacksonville, Fla.—Contract awarded Southern Ferro Concrete Co., Atlanta, Ga., for erecting 2-story, 94 x 106-ft. reinforced concrete structural steel foundation and frame terra cotta exterior store and office bldg.; cost about $70,000. Florida Realty Investment Co., owners.

★**New Orleans, La.**—Contract awarded by United States Government to Hanna & Mitchell, New Orleans, for improvements on Custom House; cost about $325,000.

★**Cincinnati, O.**—Contract awarded by Bd. Educ. to J. & F. Harig, Odd Fellows Temple, at $54,950, for erecting addition to school building.

★**Cleveland, O.**—See "Reinforced Concrete."

★**San Diego, Cal.**—Contract awarded A. E. Keyes, San Diego, for erecting enlargement of U. S. National Bank Bldg.; cost about $50,000.

★**Santa Barbara, Cal.**—Contract awarded Kier Constr. Co., 502 American Bank Bldg., San Diego, for erecting brick and steel church building for First Presbyterian Congregation; cost about $80,000. F. Sauter, archt., 336 San Marcos Bldg., Santa Barbara.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Holyoke, Mass.—Fred. P. Stearns and Wm. S. Johnson, engrs. of Boston, in report to Water Comrs., recommend improvements to dam at Southampton reservoir, at cost of about $40,000.

Newport, R. I.—J. P. Sullivan & Sons incorporated with capital of $30,000 for purpose of contracting and construction work, including piers, bridges, etc.

Pennsylvania.—Applications have been filed with the Waterworks Comn., Harrisburg, for permission to construct and report on conditions of dams, etc.:

Armstrong County, Western Allegheny RR. Co., G. M. Hughes, mgr., Kaylor, Pa., to construct timber cribbing along north side of Sugar Creek, about 2.17 miles from mouth of creek in Brady Ben Township.

Berks County, B. F. Greenawalt, for flashboards on partially completed dam across unnamed stream in Windsor Township.

Center County, Citizens Water Co., Phillipsburg, to construct dam across Cold Stream, Rush Township.

Center County, Winburne Water Co., subsidiary of Penn Coal & Coke Corp., dam across Black Bear Run, Rush Township.

Chester County, Harry G. Haskell, to construct dam across tributary of Brandywine Creek, near Cossart, Pennsbury Township.

Cumberland County, Borough of Shippensburg, Cleversburg dam across Miles Burn Run, Southampton Township.

York County, Delta Water Power Co., dam across Muddy Creek at Castle Finn, in Lower Chanceford Township.

York County, Delta Electric Power Co., dam across Muddy Creek, in Peach Bottom Township.

Norfolk, Va.—Council passed ordinance appropriating $391,000 to purchase property for sites for municipal docks.

Montgomery, Ala.—Montgomery Light & Water Power Co. contemplates improving its plant, two units at Tallahassee Dam to be almost doubled in kilowatt capacity; cost about $125,000.

Cincinnati, O.—Little Miami Light, Heat & Power Co. (L. J. Dolle, pres., 705 Mercantile Library Bldg., 414 Walnut St.) contemplates constructing fourteen dams, varying from 10 to 14 ft., between Plainville and Morrow, for power development of Little Miami River.

Dayton, O.—Plans of Miami Conservancy of Dayton, for protecting Miami Valley from floods, approved; cost about $23,500,000.

Indianapolis, Ind.—City Council has passed ordinance to issue bonds for $116,640 to complete flood-prevention work along south bank of Fall Creek and east bank of White River.

★**Erie, Pa.**—Following are unit figures and totals of five lowest bids opened Dec. 19, by City Council,, for Mill Creek improvement: (a) L. Vincent Metz and Jacob Roth, Erie, $861,105 using stone, $812,506 using gravel and $798,934 using slag (awarded contract); (b) Porter Bros., $1,000,994 stone, $915,692 gravel, $887,067 slag; (c) Jas. Ferry & Sons, Inc., $886,605 stone, $907,460 gravel, $887,990 slag; (d) Mich. Staub, $944,191 stone, $893,666 gravel, $890,808 slag; (e) John J. Hart, $970,754 stone, $914,204 gravel and $900,066 slag.

	*(a)	(b)	(c)	(d)	(e)
1—Taking care of water, lump sum	$25,000.00	$20,000.00	$10,000.00	$25,000.00	$10,000.00
2—81,000 cu. yd. excavation, Class "A," earth	0.45	0.45	1.20	0.60	1.00
3—12,600 cu. yd. excavation, Class "B," earth	0.75	1.25	1.20	1.15	1.00
4—11,000 cu. yd. excavation, Class "C," earth	0.75	0.40	0.60	1.15	1.00
5—110,000 cu. yd. excavation, Class "D," rock	0.80	1.00	1.20	1.00	1.40
6—16,500 cu. yd. excavation, Class "E," rock	1.90	2.50	1.20	2.20	1.50
7—2,100 cu. yd. excavation, Class "F," earth	1.00	0.75	1.75	1.25	1.00
8—1,500 cu. yd. excavation, Class "G," rock	2.75	2.00	2.90	3.15	1.50
9—11,800 cu. yd. excavation, Class "H," masonry	2.00	4.00	2.30	2.10	1.50
10—2,000 cu. yd. excavation, Class "J," masonry	2.00	3.00	2.60	1.60	1.50
11—3,800 sq. yd. excavation, Class "K," pavements	1.75	0.60	0.50	1.05	0.50
12a—49,000 cu. yd. concrete, Class "A," stone	5.32	7.25	6.15	5.40	5.75
12b—49,000 cu. yd. concrete, Class "A," gravel	4.45	5.75	4.75	4.50	4.75
12c—49,000 cu. yd. concrete, Class "A," slag	4.21	5.25	4.40	4.45	4.50
13a—800 cu. yd. concrete, Class "B," stone	11.86	8.50	7.10	7.80	5.75
13b—800 cu. yd. concrete, Class "B," gravel	10.99	7.00	5.70	6.90	4.75
13c—800 cu. yd. concrete, Class "B," slag	10.75	6.50	5.40	6.85	4.50
14a—2,200 cu. yd. concrete, Class "C," stone	11.07	8.00	7.60	8.10	5.75
14b—2,200 cu. yd. concrete, Class "C," gravel	10.20	6.40	6.20	7.30	4.75
14c—2,200 cu. yd. concrete, Class "C," slag	9.96	5.85	5.90	7.25	4.50
15a—700 cu. yd. concrete, Class "D," stone	8.11	8.25	6.90	5.85	5.75
15b—700 cu. yd. concrete, Class "D," gravel	7.24	6.70	5.50	4.95	4.75
15c—700 cu. yd. concrete, Class "D," slag	7.00	6.15	5.20	4.90	4.50
16a—3,000 cu. yd. concrete, Class "E," stone	4.30	6.35	5.80	4.95	5.75
16b—3,000 cu. yd. concrete, Class "E," gravel	3.45	4.80	4.40	4.05	4.75
16c—3,000 cu. yd. concrete, Class "E," slag	3.21	4.25	4.10	4.00	4.50
17a—250 cu. yd. concrete, Class "F," stone	11.86	7.75	8.50	7.20	7.00
17b—250 cu. yd. concrete, Class "F," gravel	10.99	6.20	7.20	6.30	6.00
17c—250 cu. yd. concrete, Class "F," slag	10.75	5.60	6.80	6.25	5.75
18a—600 cu. yd. concrete, Class "G," stone	5.86	8.00	12.00	6.65	6.00
18b—600 cu. yd. concrete, Class "G," gravel	4.99	6.40	10.60	6.00	5.00
18c—600 cu. yd. concrete, Class "G," slag	4.75	5.85	10.25	5.90	4.75
19—800 tons reinforcing steel	100.00	80.00	98.00	104.00	100.00
20—60 tons structural steel	120.00	125.00	120.00	100.00	130.00
21—20 tons iron castings	75.00	80.00	80.00	100.00	70.00
22—70 tons cast-iron pipe	75.00	60.00	68.00	100.00	82.00
23—200 ft. vitrified sewer pipe, 6 in.	0.75	0.30	0.50	0.25	0.30
24—200 ft. vitrified sewer pipe, 9 in.	1.00	0.60	0.75	0.40	0.46
25—200 ft. vitrified sewer pipe, 12 in.	1.20	0.75	0.95	0.55	0.61
26—300 ft. vitrified sewer pipe, 15 in.	1.50	1.00	1.25	0.70	0.87
27—400 ft. vitrified sewer pipe, 18 in.	1.75	1.25	1.50	1.00	1.18
28—200 ft. vitrified sewer pipe, 20 in.	2.00	1.50	1.75	1.15	1.59
29—500 ft. vitrified sewer pipe, 24 in.	2.75	2.50	2.25	1.85	2.19
30—50 ft. vitrified sewer pipe, 36 in.	6.00	5.00	5.50	4.50	5.28
31—180 cu. yd. brick masonry	18.00	15.00	15.00	16.00	20.00
32—Underpinning structure No. 1, lump sum	....	....	....	....	....
33—Underpinning structure No. 2, lump sum	....	....	....	....	....
34—Underpinning structure No. 3, lump sum	....	....	....	....	....
35—Underpinning structure No. 4, lump sum	....	....	....	....	....
36—Underpinning structure No. 5, lump sum	....	....	....	....	....
37—Underpinning structure No. 6, lump sum	....	....	....	....	....

*Erie, Pa.—Mill Creek Improvement (continued):					
38—Underpinning structure No. 7, lump sum	....	....	....	....	....
39—Underpinning structure No. 8, lump sum	....	....	....	....	....
40—Underpinning structure No. 9, lump sum	....	....	....	....	....
41—Underpinning structure No. 10, lump sum	....	....	....	....	....
42—Underpinning structure No. 11, lump sum	....	....	....	....	....
43—Underpinning structure No. 12, lump sum	....	....	....	....	....
44—Underpinning structure No. 13, lump sum	....	....	....	....	....
45—Underpinning structure No. 14, lump sum	....	....	....	....	....
46—Underpinning structure No. 15, lump sum	....	....	....	....	....
47—Underpinning structure No. 16, lump sum	....	....	....	....	....
48—Underpinning structure No. 17, lump sum	....	....	....	....	....
49—Underpinning structure No. 18, lump sum	....	....	....	....	....
50—450 ft. intercepting sewer, 36 in.	6.00	6.00	6.00	5.70	7.00
51—300 cu. yd. blind drains	4.00	3.00	3.50	3.40	2.50
52—1,400 cu. yd. ashlar and rubble masonry	7.00	8.00	5.00	10.00	6.00
53—2,000 lin. ft. tile in invert, 8 in.	0.40	0.15	0.50	0.49	0.30
54—1,500 lin. ft. tile drains, 4 in.	0.25	0.10	0.25	0.20	0.15
55—15 flop valves, 12 in. and less	34.00	50.00	50.00	18.00	12.00
56—15 flop valves, 15 in to 24 in.	150.00	80.00	120.00	42.00	20.00
57—300 lin. ft. supporting water pipes, etc.	1.00	3.00	4.00	1.90	0.50
58—15 tons steel for traffic	120.00	125.00	120.00	100.00	80.00
59—40 M timber for traffic	70.00	60.00	50.00	60.00	60.00
60—85,000 bbl. Portland cement	1.90	2.05	2.05	2.25	1.95

Philadelphia, Pa.—Following are four lowest bids opened Dec. 21 by Dept. Wharves, Docks & Ferries, 550 Bourse Bldg., for constructing pier with appurtenances in Delaware River near foot of Cherry St.: (a) Snare & Triest Co., 238 Bway., New York, N. Y., $439,726; (b) Jas. Stewart & Co., Inc., 30 Church St., New York, N. Y., $502,254; (c) Arthur McMullen Co., 140 Bway., New York, N. Y., $510,-764; (d) Sanford & Brooks Co., 24 Commerce St., Baltimore, Md., $519,399.

	(a)	(b)	(c)	(d)
For the entire work in accordance with plans and specifications, exclusive of dock dredging, paving, repaving, concrete base in Delaware Avenue, and building fence, complete with all appurtenances	$379,000	$425,700	$422,700	$425,000
80,000 cu. yd. dredging in adjacent docks and waterways, per cu. yd., scow measurement	0.22	0.24	0.275	0.276
500 tons stone riprap for support of piles, per ton of 2000 lb.	1.50	2.10	3.00	1.45
50 piles, vertical or bearing, excluding shoes, per pile	18.00	17.00	18.50	19.26
50 piles, inclined or spur, excluding shoes, per pile	20.00	20.00	25.00	21.56
150 ft. sheet piles, per horizontal linear ft. of driven piling	14.00	29.00	18.00	18.20
1,100 sq. yd. 8-in. base, No. 2 concrete, for paving and repaving, per sq. yd.	1.20	1.35	1.50	1.84
1,000 sq. yd. repaving with the present granite blocks, per sq. yd.	.80	.80	2.00	1.74
100 sq. yd. paving with new granite blocks, per sq. yd.	3.50	4.00	3.50	3.70
275 lin. ft. concrete guard on bulkhead wall, per lin. ft.	1.00	1.00	1.00	1.73
450 lin. ft. fence around site, per lin. ft.	1.00	1.00	2.00	1.00
100 lin. ft. 6-in. c.-i. water pipe, excluding manhole and meter, per lin. ft.	1.00	2.00	7.50	1.75
1 meter, complete with valves	400.00	650.00	600.00	475.00
1 manhole for meter	100.00	140.00	75.00	200.00
For the removal of concrete blocks and wall section on the south side of pier No. 8 North	250.00	900.00	1,000.00	250.00
For the removal of concrete blocks and wall section on the north side of old pier No. 8 North	250.00	1,100.00	1,500.00	200.00
40,000 tons gravel or cobble filling around piles of pier, per ton of 2,000 lb.	0.55	0.75	0.85	1.15
50 piles, vertical or bearing, excluding shoes, ea.	20.00	21.00	20.00	20.41
50 piles, inclined or spur, excluding shoes, ea.	22.00	24.00	25.00	22.71
100 cu. yd. No. 1 concrete, per cu. yd.	12.00	12.00	15.00	15.70
5,000 ft. b. m. white oak for fenders, per M f. b. m.	70.00	70.00	75.00	71.87
100 sq. yd. master builders' finish on concrete paving, per sq. yd.	0.80	1.00	0.60	0.26
10,000 lb. riveted steel columns, per lb.	0.053	0.06	0.06	0.055
10,000 lb. riveted steel roof trusses, per lb.	0.053	0.06	0.06	0.055
10,000 lb. unfabricated steel shapes, purlins and uprights, per lb.	0.05	0.05	0.06	0.05
10,000 lb. light fabricated steel frames, per lb.	0.055	0.06	0.06	0.065
10,000 lb. reinforcing steel, per lb.	0.04	0.04	0.06	0.06
5,000 lb. ornamental iron, per lb.	0.08	0.10	0.20	0.12
2,000 sq. ft. painting—one coat lead in oil, per sq. ft.	0.01	0.02	0.03	0.01
100 sq. yd. asphalt paving, per sq. yd.	1.50	1.75	1.50	1.60
100 sq. yd. brick paving, including cinder and sand base, per sq. yd.	2.10	2.25	1.75	2.53
100 sq. yd. gypsum block partition, plastered, complete, per sq. yd.	3.00	1.75	2.75	0.40
20 sq. ft. kalamein doors, with hardware, per sq. ft.	1.50	2.50	1.50	1.10
For wharf drops, with mechanism	850.00	1,300.00	1,000.00	4,400.00
For side cargo doors, ea.	300.00	200.00	200.00	200.00
For kinnear doors, Delaware Ave., end, ea.	500.00	800.00	800.00	500.00
For kinnear doors, river face, ea.	120.00	100.00	235.00	200.00
100 sq. ft. asbestos protected metal roofing, No. 24 gage, per sq. ft.	0.20	0.23	0.15	0.22
100 sq. ft. asbestos protected metal main cornice, No. 24 gage, per sq. ft.	0.20	0.25	0.20	0.24
100 sq. ft. asbestos protected metal monitor cornice, No. 24 gage, per sq. ft.	0.20	0.25	0.225	0.25
100 sq. ft. steel sash, excluding glazing, per sq. ft.	0.25	0.30	0.24	0.24
100 sq. ft. ventilating steel sash, excluding glazing, per sq. ft.	0.25	0.41	0.39	0.39
For operating devices for ventilating steel cash, ea.	40.00	80.00	78.00	78.00
100 sq. ft. ¼-in. polished wire glass, per sq. ft.	0.50	1.00	0.50	0.19
100 sq. ft. ¼-in. ribbed wire glass, per sq. ft.	0.23	0.28	0.20	0.19
100 pile shoes, ea.	1.25	1.60	2.00	1.35
5,000 ft. b. m. sawed timber, 6-in. thick and under, per M ft. b. m.	0.20	0.50	0.60	56.25
5,000 M ft. b. m. sawed timber, dimension sizes above 6 in. in thickness, per M ft. b. m.	80.00	55.00	55.00	56.25
100 cu. yd. no. 2 concrete, per cu. yd.	6.50	8.00	7.00	8.80
1,000 lb. bolts, nuts, washers, nails and spikes for timber work, per lb.	0.05	0.07	0.06	0.075
2,000 lb. 159-lb. girder rail, curved, per lb.	0.04	0.05	0.035	0.04
2,000 lb. 159-lb. girder rail, straight, per lb.	0.033	0.03	0.03	0.035
10 rods splice bars for 159-lb. rail, per pair	3.00	22.00	4.50	14.73
100 splice bolts, with nuts, nut locks, ea.	0.10	0.15	0.10	0.30
10 lb. rods with nuts, ea.	1.00	1.00	1.00	2.82
50 tie plates, ea.	0.80	0.85	0.25	0.93
500 lb. 6½-in. track spikes, per lb.	0.04	0.07	0.04	0.07
10 yellow pine cross ties, treated, ea.	1.70	1.50	2.00	2.33
1,000 ft. b. m. girder rail track lumber, treated, per M ft. b. m.	60.00	80.00	50.00	51.75
100 cu. yd. ballast, per cu. yd.	1.50	2.25	2.50	2.54
For mechanics with tools, including superintendence, per hr. (500 hrs.)	0.80	0.90	1.00	0.95
For laborers with tools, including superintendence, per hr. (500 hrs.)	0.40	0.60	0.50	0.70

St. Louis, Mo.—All bids opened Oct. 30 by Missouri River Comn., St. Louis, for constructing about 40,000 cu. yd. earthwork in East Side Levee and Sanitary Dist., Ill., have been rejected.

Ocean Beach, Cal.—At recent election citizens voted in favor of issuing $125,000 bonds for protection of ocean front and for constructing pleasure pier and comfort station. Geo. Cromwell, city engr., proposes construction of two loose-rock jetties, one at south end extending 800 ft. into ocean, having top of 10 ft., to include excav. of 11,670 cu. yd. rock; cost, $35,000; other jetty at north end, 2200 ft. long, 6 ft. top, about 15,600 cu. yd. rock excav.; cost, $47,000; eight timber groins each 200 ft. long to be placed at intervals of about 200 ft. between each jetty; cost, $1,500; pleasure pier 800 ft. long at south end of beach of reinforced concrete piles, wooden deck; cost, $28,000, and reinforced concrete comfort station erected short distance from pier, together with concrete steps, boardwalk, etc.

San Diego, Cal.—Bonds for $125,000 have been voted for constructing rock jetties, concrete pleasure pier, comfort station, cement walks, etc., at Ocean Beach. Allen H. Wright, city clk.

Yuma, Ariz.—No bids opened Dec. 15 by Maj. G. B. Pillsbury, Corps Engrs., U. S. A., Los Angeles, for revetting stone levee on Colorado River in Yuma.

BIDS DESIRED.

New Orleans, La.—Until Jan. 16, at U. S. Engr's. Office, Custom House, for bulkhead at Southwest Pass, Mississippi River.

Until Jan. 24, by Bd. Comrs. (B. B. Hans, pres.) for constructing Dumaine St. creosoted wharf and reinforced concrete causeway with creosoted wood-block roadway; certified check or cash for $15,-000 to accompany bid; specifications may be obtained from J. Devereux O'Reilly, ch. engr., upon deposit of $20.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Baltimore, Md.—Contract awarded by Baltimore & Ohio R. R. (R. N. Begien, ch. engr.) to Edw. Brady & Son, 1113 Cathedral St., Baltimore, at $450,000, for constructing superstructure of Locust Point Pier.

Wheeling, W. Va.—Following are bids accepted by U. S. Engrs. Office (bids opened Dec. 5) for furnishing and delivering metal work for dams Nos. 23, 25 and 27, Ohio River: Independent Bridge Co., 829 Beaver Ave., Pittsburgh, Pa., $38,085; Pittsburgh Trolley Forge Co., Pittsburgh, Pa., $5,411; J. & B. Mullholland, Pittsburgh, Pa., $3,907; and S. B. Harding, 175 W. Jackson Bldv., Chicago, Ill., $22,080.

Cincinnati, O.—Following are bids opened Dec. 11 by Maj. W. P. Stokey, Corps Engrs., U. S. A., Cincinnati, for (a) constructing extension below abutment at Dam No. 4; (b) part of guard wall and guide wall at Lock No. 8; (c) extension of revetment in canal at Lock No. 10, Muskingum River, O.: Clifton Bros., Zanesville, O., (a) $5,129, (b) $6,442, (c) $14,878 (recommended for award); J. A. Swingle Contr. Co., Zanesville, O., (a) $6,709; (b) $7,625; (c) $17,635.

Cincinnati, O.—Following are totals and unit figures of bids opened Dec. 19 at U. S. Engrs. Office, First Dist., for furnishing and erecting lock gates at Dams Nos. 31 and 35, Ohio River: (a) Penn Bridge Co., Beaver Falls, Pa., Lot A $54,469, Lot B $53,732; (b) Independence Bridge Co., 829 Beaver Ave., S. Pittsburgh, Pa., Lot A $51,785. Lot B $51,705. Maj. Robt. R. Ralston, Corps Engrs., U. S. A., 405 Customhouse. Estimated cost $50,000 for each lot of two gates.

Lot A.
Lock Gates for Dam No. 31.

	(a)	(b)
408,000 lb. structural steel, etc.	$0.08	$0.0735
81,000 lb. forgings, including springs	0.115	0.11
6,900 lb. bolts, etc.	0.0962	0.075
21,200 lb. iron castings	0.074	0.075
43,000 lb. steel castings	0.1823	0.18
2,550 lb. bronze	0.60	0.80
150 lb. rubber	0.45	1.00
10,000 ft. b.m. oak timber	84.50M	85.00M

Lot B.
Lock Gates for Dam No. 35.

	(a)	(b)
399,000 lb. structural steel, etc.	$0.08	$0.075
81,000 lb. forgings, including springs	0.115	0.11
6,900 lb. bolts, etc.	0.0962	0.075
21,200 lb. iron castings	0.074	0.075
43,000 lb. steel castings	0.1823	0.18
2,550 lb. bronze	0.60	0.80
150 lb. rubber	0.45	1.00
9,800 ft. b.m. oak timber	84.50M	85.00M

★**Hardin, Mo.**—Contract awarded by Bd. Levee Dist No. 4 to F. E. Brunworth, Hardin, at about $11,960 for 92,000 cu. yd. levee work.

★**San Francisco, Cal.**—Contract awarded to Healy & Tibbetts Constr. Co., Main and Market Sts., at $38,343, for raising Sects. 9-A and 8-B of seawall; other bidders—San Francisco Bridge Co., Nevada Bank Bldg., $44,000; John Monk, Sharon Bldg., $47,000; and H. M. Pittman, Sheldon Bldg., $169,999.

★**Clarksdale, Ariz.**—Contract awarded by Arizona Power Co., Prescott, to Chas. C. Moore & Co., San Francisco, for erecting electrical power plant on Verde River 3 miles north of Clarksdale on Verde Valley Branch of A., T. & S. F. Ry.; cost $1,000,000. Capacity 15,000 to 20,000 hp.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Greenwood, S. C.—Drainage bonds for $25,000 will be sold Jan. 15 by Comrs. Riley's Drainage Dist. Certified check for $1,000 to accompany bid.

Cleveland, O.—Contract will probably be let in March for dredging river; $40,-000 appropriated; R. Hoffman, city engr.

Cleveland, O.—City Bd. Control has granted W. E. Davis, Comr. Heat & Light, permission to engage engineers to prepare plans for constructing 1000 ft. water intake into Lake Erie for E. 53d St. municipal electric lighting plant; estimated cost, $100,000. Work to be started in the spring.

Wapakoneta, O.—County contemplates dredging Ft. Laramie Creek, about 12 miles; cost $27,000.

Elkhorn, Wis.—Contract soon to be let by Troy Drainage Com. for drainage. G. B. Cain, member of Bd.

Benson, Minn.—Election held Dec. 18 on question of constructing Ditch No. 14 was carried. D. P. Carney, co. aud.

St. Peter, Minn.—All bids opened Dec. 12 by W. H. Holz, co. aud., for constructing Ditch No. 62 rejected.

Forman, N. D.—County Drainage Bd. contemplates constructing drainage ditch around Minot to Wild Race River; cost about $37,000. D. E. McPherson, co. aud.

San Benito, Tex.—Election held recently carried in favor of issuing $600,000 irrigation bonds in Cameron County Irrigation Dist. No. 2.

Atoka, Okla.—Atoka Drainage Dist. No. 1 (A. E. Newman, secy.), recently organized, contemplates drainage of about 200,-000 acres.

Oklahoma, Okla.—County contemplates organizing drainage district to embrace parts of 13 counties to include cut-off canal connecting North Canadian River with South Canadian River.

Asotin, Wash.—No bids opened Dec. 11, by Delta Kraudelt, co. aud., for completion of Silcott cut-off including one mile of heavy rock work; injunction served on Board.

Klamath Falls, Ore.—County contemplates irrigating 430 acres west of old Van Brimmer Ditch and north Whitelake.

Council Bluffs, Ia.—E. E. Spetman, city engr., estimates cost of cleaning Indian Creek for flood prevention at $19,741.

Vallejo, Cal.—Navy Dept. contemplates spending $135,000 for dredging at Mare Island. Bids will probably be called for in June.

Ventura, Cal.—River Street Ditch Co. incorporated with capital of $20,000 to acquire water rights and supply water for irrigation purposes. N. W. Blanchard, A. C. Hardison among incorporators.

BIDS DESIRED.

Norfolk, Va.—Until Jan. 29, at U. S. Engr's Office, Custom House, for dredging in Southern Branch of Elizabeth River; advertised in this issue.

Carthage, Miss.—Until Jan. 8 by Dist. Comrs. of Standing Pine Drainage Dist. No. 1 for constructing canal, 4¾ miles. Certified check for 5 per cent to accompany bid. Address N. F. Wallace, clk.

Elkhorn, Wis.—Reported desired about Jan. 4, by Troy Drainage Comn., for constructing drainage system; G. B. Cain, member.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Belvidere, Ill.—Following are four lowest bids opened for Coon Creek Drainage Dist., in Boone and McHenry Counties, to consist of about 286,369 cu. yd. excav.: T. J. Dilley, Hebron, Ind., $26,760; R. H. & G. A. McWilliams Co., 332 S. Michigan Ave., Chicago, Ill., $27,205; Matthews Bros., Erie, Ill., $28,465; Horton & Moseley, 140 S. Dearborn St., Chicago, Ill., $29,609. Arthur L. Webster, drainage engr., Wheaton, Ill.

★**Garner, Ia.**—Contract awarded for constructing ditches to L. H. Thompson, Holmes, at $24,749; for tile to Monmouth Clay Mfg. Co., Monmouth, Ill., at $26,840.

★**Benson, Minn.**—Following are four lowest bids opened Dec. 18 by D. P. Carney, co. aud., for constructing Judicial Ditch No. 7; W. A. Telford, Benson, $23,090 (awarded contract); Minneapolis Constr. Co., Minneapolis, $24,805; Morris Constr. Co., Morris, Minn., $24,998; T. L. Sielgley, Worthington, $25,285.

★**Duluth, Minn.**—Contract awarded Northern Drainage Co., Grand Rapids, Wis., at about $200,000, for constructing County Ditch No. 6 (bids opened Dec. 9). A. J. Bawden, engr., 205 C. H. Duluth.

★**Moorehead, Minn.**—Contracts have been awarded by A. O. Houghlum, co. aud., as follows for constructing Ditches Nos. 1 and 40; King & Eichmiller, Frazee, Minn., at $8,081 for excav; E. J. Fennelly, Aiken, Minn., at $3,329 for bridges for Ditch No. 1; and M. W. Barnard, 610 Globe Bldg., Minneapolis, Minn., at $14,-160, for excav., and E. J. Fennelly, for bridges at $7,665, for Ditch No. 40 (bids opened Dec. 19).

★**Kansas City, Kan.**—Contract awarded by Kaw Valley Drainage Dist. (P. J. Broll, secy., 719 Osage Ave.) to A. A. Buck Constr. Co., 524 Rialto Bldg., Kansas City, Mo., at $25,000 for levee work for district.

★**Mexicali, Mex.**—Following are bids opened Dec. 18 by Campania de Terrenos Aquas de la Baja, Cal. (S. A.) for excavating Tecolote cut-off on Alamo River Canal, about 22,000 ft. long, involving 443,000 cu. yd. excav.: R. P. Shields Const. Co., San Diego, 18.7 cts. (awarded contract); Leroy Little, Calexico, Cal., 25 cts.; J. H. McMillin Constr. Co., San Francisco, 50 cts., and Shattuck-Edinger Co., Marsh-Strong Bldg., Los Angeles, 48 cts.; price given per cu. yd.

★**El Centro, Cal.**—Following are four lowest bids opened Dec. 18 by Bd. Dir. Imperial Irrigation Dist. for excavating for new intake canal about 6000 ft. long above Hanion Heading on the Colorado River, in the vicinity of Yuma, Ariz.: M. D. Goodbody, American Nat'l Bank Bldg., San Diego, $165,000; Q. A. Wogan, Denver, Col., $195,000; Rogers Bros. Co., Hibernian Bldg., Los Angeles, $234,000; Shattuck & Edinger, Marsh-Strong Bldg., Los Angeles, $255,000; American Dredging Co., 21 California St., San Francisco, offered to sell suction dredges with capacity of 200,000 cu. yd. per month for $75,000 and to do work with these at 19 cts. per cu. yd., or 17.78 cts. if settling basin is provided. C. R. Rockwood, ch. engr., Imperial Irrigation Dist.

★**Waterford, Cal.**—Following are four lowest bids opened Dec. 19 by the Waterford Irrigation Dist. (Everett N. Bryan, ch. engr.) for constructing (a) Sect. No. 1 and (b) Sect. No. 2 of system including 45,000 cu. yd. open cut excav., 9800 cu. yd. portal excav.: Willison & Carmichael, La Grange, Cal. (a), $15,880; (b), $23,540 (awarded contract); C. B. Cowden, San Francisco, Cal., (a) $16,470, (b) $35,220; Tibbets Pacific Co., San Francisco, (a) $18,660, (b) $26,560; Tieslau Bros., Underwood Bldg., San Francisco, (a) $23,490; J. G. Bagley, Turlock, (b) $29,955.

TUNNELS AND SUBWAYS

PROPOSED WORK.

Oswego, N. Y.—Plans are being prepared for constructing subway at E. 9th and Schuyler Sts. for the N. Y. C. & N. Y. O. & W. RR. and City; cost, $80,000. J. F. Flanigan, city engr.

Newark, N. J.—War Dept., Washington, D. C., has issued permit to the New Jersey Interstate Bridge and Tunnel Comn. to construct tube from about foot of Canal St., Manhattan, to 13th St., Jersey City, to be used for vehicular traffic between the two states; estimated cost $11,000,000. Bd. Freeholders of Bergen and Hudson Counties approved the plans to tunnel the Hudson. New Jersey will bear one-half expense. There will be twin tubes of same type as Hudson & Manhattan Railroad tunnels.

Trenton, N. J.—Contract will soon be let by the Pennsylvania RR. Co. (Alex. C. Shand, ch. engr., Philadelphia, Pa.) for constructing tunnel under canal feeder along Belvidere division, and for constructing two bridges here; estimated cost $150,000.

Chicago, Ill.—See "Roads and Paving."

Palo Alto, Cal.—City contemplates constructing subway 200 ft. southeast of easterly line of Palo Alto; cost $9,500. J. F. Byxbee, Jr., city engr.

PRICES AND LETTINGS.

★*Indicates award of contract.*

Cleveland, O.—Only bid opened Dec. 20, by Comr. Purchase and Supply for building service tunnel under Detroit-Superior high level bridge subway at W. 25th St., was that of Bates & Rogers Cont. Co., Eng. Bldg., Cleveland, at $12,165.

★**San Rafael, Cal.**—Following are bids opened Nov. 21, for constructing tunnel under Pine Mountain: McLeran & Peterson, Sharon Bldg., $257,400 (awarded contract); Frank S. Ostrander, $266,028; E. S. Mulford, 1282 Sacramento St., $279,900; Twohy Bros., 1st Natl. Bank Bldg., $293,-750; Blake Bros., Balboa Bldg., $398,000; J. D. Hannah, Monadnock Bldg., $350,550. Bidders all of San Francisco.

MISCELLANEOUS

PROPOSED WORK.

Rochester, N. Y.—See "Waterworks and Sewerage Systems."

Dubois, Pa.—City contemplates constructing one-story, 8-ton brick fireproof garbage incinerator. John H. Fulford, city engr.

Transmission Line—Plant City, Fla.—Pub. Serv. Co. has been granted permission to extend its electric transmission lines out on Thonotosassa Rd., Hopewell Rd., Midway Rd. and the Tampa-Plant City Rd.

Transmission Line—Grinnell, Ia.—Iowa Light, Heat & Power Co. has applied to the State RR. Comn. for permission to erect an electric transmission line in Carroll Co.

Transmission Line—Pine River, Minn.—The Pine River Lighting Co. contemplates extending transmission lines to Walker.

Rock Crusher — Eugene, Ore. — See "Roads and Paving."

Transmission Line—Oceanside, Cal.—San Diego Gas & Electric Co., San Diego, contemplates constructing power transmission line from Oceanside to Escondido, 25 miles.

Transmission Line—Nogales, Ariz.—Reported International Gas. Co., Spiro S. Proto, pres., Nogales, contemplates extending its transmission line to Cananea and other mines and towns in northern Sonora.

BIDS DESIRED.

Garbage—Jersey City, N. J.—Until Jan. 2 by M. I. Fagen, city clk., for collection and removal of garbage, kitchen refuse and waste paper from all streets from Jan. 15, 1917, to Nov. 30, 1917, or from Jan. 15, 1917, to Nov. 30, 1921.

Vitrified Paving Blocks—Washington, D. C.—Until Jan. 8, by Dist. Comrs., for 1,050,000 repressed vitrified paving blocks.

Crane—Appleton, Wis.—Until Jan. 10 by A. G. Brusewitz, co. highway comr., for ½-yd. unloading crane to be used for unloading crushed stone; advertised in this issue.

Kansas City, Kan.—Until Jan. 3, by bd. dir., T. E. Myers, pres., Kaw Valley Drain. Dist., or constructing about 15,700 sq. yd. riprap revetment along left bank of Kansas River; certified check for 5 per cent to accompany each bid, payable to J. W. Silvers, treas.

Road Grader—Plankinton, S. D.—Reported desired until Jan. 3 by Erland Johnson, co. aud., for gas tractor engine and one road grader.

Jetty Repairs—Port Aransas, Tex.—Until Jan. 24, at U. S. Engr's Office, Galveston, for jetty repairs; advertised in this issue.

Caterpillar Traction—Denver, Col.—Until Jan. 2, at office of U. S. Reclamation Service (F. E. Weymouth, ch. of const.) for furnishing caterpillar traction and sub-base for attachment to dragline excavator for Truckee-Carson Project, Nev.

Broken Stone—Vallejo, Cal.—Reported desired, until Jan. 9, by Bureau Supplies and Accounts, Navy Dept., Washington, D. C., for delivery at Mare Island, sch. 519, 1,500 cu. yd. coarse concrete-sand, 600 tons broken stone, pressure reducing valves, pipe fittings, etc.

PRICES AND LETTINGS.

★*Indicates award of contract.*

★**Chimney — Clairton, Pa.** — Contract awarded by Carnegie Steel Co., Clairton, to Rust Engr. Co., Farmers Bank Bldg., Pittsburgh, Pa., for constructing ten 200-ft. x 9.5-ft. tapered reinforced concrete chimneys for new coke ovens. This is largest reinforced concrete chimney contract that has ever been awarded.

Street Cleaning—Philadelphia, Pa.—Contract awarded Dec. 20 by the Bd. Pub. Wks. to Frank Curran, 3023 Richmond St., Philadelphia, at $299,000 for cleaning streets in Dist. No. 5.

Cement—St. Paul, Minn.—Following are bids opened Dec. 18 by Purchasing Com. for 30,000 bbl. Portland cement: Western State Portland Cement Co., St. Paul Bldrs. Mat'l Co., Gopher Lime & Cement Co., and Northland Pine Co., 3201 N. 2d St., all bid $66,900; Shakopee Cement & Lime Mfg. Co., $67,500; Chas. Hansen, Bldg. Mat'l, $67,800. Ten cents allowed on empty sacks returned in good condition, and five cents per bbl. off if paid within ten days.

Tunnels, Valves, Etc.—Denver, Col.—Following are bids opened Dec. 12 by U. S. Reclamation Service, Denver, Col., for needle valves for north tunnel of Roosevelt Dam, Ariz.: S. B. Harding, 175 W. Jackson Blvd., Chicago, Ill., $44,-470; Joshua Handy Iron Wks., 75 Fremont St., San Francisco, Cal., $48,500; Fulton Engine Wks., Quievola and Chavez Sts., Los Angeles, Cal., $48,875; Ellicott Machine Corp., Bush & Severn Sts., Baltimore, Md., $55,900.

Cranes—Vallejo, Cal.—Following are bids opened Dec. 18 by Bureau Yards and Docks, Navy Dept., Washington, D. C., for furnishing two fitting-out cranes for the Mare Island Navy Yard—(a) cranes delivered and erected on foundations furnished by Government; (b) cranes f.o.b. works; (c) price per working day of 8 hr. for service of competent engineer to superintend erection: Victor R. Browning & Co., 17701 Lakeshore Blvd., Cleveland, O., (a) $22,000 each; McMyler Interstate Co., Bedford, O. (a) $48,993 and $59,793, (c) $16; Heyl & Paterson, 50 Water St., Pittsburgh, Pa. (a) $55,176 and $39,135, (c) $14; Edw. F. Terry Mfg. Co., Grand Central Terminal Bldg., New York, N. Y. (a) $41,990 and $34,490, (c) $16.

Proposals

For Proposals Advertised See Pages 48 and 49.

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.		See Eng. Record.
Jan. 2.	Yonkers, N. Y.	Dec. 30
Jan. 2.	Rock Island, Ill.	Dec. 9
Jan. 2.	Denmark, Wis.	Dec. 23
Jan. 3.	Higginsville, Mo.	Dec. 23
Jan. 3.	Lorain, O.	Dec. 23
Jan. 3.	Spring City, Pa.	Dec. 23
Jan. 3.	Carl Junction, Mo.	Dec. 30
Jan. 3.	Portland, Ore.	Dec. 30
Jan. 4.	Burlington, Iowa.	Dec. 23
Jan. 5.	Marshfield, Wis.	Dec. 23
Jan. 5.	New York, N. Y.	Dec. 30
Jan. 8.	Webster City, Ia.	Dec. 9
Jan. 8.	Houston, Tex.	Dec. 30
Jan. 8.	College Station, Tex.	Dec. 30
Jan. 9.	Independence, La.	Dec. 16
Jan. 9.	Dakota, Ia.	Dec. 30
	Adv. Dec. 30.	
Jan. 10.	Marlow, Okla.	Dec. 30
Jan. 10.	Cambridge, O.	Dec. 30
Jan. 11.	Milwaukee, Wis.	Dec. 23
	Adv. Dec. 23, 30.	
Jan. 11.	Sidney, O.	Dec. 30
	Adv. Dec. 30	
Jan. 12.	Flint, Mich.	Dec. 30
Jan. 12.	Yuma, Ariz.	Dec. 30
Jan. 15.	New Cordell, Okla.	Dec. 30
Jan. 16.	Toronto, Ont.	Dec. 9
Jan. 17.	La Fayette, Ind.	Dec. 23
Jan. 18.	Alliance, O.	Dec. 30
	Adv. Dec. 30.	
Feb. 5.	Rockwell City, Ia.	Dec. 9
Feb. 5.	St. Paul, Minn.	Dec. 23
	Adv. Dec. 23.	
Mar. 6.	Chilton, Wis.	Dec. 2
Apr. 1.	Gibson, Ill.	Dec. 23
Apr. 1.	Mt. Vernon, O.	Dec. 23
Jun. 1.	Calcutta, India	Dec. 23
——	Douglas, Wyo.	Dec. 23
	Adv. Dec. 16.	

STRUCTURAL STEEL WORK

Jan. 2.	Watertown, S. D.	Dec. 23
Jan. 2.	El Centro, Cal.	Dec. 23
Jan. 2.	Vermillion, S. D.	Dec. 23
Jan. 3.	Salt Lake City, Utah	Dec. 30
Jan. 3.	Batesville, Ark.	Dec. 23
Jan. 3.	Springfield, Ohio	Dec. 23
Jan. 4.	Huntington, W. Va.	Dec. 16
Jan. 4.	Emporia, Kan.	Dec. 30
Jan. 5.	Ashland, O.	Dec. 16
Jan. 5.	Cavalier, N. D.	Dec. 23
Jan. 8.	Deadwood, S. D.	Dec. 23
Jan. 8.	Falls City, Neb.	Dec. 30
	Adv. Dec. 23, 30.	
Jan. 8.	Modesto, Cal.	Dec. 30
Jan. 10.	Olathe, Kan.	Dec. 23
Jan. 10.	Chicago, Ill.	Dec. 23
	Adv. Dec., 23, 30.	
Jan. 10.	Freehold, N. J.	Dec. 30
Jan. 13.	Dayton, Ohio	Dec. 23
Jan. 13.	Lafayette, Ala.	Dec. 30
Jan. 15.	Yonkers, N. Y.	Dec. 30
Jan. 18.	Knoxville, Iowa.	Dec. 23

REINFORCED CONCRETE.

Jan. 2.	Concordia, Kan.	Dec. 23
Jan. 2.	Mt. Vernon, Wash.	Dec. 23
Jan. 8.	Topeka, Kan.	Dec. 30
Jan. 8.	Erie, Kan.	Dec. 23
Jan. 9.	York, Neb.	Dec. 23
Jan. 10.	Rock Island, Ill.	Dec. 30
Jan. 20.	Greenup, Ill.	Dec. 30
Jan. 22.	Houston, Tex.	Dec. 30

ROADS AND PAVING.

Jan. 1.	Indiana	Dec. 16
Jan. 2.	Indiana	Dec. 16
Jan. 2.	Los Angeles, Cal.	Dec. 9
Jan. 2.	Stockton, Cal.	Dec. 23
Jan. 2.	Seattle, Wash.	Dec. 23
Jan. 2.	Washburn, N. D.	Dec. 30
Jan. 3.	Keyport, N. J.	Nov. 18
Jan. 3.	Placerville, Cal.	Dec. 23
Jan. 3.	Albert Lea, Minn.	Dec. 30
Jan. 3.	Hanford, Cal.	Dec. 30
Jan. 4.	Indiana.	Dec. 23
Jan. 4.	Mt. Vernon, Tex.	Dec. 30
Jan. 5.	Oroville, Cal.	Dec. 30
Jan. 8.	Tulsa, Okla.	Dec. 30
Jan. 8.	Bradentown, Fla.	Dec. 23
Jan. 8.	Grundy Center, Ia.	Dec. 30
	Adv. Dec. 23, 30.	
Jan. 8.	Moulton, Ala.	Dec. 9
	Adv. Dec. 9.	
Jan. 9.	Bakersfield, Cal.	Dec. 30
Jan. 9.	Modesto, Cal.	Dec. 30
Jan. 10.	Independence, Ia.	Nov. 18
Jan. 10.	Freehold, N. J.	Dec. 16
Jan. 10.	Baltimore, Md.	Dec. 30
Jan. 10.	Seattle, Wash.	Dec. 30
Jan. 11.	New Albany, Ind.	Dec. 30
Jan. 11.	Kansas City, Kan.	Dec. 23
Jan. 15.	Everett, Wash.	Dec. 30
Jan. 16.	Amsterdam, N. Y.	Dec. 30
Jan. 16.	Wilkes-Barre, Pa.	Dec. 23
	Adv. Dec. 23, 30.	
Jan. 19.	Lakeland, Fla.	Dec. 23
Jan. 22.	Upland, Cal.	Dec. 30
Feb. 1.	Cedar Rapids, Ia.	Nov. 18
Feb. 1.	Cicero, Ill.	Dec. 30
Feb. 6.	Neshanic, N. J.	Dec. 30
Mar. 18.	Kent, O.	Dec. 30

RAILWAYS

Jan. 10.	New York, N. Y.	Dec. 30

INDUSTRIAL PLANTS AND WAREHOUSES.

Jan. 2.	Ottawa, Ont.	Dec. 23

BUILDINGS.

Public and Private.

Jan. 2.	West Minneapolis, Minn.	Dec. 16
Jan. 2.	Cobleskill, N. Y.	Dec. 30
	Adv. Dec. 30.	
Jan. 2.	Lima, O.	Dec. 30
Jan. 2.	Harmon, N. Y.	Dec. 30
Jan. 3.	New York, N. Y.	Dec. 16
Jan. 3.	Lapeer, Mich.	Dec. 30
Jan. 4.	Casey, Ill.	Dec. 16
Jan. 5.	New York, N. Y.	Dec. 23
Jan. 8.	Los Angeles, Cal.	Dec. 16
Jan. 9.	Sonyea, N. Y.	Dec. 23
	Adv. Dec. 23.	
Jan. 10.	St. Jean de Dieu, Que.	Dec. 9
Jan. 10.	Akron, Ohio.	Dec. 23
Jan. 10.	Cincinnati, Ohio.	Dec. 23
Jan. 15.	Lima, O.	Dec. 16
Jan. 15.	Comfrey, Minn.	Dec. 23
Jan. 15.	Indian Head, Md.	Dec. 23
Jan. 16.	Aspinwall, Pa.	Dec. 30
Jan. 17.	Albany, N. Y.	Dec. 23
	Adv. Dec. 23, 30.	
Jan. 18.	Marion, S. C.	Nov. 25
	Adv. Nov. 25, Dec. 2.	
Jan. 19.	Charlotte, Mich.	Dec. 16
Jan. 21.	Philadelphia, Pa.	Dec. 30
Jan. 22.	Richfield, Utah	Dec. 16
Jan. 22.	Fremont, Neb.	Dec. 23
Jan. 26.	Waterloo, N. Y.	Dec. 30
Feb. 1.	Chehalis, Wash.	Dec. 16
Feb. 15.	Escanaba, Mich.	Dec. 30
May 1.	Minneapolis, Minn.	Nov. 25

FOUNDATIONS, PIERS AND DAMS.

Jan. 24.	New Orleans, La.	Dec. 30
Jan. 29.	Philadelphia, Pa.	Dec. 23
Dec. 30.	Wheeling, W. Va.	Dec. 2
	Adv. Dec. 2 to 23.	
Jan. 1.	San Dimas, Cal.	Nov. 18
Jan. 2.	Santa Fe, N. M.	Nov. 18
	Adv. Nov. 18.	
Jan. 3.	Providence, R. I.	Dec. 16
	Adv. Dec. 16 and 23.	
Jan. 16.	New Orleans, La.	Dec. 30

EXCAVATION, DREDGING AND DRAINAGE.

Jan. 3.	Elbow Lake, Minn.	Dec. 16
Jan. 4.	Elkhorn, Wis.	Dec. 30
Jan. 5.	Garner, Iowa	Dec. 23
Jan. 5.	Cambridge, Minn.	Dec. 23
Jan. 6.	Cleveland, Ohio.	Dec. 23
Jan. 8.	Carthage, Miss.	Dec. 30
Jan. 9.	Fremont, Mich.	Dec. 23
Jan. 10.	Monticello, Mo.	Dec. 23
Jan. 15.	Philadelphia, Pa.	Dec. 23
Jan. 20.	Gaylord, Minn.	Dec. 23
Jan. 23.	Rockwell City, Iowa	Dec. 23
Jan. 25.	Crookston, Minn.	Dec. 16
Jan. 29.	Norfolk, Va.	Dec. 30
	Adv. Dec. 30.	
Feb. 1.	Coalinga, Cal.	Dec. 23

MISCELLANEOUS.

Jan. 2.	Transmission Line, Hanford, Cal.	Dec. 9
Jan. 2.	Garbage Incinerator, Chattanooga, Tenn.	Dec. 9
	Adv. Dec. 9.	
Jan. 2.	Caterpillar Traction, Denver, Colo.	Dec. 30
Jan. 2.	Garbage, Jersey City, N. J.	Dec. 30
Jan. 3.	Rock Crushers, Panama	Dec. 16
	Adv. Dec. 16.	
Jan. 3.	Road grader, Plankinton, S. D.	Dec. 30
Jan. 3.	Riprap, Kansas City, Kan.	Dec. 30
Jan. 4.	Transmission Line, Weaversville, Cal.	Oct. 21
Jan. 8.	Vitrified Paving Blocks, Washington, D. C.	Dec. 30
Jan. 9.	Broken Stones, Vallejo, Cal.	Dec. 30
Jan. 9.	Motor Fire Apparatus—Atlantic Highlands, N. J.	Dec. 16
	Adv. Dec. 16.	
Jan. 10.	Cylinder Gates, St. Ignatius, Mont.	Dec. 23
	Adv. Dec. 23.	
Jan. 10.	Cranes, Appleton, Wis.	Dec. 30
	Adv. Dec. 30.	
Jan. 24.	Jetty Repairs, Port Aransas, Tex.	Dec. 30
	Adv. Dec. 30.	

SEARCHLIGHT SECTION

Official Proposal Announcements

Price, $2.40 an inch.—Copy can be received until Wednesday, 5 p. m. for issue mailed the next day

Bids open January 10, 1917.

SUPERSTRUCTURE 12TH STREET BRIDGE

DEPARTMENT OF PUBLIC WORKS
CHICAGO, ILL.

Sealed proposals will be received by the city of Chicago until 11 A. M., Wednesday, January 10, 1917, at room 406, City Hall, for furnishing, constructing and erecting superstructure for a Strauss direct-lift bridge, over the South Branch of the Chicago River at W. 12th Street, according to plans and specifications on file in the office of the Department of Public Works of said city, Room 406, City Hall.

Proposals must be made out upon blanks furnished at said office, and be addressed to said Department, indorsed "Proposals for Superstructure—12th Street Bridge," and be accompanied with Ten Thousand ($10,000) Dollars in money or a certified check for the same amount on some responsible bank located and doing business in the city of Chicago and made payable to the order of the Commissioner of Public Works.

The Commissioner of Public Works reserves the right to reject any or all bids; a cash deposit of $50.00 will be required for the return of plans and specifications.

No proposal will be considered unless the party offering it shall furnish evidence satisfactory to the Commissioner of Public Works of his ability, and that he has the necessary facilities together with sufficient pecuniary resources to fulfill the conditions of the contract and specifications, provided such contract should be awarded to him.

Companies or firms bidding will give the individual names as well as the name of the firm with their address.

W. R. MOOREHOUSE,
Commissioner of Public Works.
By WM. BURKHARDT,
Deputy Commissioner.

December 13, 1916.

Bids open January 9, 1917.

NOTICE TO CONTRACTORS.

WATERWORKS SYSTEM

DAKOTA CITY, IOWA.

Sealed bids will be received by the Town Clerk until 4.30 p. m., on the 9th day of January, 1917, for furnishing all labor, materials and tools, and the construction of a water works system for the Town of Dakota City, Iowa. Bids must be made upon the blanks in the specifications, provided for that purpose.

Bonds for this work have been sold and the money is in the treasury.

The work will be divided into the following sections and with each bid will be required a certified check as follows:

	Certified Check
Section No. 1, Tower and Tank	$300.00
Section No. 2, Distribution System	300.00
Section No. 3, Pumping Machinery	150.00
Section No. 4, Municipal Building	150.00

The checks will be payable to the Town of Dakota City, Iowa, and will be drawn upon some responsible Bank. Checks of unsuccessful bidders will be returned to them within one week from the date the contracts are awarded. Checks of the successful bidders will be held one week from the date of the awards of the contracts for them to enter into contract and furnish acceptable bonds. The certified checks will then be returned. In case a successful bidder fails to properly enter into a contract with the Town of Dakota City and furnish acceptable bond within one week from the above date the certified check or checks will be forfeited to the Town of Dakota City, as previously agreed liquidated damages.

Plans and specifications may be seen on file with C. F. Lowder, Town Clerk, Dakota City, Iowa, or may be seen at the office of Lawrence W. Cox, 1316 East Twelfth Street, Des Moines, Iowa.

Plans and specifications may be secured from the last address by a deposit of four dollars, one-half of which will be returned to bidders, returning the plans and specifications in good condition by the 23d of January, 1917.

Bonds will be required in the following amounts:

Section No. 1	$3,500.00
Section No. 2	4,000.00
Section No. 3	1,300.00
Section No. 4	1,000.00

The Town of Dakota City reserves the right to reject any and all bids.

CLYDE P. BENNETT,
Mayor.

C. F. LOWDER,
Town Clerk.

Bids open January 18, 1917.

IMPROVEMENTS TO SEWAGE TREATMENT PLANT

ALLIANCE, OHIO.

Sealed proposals will be received at the office of the Director of Public Service, City Hall, Alliance, Ohio, until 12 o'clock noon, Central Standard time, of the eighteenth day of January, 1917, and then publicly opened and read, for improvements to the Sewage Treatment Plant, Contract No. 2.

The work to be done comprises the removal or screening of a part of the cinders in the present filter beds; the furnishing and placing of new filtering material, including slag, sand and gravel; the relaying of underdrains and outfall pipes; the furnishing and laying of new vitrified and cast-iron pipe lines; the construction of a new filter bed; the furnishing and erecting of pumping equipment and industrial tracks and cars, the construction of a small brick building; and excavation, concrete work, valves and other appurtenances.

Copies of the plans, proposal forms, specifications, and forms of bonds and contract, can be seen at the office of the City Engineer, City Hall, Alliance, Ohio, or may be obtained by prospective bidders at the office of the Consulting Engineer, R. Winthrop Pratt, Hippodrome Building, Cleveland, Ohio, upon depositing ten ($10.00) dollars, which sum will be refunded on return of the plans and specifications within ten (10) days after the contract has been awarded if same are in good condition when returned.

The proposal bond will be for ten (10%) per cent and the contract bond for fifty (50%) per cent of the amount of the contract.

THE CITY OF ALLIANCE, OHIO.
By J. H. McCONNELL,
Director of Public Service.

Attest:
J. F. HOGAN,
Clerk.

Bids open January 10, 1917.

WANTED UNLOADING CRANE WITH CLAM SHELL BUCKET

APPLETON, WIS.

Sealed bids will be received by the County-State Road and Bridge Committee on Wednesday, January 10, 1917, at 2 p. m., at the County Highway Commissioner's Office, Court House, Appleton, Wis., for one half yard unloading crane to be used for unloading crushed stone and sand from railroad cars or stock piles into wagons. Said crane to be of a portable nature and one that can be speedily moved from job to job.

A. G. BRUSEWITZ,
County Highway Commissioner.

Bids open January 17, 1917

NOTICE TO CONTRACTORS

CANAL TERMINALS

STATE OF NEW YORK
OFFICE OF SUPERINTENDENT OF PUBLIC WORKS
ALBANY, N. Y.

Sealed proposals will be received by the undersigned at his office in the Capitol at Albany, N. Y., until twelve o'clock noon of Wednesday, January 17, 1917, at which place and hour they will be publicly opened and read, for the construction of Barge canal terminals pursuant to the provisions of Chapter 746 of the Laws of 1911, and of the acts amendatory thereof, as follows:

1

TERMINAL CONTRACT NO. 204

For constructing temporary terminal warehouses at Schenectady, Amsterdam, Fonda, Ilion and Frankfort.

Contract plans, sheets 1-3.

2

TERMINAL CONTRACT NO. 205

For constructing temporary terminal warehouses at Utica and Rome.

Contract plans, sheets 1 and 2.

TERMINAL CONTRACT NO. 206

For constructing temporary terminal warehouses at Spencerport and Holley.

Contract plans, sheets 1 and 2.

Plans may be seen and detailed specifications, engineer's estimate of quantities, proposal blanks, form of contract and bonds required and other information for proposers may be had at the office of the Superintendent of Public Works at Albany, N. Y., at the office of the Assistant Superintendent of Public Works for the Middle Division at Syracuse, N. Y., at the office of the Assistant Superintendent of Public Works for the Western Division at Rochester, N. Y., and at the canal office, Spaulding's Exchange, Buffalo, N. Y.

Copies of detailed plans or drawings may be obtained from the State Engineer and Surveyor at Albany, N. Y., upon payment to him of the cost of producing them.

Monthly estimates will be paid of ninety per centum (90 per cent.) of the work done at the contract price. Every proposal for said work must be accompanied by a money deposit in the form of a draft or certified check upon some good banking institution in the City of Albany or New York, issued by a national or State bank or trust company, in good credit within the State and payable at sight to the Superintendent of Public Works for five per centum (5 per cent.) of the amount of the proposal.

The person whose proposal shall be accepted will be required to execute a contract and furnish bonds within ten days from the date of notice of award delivered to him or them in person or mailed to the address given in the proposal.

Upon execution of the contract and approval of bonds, the certified check or draft will be returned to the proposer unless the same shall have been presented for collection prior to such time, in which case the amount of the deposit will be refunded by the Superintendent of Public Works.

The deposits of bidders other than the one to whom the award of contract shall be made will be returned immediately after the award has been made.

The bond required for the faithful performance of each contract shall be in such sum as shall be fixed by the Superintendent of Public Works, which sum shall not be less than twenty per centum (20 per cent.) of the estimated cost of the work according to the contract price, and an ditional bond, known as the labor bon the sum of ten per centum (10 per ce of the amount of the estimated cost of work according to the contract p will be required as security that contractor will pay in full at least onc each month all laborers employed by upon the work specified to be done in contract.

In the event that more than one su company is offered as surety on said b co-insurance only will be accepted.

Each proposal must be addressed to Superintendent of Public Works, Alb N. Y., and must be endorsed on the velope with the name of the construc for which the proposal is made.

Award, if made, will be made to person or persons whose proposal sha lowest in cost to the State for doing work and which shall comply with all visions required to render it formal. fore any award shall be made the lo bidder will be required to satisfy the perintendent of Public Works of his ab to provide suitable equipment and terials for the proper performance of work.

The right is reserved to reject all posals and readvertise and award the tract in the regular manner if in the j ment of the undersigned the interest the State will be enhanced thereby.

W. W. WOTHERSPOON,
Superintendent of Public Work
December 19, 1916.

Bids open January 9, 1917.

NOTICE TO CONTRACTORS.

DAIRY BUILDING

COBLESKILL, N. Y.

Sealed proposals for construction, h ing, plumbing and drainage and ele work for dairy building at Schoharie S School of Agriculture, Cobleskill, N. will be received by Hon. D. D. Fri President, Board of Trustees, Agricult Hall, State and Lodge streets, Alb N. Y., until 2.30 o'clock p. m., on Tues January 9, 1917, when they will be p licly opened and read. Proposals shal enclosed in an envelope furnished by State Architect, sealed and addressed, shall be accompanied by a certified c in the sum of five per cent (5 per ce of the amount of proposal. The cont tors to whom the awards are made wil required to furnish surety company b in the sum of fifty per cent (50 per ce of the amount of contract within th (30) days after official notice of awar contract and in accordance with the te of specifications Nos. 2563, 2648, 2649 2650. The right is reserved to reject or all bids. Drawings and specificat may be consulted at the Schoharie S School of Agriculture, Cobleskill, N. at the New York office of the Departm of Architecture, Room 1224, Woolw Building, and at the Department of Ar tecture, Capitol, Albany, N. Y. Drawi and specifications and blank forms of p posal may be obtained at the Departm of Architecture, Capitol, Albany, N. upon reasonable notice to and in the cretion of the State Architect, Lewis Pilcher, Capitol, Albany, N. Y.

Dated: December 18, 1916.

Bids open January 16, 1917.

STREET PAVING

WILKES-BARRE, PA.

Sealed proposals will be received u Tuesday, January 16, 1917, at 12 o'cl noon, for paving nineteen (19) streets the City of Wilkes-Barre, Pa. 45,000 yd. of sheet asphalt, 4400 sq. yd. of br and 35,500 lin. ft. of stone or concr curbing. Write B. K. Finch, City En neer, for specifications. Address bids Fred H. Gates, City Clerk.

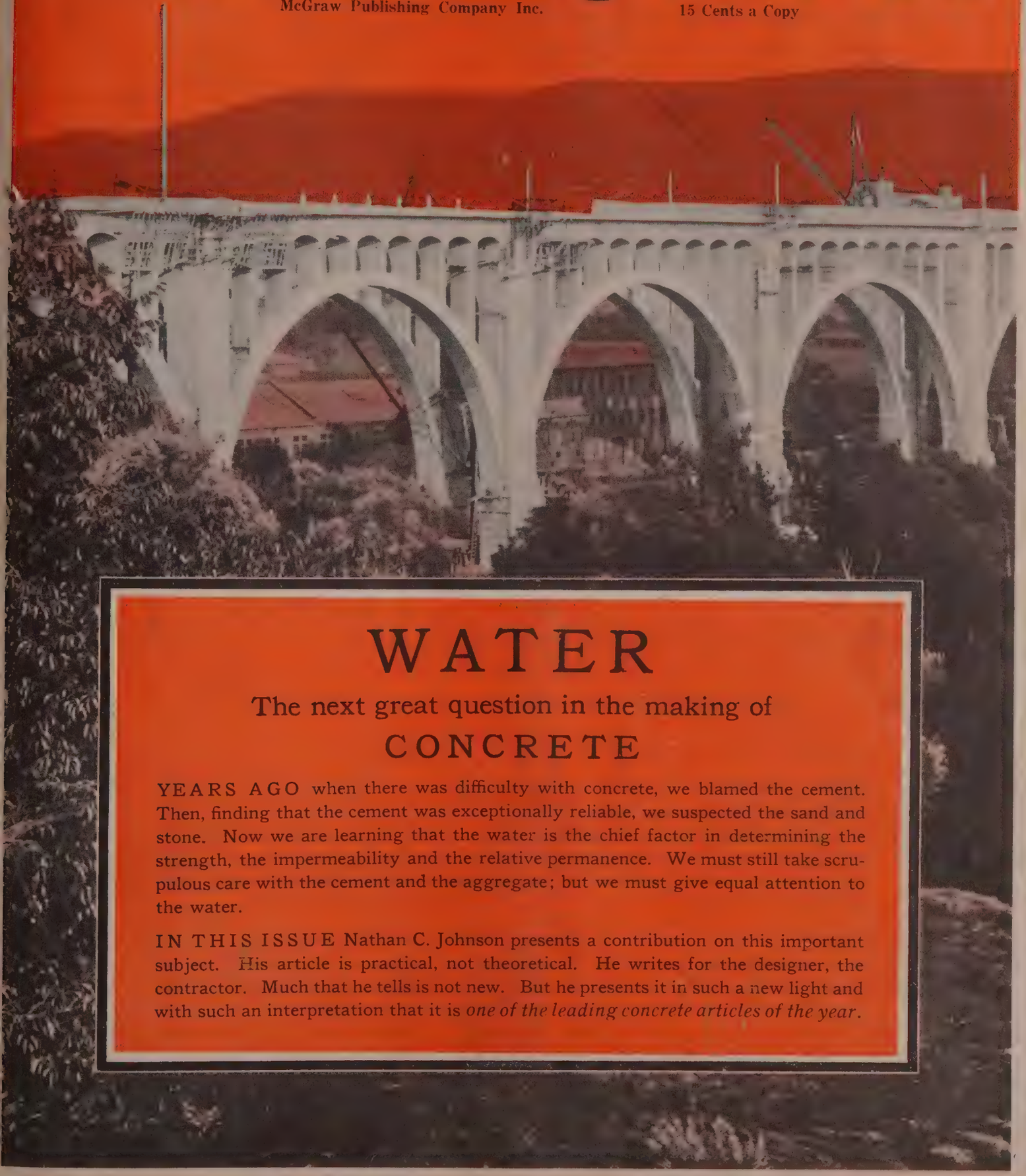
M. C. MURRAY,
Superintendent of Department o
Streets and Public Improvements

ILLINOIS STATE WATER SURVEY
LIBRARY COPY

December 30, 1916

Engineering Record

McGraw Publishing Company Inc. 15 Cents a Copy



WATER

The next great question in the making of CONCRETE

YEARS AGO when there was difficulty with concrete, we blamed the cement. Then, finding that the cement was exceptionally reliable, we suspected the sand and stone. Now we are learning that the water is the chief factor in determining the strength, the impermeability and the relative permanence. We must still take scrupulous care with the cement and the aggregate; but we must give equal attention to the water.

IN THIS ISSUE Nathan C. Johnson presents a contribution on this important subject. His article is practical, not theoretical. He writes for the designer, the contractor. Much that he tells is not new. But he presents it in such a new light and with such an interpretation that it is *one of the leading concrete articles of the year.*

Kreolite Lug Wood Blocks
"The Paving thats saving"

Kreolite Lug Wood Block pavement, Jackson Avenue, Toledo.

No wearing after years of service

THE Kreolite Lug Wood Block pavement on Jackson Avenue, Toledo, was laid in the early summer of 1912. The pictures shown were taken on June 27, 1914, when the blocks had been in service for two years,

The upper picture shows the generally smooth condition of the pavement. The enlarged section at the bottom gives a good idea of the condition of the individual blocks.

There is a noticeable freedom from cobbling, or wearing at the joints. This is especially interesting in view of the fact that the street is very heavily travelled and is on about a four per cent. grade.

The lower picture also gives a good idea of the lug spaces between the blocks. These spaces provide ample room for expansion, preventing any buckling or bleeding, and also offer a foothold for horses. Team owners report that their horses are able to get a secure foothold on this pavement in spite of the grade.

Evidence of this kind tends to prove our claim that the lugs "make a good block better." There are now a million square yards of Kreolite Lug Wood Blocks in service, in all parts of the United States.

We have many other interesting photographs of installations. **Write for booklet, "The Paving that's Saving."**

The Jennison-Wright Co.

2464 Broadway, Toledo, Ohio

Chicago Cleveland Toronto Philadelphia Rochester Cincinnati Albany

Close-up view of section of pavement shown above.

Engineering Record

New York, December 30, 1916

Volume 74, No. 27

Contents

Pages 787-816

Water the Chief Factor in the Making of Good Concrete 790

By Nathan C. Johnson.

Day's-work Planes and laitance are the common explanations for defects due to excessive use of water. Inspection of long wall shows these planes for full length.

Functions of water in concrete.

Water is a space filler and therefore excess of it must leave voids that are weakening.

Remedy suggested is to waste lighter portions of mix.

Engineering Record, Dec. 30, 1916. 11½ cols. Ill.

How Chicago Is to Finance Traction Program 793

Extension of existing profit-division plan recommended.

Amortization funds will eventually make city owner.

Engineering Record, Dec. 30, 1916. 1½ cols.

Higher Unit Stresses for Pipe and Computation of Water Hammer Pressure Advocated 794

By Barton M. Jones.

Design of Heavy steel pressure pipe lines can be made more economical by proposed method outlined in detail.

Common Assumption of pressure is discussed. Formulas for equivalent pressure due to water hammer, time and velocity are given.

Engineering Record, Dec. 30, 1916. 3⅔ cols.

Soft Ground Tunnel Under Lake Union at Seattle Presents Many Difficulties 795

Timber and Canvas blankets were required on the lake bottom to stop leaks and one section of the concrete lining sunk and had to be replaced. Grouting with hand pumps was very satisfactory.

Engineering Record, Dec. 23, 1916. 4½ cols. Ill.

Brick Pavement on Two-Inch Mortar Base Laid for $1.45½ Per Square Yard 797

By P. E. Green.

Substantial Saving was made in surfacing lightly traveled streets of Dwight, Ill., by reducing the thickness of the foundation course.

Type of Construction is suitable only when the subgrade is sound and dry and can be kept in this condition.

Tests were made to determine the best size of sand to use in the mortar foundation course.

Engineering Record, Dec. 23, 1916. 7 cols. Ill.

Inlaid Tile Used in Arch Span of Park Bridge 799

Counterfort Abutments or retaining walls used in Piedmont Park Bridge, Atlanta, Ga.

Cast-Iron Expansion details for the reinforced-concrete stringers.

Aesthetic Values given proper consideration in combination with economical construction—red brick handrailing capped with concrete.

Engineering Record, Dec. 30, 1916. 2 cols. Ill.

"South Station Under" of Boston Rapid Transit System Has Ample Facilities 800

By William W. Lewis.

Stairways and Escalators on all sides of Dewey Square.

Direct Transfer of passengers to the South Union Station.

Large Lobby Above tracks, and substation for power located at one end.

Engineering Record, Dec. 30, 1916. 7 cols. Ill.

Dredging Contractor Must Keep in Close Personal Touch With Work 802

By Arthur M. Shaw.

Simple and Accurate reports and good business methods of accounting necessary if balance is to be kept on right side of ledger.

Engineering Record, Dec. 30, 1916. 3 cols.

Reinforced-Concrete Garage Has Cantilever Floors 803

McMillan Building in Detroit, Mich., designed with 39-ft. spacing of columns.

Inclined Floor Slabs provide for entrance of cars to second floor.

Engineering Record, Dec. 30, 1916. 2 cols. Ill.

Chicago Studying Effect of Zoning System 804

Bill Before City Council provides for restriction of new construction to certain locations.

Engineering Record, Dec. 30, 1916. ½ col.

HINTS FOR THE CONTRACTOR 811

Utilize Backfiller for Pulling Sheet Piles.

Unique Concrete Blocks Built by Homemade Traveler.

Heavy Rake Spreads Riprap and Cobbles on Rivetment.

Adjustable Trowel Triples Finishing Progress on Concrete Curb. By P. E. Green.

Plow on Dinkey Clears Road of Dumped Material.

Steam Shovel Breaks Up Concrete Base Quickly With Drop Hammer. By Herbert J. Gilkey.

Other Articles in This Issue of Interest to Contractors

Water the Chief Factor in the Making of Good Concrete. 790

Soft Ground Tunnel Under Lake Union at Seattle Presents Many Difficulties. 795

Brick Pavement on Two-Inch Mortar Base Laid for $1.45½ per Square Yard. 797

Dredging Contractor Must Keep in Close Personal Touch With Work. 802

New Ditch Excavated in Bank of Old One. 806

Group of Buildings Designed for Maximum Daylight and Transportation Facilities 804

Budd Manufacturing Company plant in Philadelphia enlarged by addition of concrete and steel structures connected to existing building by underground tunnel.

Indoor Receiving and shipping platforms designed to facilitate handling of material.

Engineering Record, Dec. 30, 1916. 5 cols. Ill.

Diagram Facilitates Detailing of Gusset Plates 806

Sizes of Plates and location of end rivets easily determined when levels are known.

Unknown Bevels found by locating end rivets to give clearances necessary.

Engineering Record, Dec. 30, 1916. 1⅓ cols. Ill.

New Ditch Excavated in Bank of Old One 806

By C. D. Conway.

Concreting Costs $8.25 per yard excluding excavation. Water losses reduced. Money formerly spent on maintenance saved.

Engineering Record, Dec. 30, 1916. 2 cols. Ill.

Improvements Made in Signposts for Roads 807

Data on Economical and permanent types collected from highway and automobile organizations.

New York State is now using concrete posts with wood board markers.

Variations in Practice discussed for signposts in Minneapolis, Southern California and along the Lincoln Highway.

Engineering Record, Dec. 30, 1916. 5½ cols. Ill.

Estimates Expenditure on Lincoln Highway for 1916 808

$6,000,000 spent by eleven states does not include city pavements.

New Hotels built at total cost of $5,406,000.

Engineering Record, Dec. 30, 1916. ½ col.

Letters to the Editor 809

Is Uniformity Possible in State Motor Truck Legislation? By E. A. Stevens, Nelson P. Lewis, E. M. Stern, C. J. Bennett and G. P. Coleman.

Slab-and-Beam Floor Without Shear Stirrups. By Curt Von Mueller and J. H. Byrd.

Reinforced-Gypsum Roof Decks a Modern Development. By Virgil G. Marani.

Editorials 787

News of the Week 813

Contracting News 253

Buyers' Directory 98

Index to Advertisers 102

James H. McGraw, President — A. E. Clifford, Secretary — J. T. DeMott, Treasurer — E. J. Mehren, Editor

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Circulation of this issue 20,600 copies.

Home-Made Snow Storm Proves Fenestra Weathering

Testing Fenestra Weathering

Fine pastry flour was blown at eighty miles an hour against a Fenestra Vertically Sliding Sash. After 20 minutes not a particle of flour had been blown through the weathering.

This was only one of the many severe tests to which

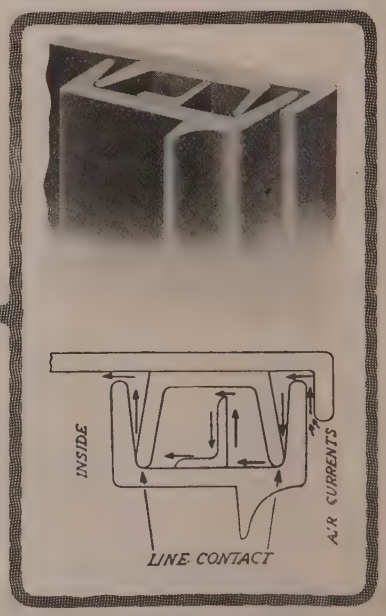
Fenestra
SOLID STEEL WINDOWS
"REG. U.S. PAT. OFF."
Vertically Sliding

was submitted before the weathering was marked O. K. The details below show the 9 right angles which form the basis of Fenestra baffle weathering.

The same construction at head, jamb and sill insures proper protection at all points of the window.

Vertically Sliding Fenestra moves at a finger's pressure. It slides up and down in the familiar way. It is easily screened and shaded.

The price is reasonable.

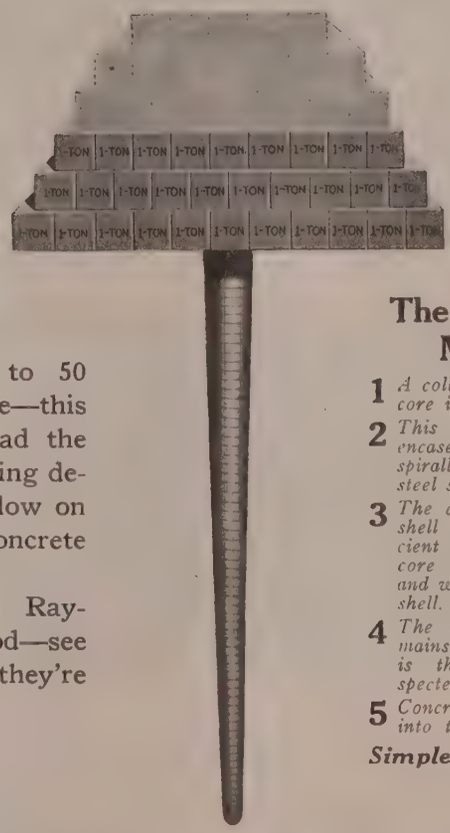


Write for our booklet "Vertically Sliding Fenestra"

Detroit Steel Products Company, Department L-12 **Detroit, Michigan**

Raymond Concrete Piles

What load will they carry?



From 30 to 50 tons per pile—this being the load the various building departments allow on Raymond Concrete Piles.

Study the Raymond Method—see how simply they're built.

The Raymond Method

1. *A collapsible mandrel or core is expanded.*
2. *This expanded core is encased in a sectional, spirally reinforced, sheet steel shell.*
3. *The combined core and shell is driven to sufficient penetration. The core is then collapsed and withdrawn from the shell.*
4. *The shell — which remains in the ground— is then carefully inspected.*
5. *Concrete is now poured into the shell.*

Simple, isn't it?

Raymond Concrete Pile Company

New York
140 Cedar Street

Branch Offices in all Principal Cities

Chicago
111 W. Monroe Street

Raymond Concrete Pile Company of Canada, Ltd., Montreal, Canada

A Form for Every Pile — A Pile for every Purpose

How are they made? See Engineering Record Nov. 25, 1916	**What do they cost?** See Engineering Record, Feb. 24, 1917	**How fast can they be placed?** See Engineering Record, March 31, 1917
How close can they be placed? See Engineering Record, January 27, 1917	**What load will they carry?** See above advertisement	**What is their average length?** See Engineering Record, April 28, 1917

Lowering Ground Water Level Over 20 Ft. for William Street Subway

The William Street Subway, New York City, has to withstand a hydrostatic pressure due to over twenty feet of ground water.

The close proximity of tall buildings required that we lower this ground water level ahead of the excavation.

A narrow ditch a couple of feet deep was dug along each side of the excavation and lined with boards.

The soil, when a coarse sand, drained quickly into the ditch. In a day or two it was possible to remove dry sand adjacent to the ditch to the depth of several inches.

The ditch was then driven deeper and the operation repeated. The ditch water drained into and was pumped from a steel sheet piling sump which was also driven down as fast as the floor level was lowered.

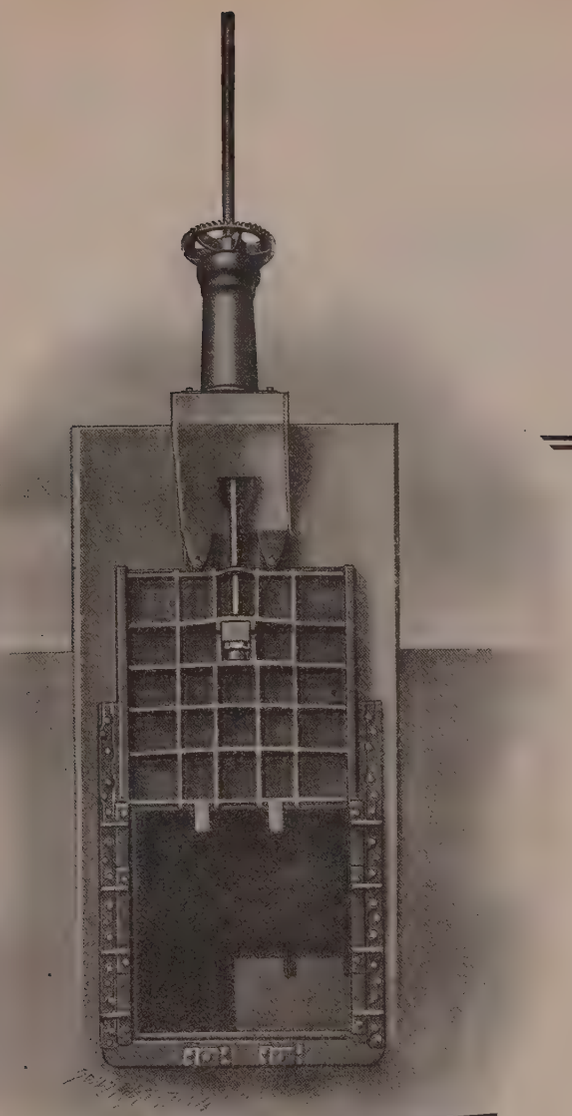
The simple process described enabled us to proceed rapidly with the work, despite the fact that this section was within 300 feet of the river.

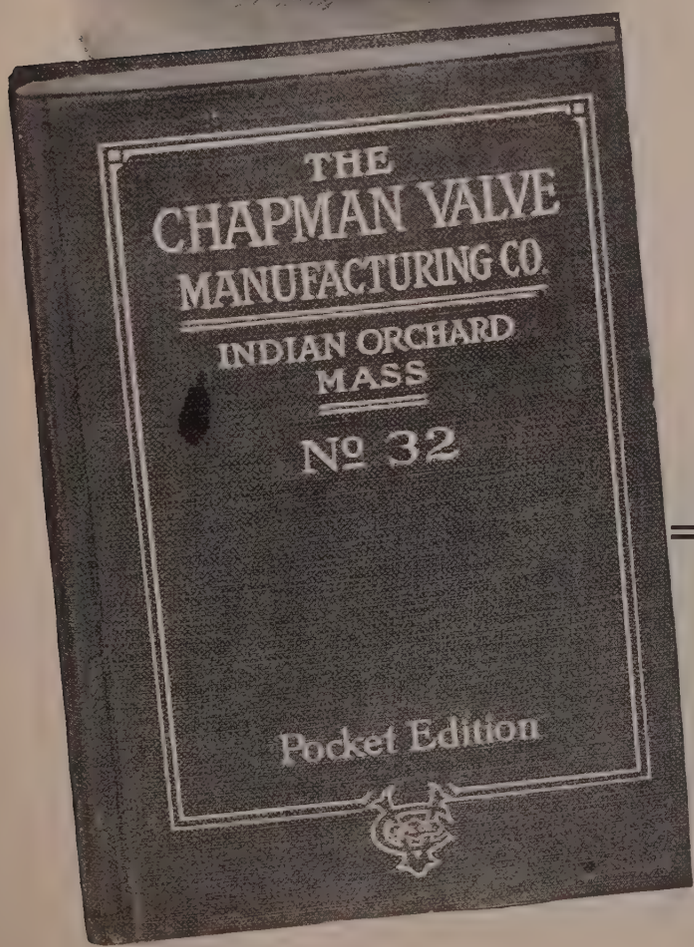
The organization building the William Street Subway is available to handle your work.

Contractors for Underpinning and Foundations, Aqueducts, Subways, Railroad Work, Bridge Piers, Shafts and Tunnels.

SMITH, HAUSER & MacISAAC, Inc.

18 East 41st Street - - - - - - - New York





Not *"What make of sluice gate shall we get?"*— but *"what type of*

CHAPMAN

Sluice Gate?"

Built for hand, hydraulic, electric or pneumatic operation. Also Valves of every description. The Catalog—32nd edition—is a valuable publication.

The Chapman Valve Mfg. Co.

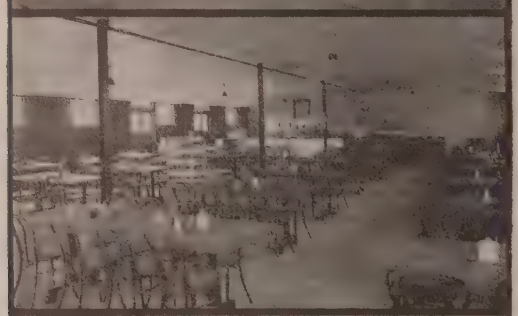
Indian Orchard, Mass.

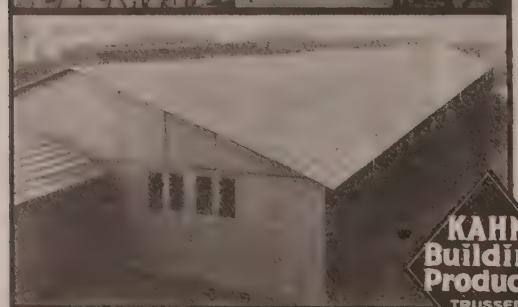
Branch Offices and Agents with Stock

Boston Chicago New York Philadelphia San Francisco

The Canadian Sarco Engineering Co., Ltd., Winnipeg, Canada.
Campbell Gordon Co., Vancouver, B. C.
Purdy & Henderson, Inc., Havana, Cuba.
The British Australian Mchry. Co., Ltd., Sydney, N. S. W.
Crosby Valve & Engineering Co., London, England.
Charles McIntosh & Co., 426 Dime Savings Bank Bldg., Detroit, Mich.
Richardson Freres, Marseilles, France.
Richardson Freres, represented by Charles Rigaux, 109 Rue de Rome, Paris, France.
The Chapman Valve Mfg. Co., 727 Traders Exchange Bldg., Toronto, Ont.
Smith-Booth-Usher Co., Los Angeles, Cal.
Mr. A. MacLachlan, Mgr., Room 876 Rockefeller Bldg., Cleveland, Ohio.

Speedy Building in Winter





These all steel buildings do not depend upon the hardening of cement or mortar. They come to you in steel panels all ready to erect. On the coldest day they can be rapidly erected into a complete structure just as easily as in summer. You can have a weathertight, perfectly ventilated and well-lighted Kahn Steel Building ready for occupancy in a few days—and a hammer is the only tool required.

Kahn Steel Buildings

constitute the ideal building for rapidly growing businesses, as they are quickly enlarged—readily taken down and moved to a new location—speedily re-erected. Suitable for garages, factories, offices, storehouses, schools, hospitals, cottages, railroad sheds, etc.

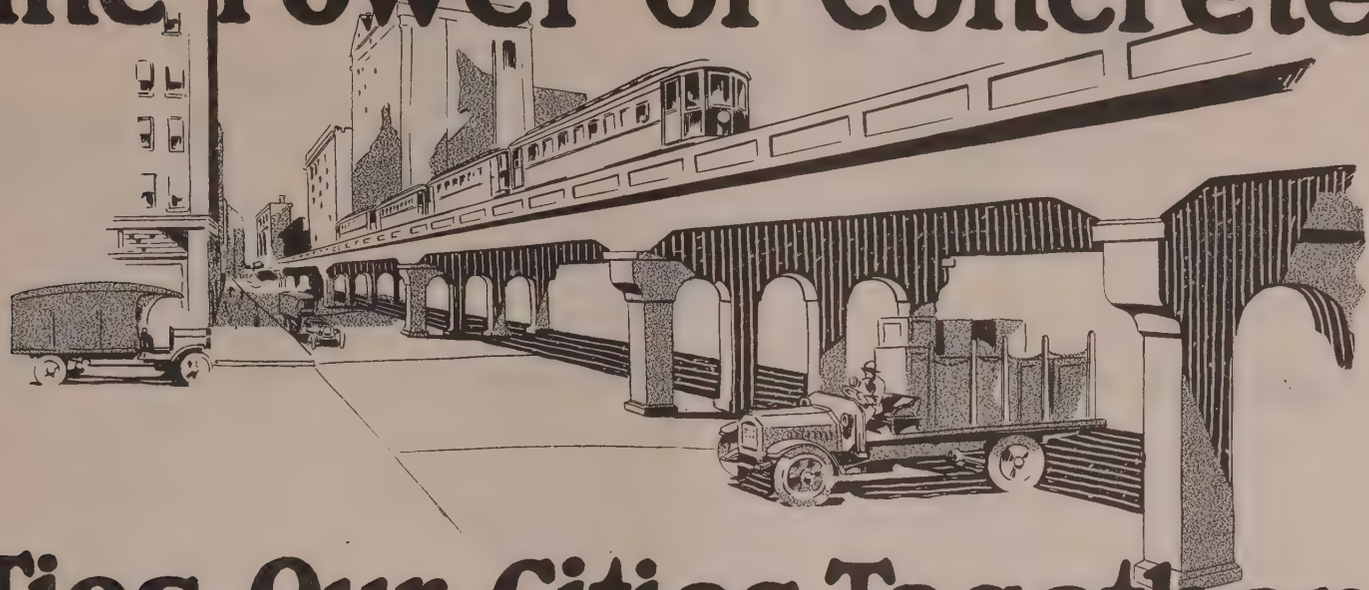
Made of interchangeable steel units, assembled by means of a simple locking device. Provided with steel sash, steel doors, and steel-tile roof. Fireproof, weathertight—approved by city building departments. A modern type of economical, permanent construction, well deserving your investigation.

Send today for our free book giving full information.

KAHN Building Products
TRUSSED CONCRETE STEEL CO.

Trussed Concrete Steel Co.
Dept. P-52 Youngstown, Ohio

The Power of Concrete



Ties Our Cities Together

In every modern community the power of concrete has made possible the linking of distant districts and has united one city with another.

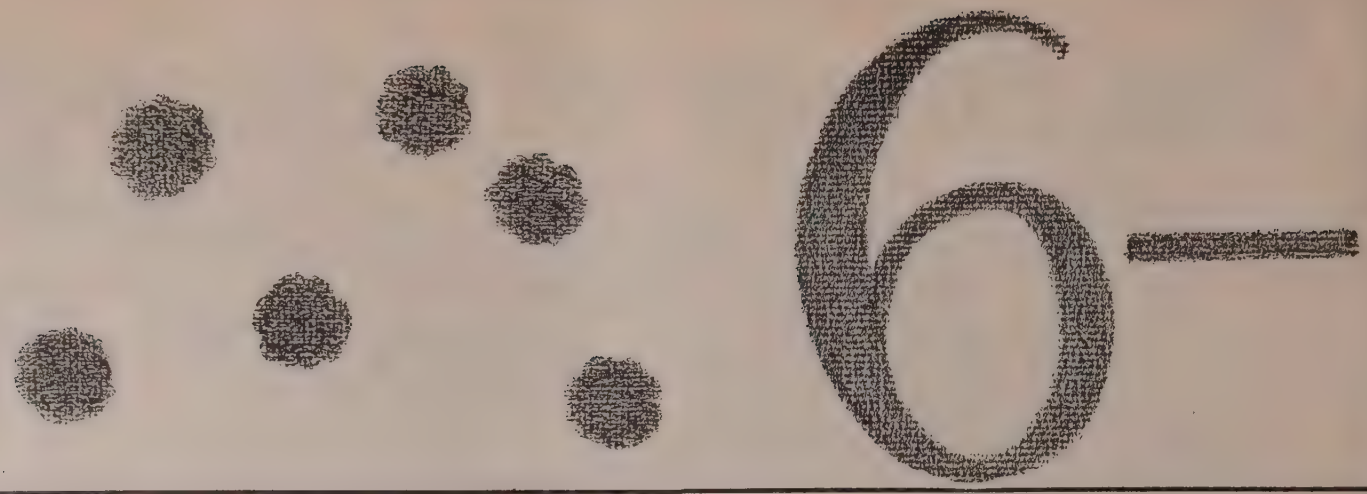
Massive concrete viaducts, bridges and railroad terminals carry annually not only millions of travelers, but also the trains that bear the produce of the field and the product of the factory.

Lehigh Portland Cement Company

Allentown, Pa. Chicago, Ill. Spokane, Wn.

LEHIGH CEMENT

Concrete for Permanence



There are six essential pieces of equipment on practically every concrete job.

Does that mean a six-fold *buying problem?*

It shouldn't. It needn't!

You can make it as easy as buying a *single* piece of equipment.

Simply select *your* equipment from the complete LAKEWOOD LINE.

Instead of *six* sources of supply—six separate deals—six shipments from as many factories—

Instead of one company being responsible for your Mixer—and *another* for your tower—and *another* for your cars—and *still others* for your chute, buckets and track—

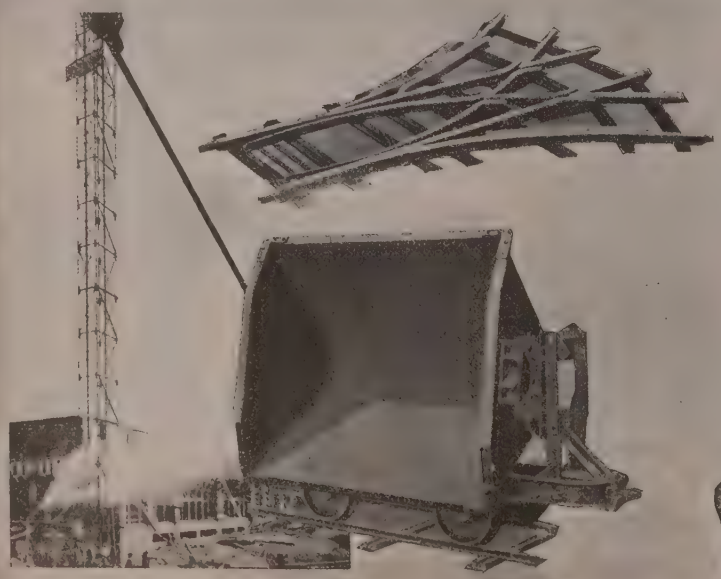
You can *center the responsibility* and simplify your buying problem by making ALL your equipment LAKEWOOD.

LAKEWOOD LINE
BUILT TO LAST

MEMBER OF NATIONAL ASSOCIATION of MIXER MNFRS

MIXER CAPACITIES BASED ON N. A. M. WET BATCH RATING

Concrete Gravity Equipment Licensed Under Patents of Concrete Appliances Company of California



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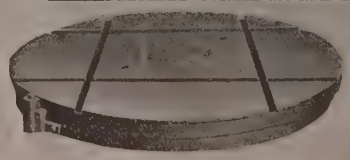

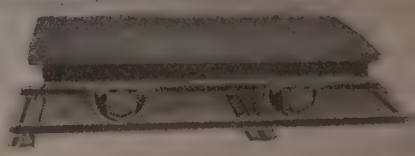

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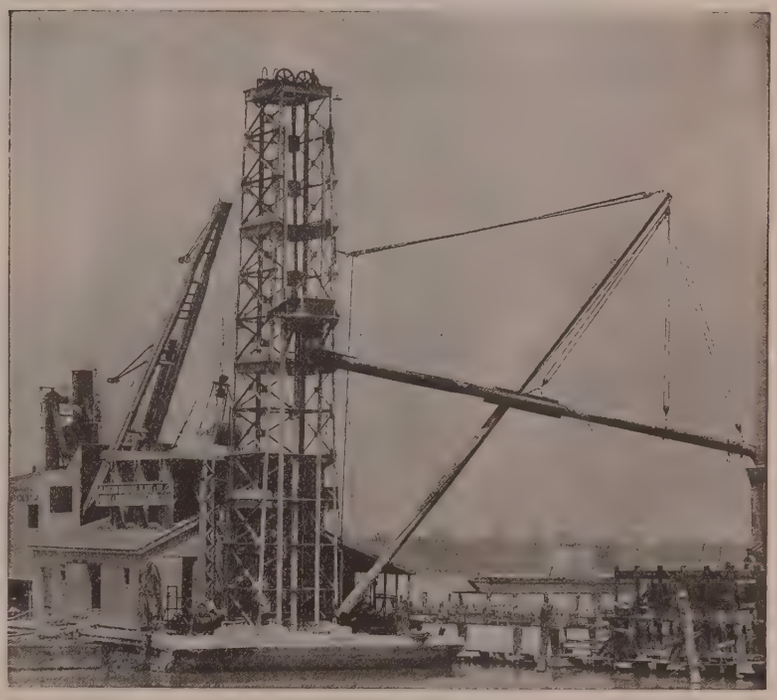

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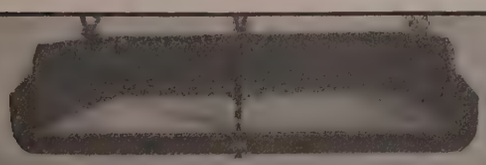

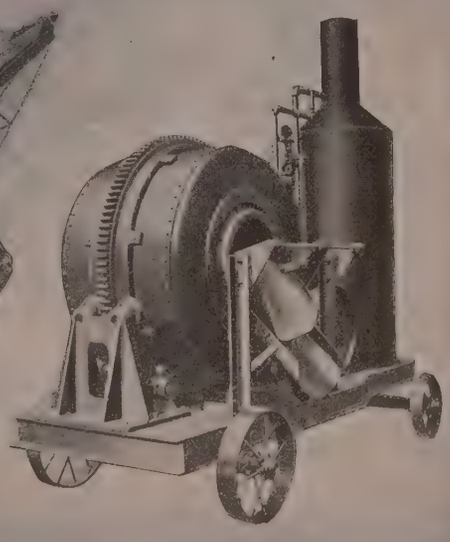

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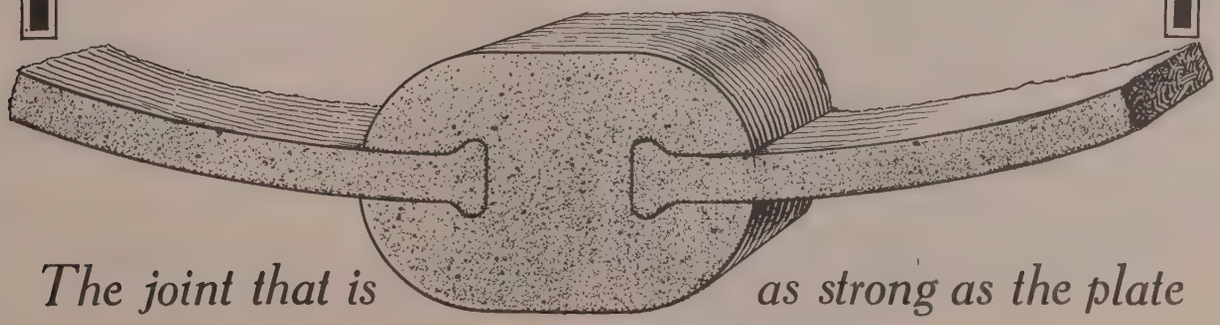

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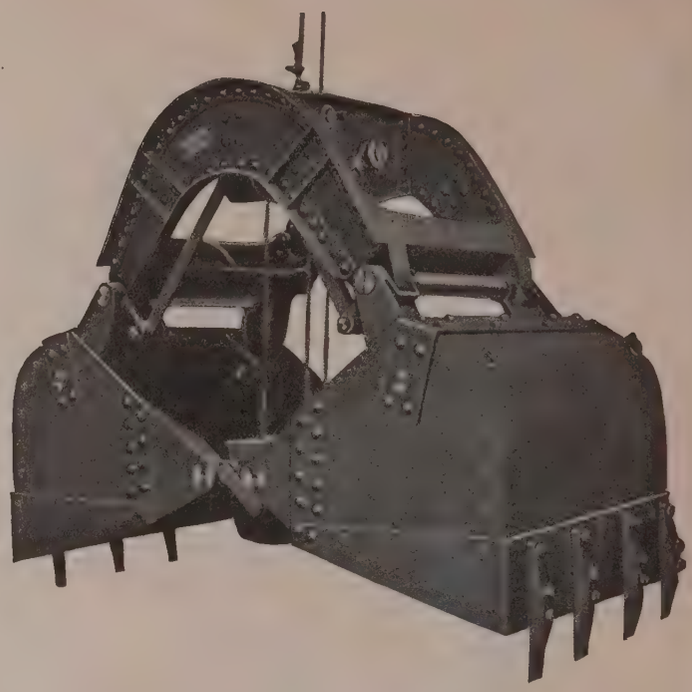

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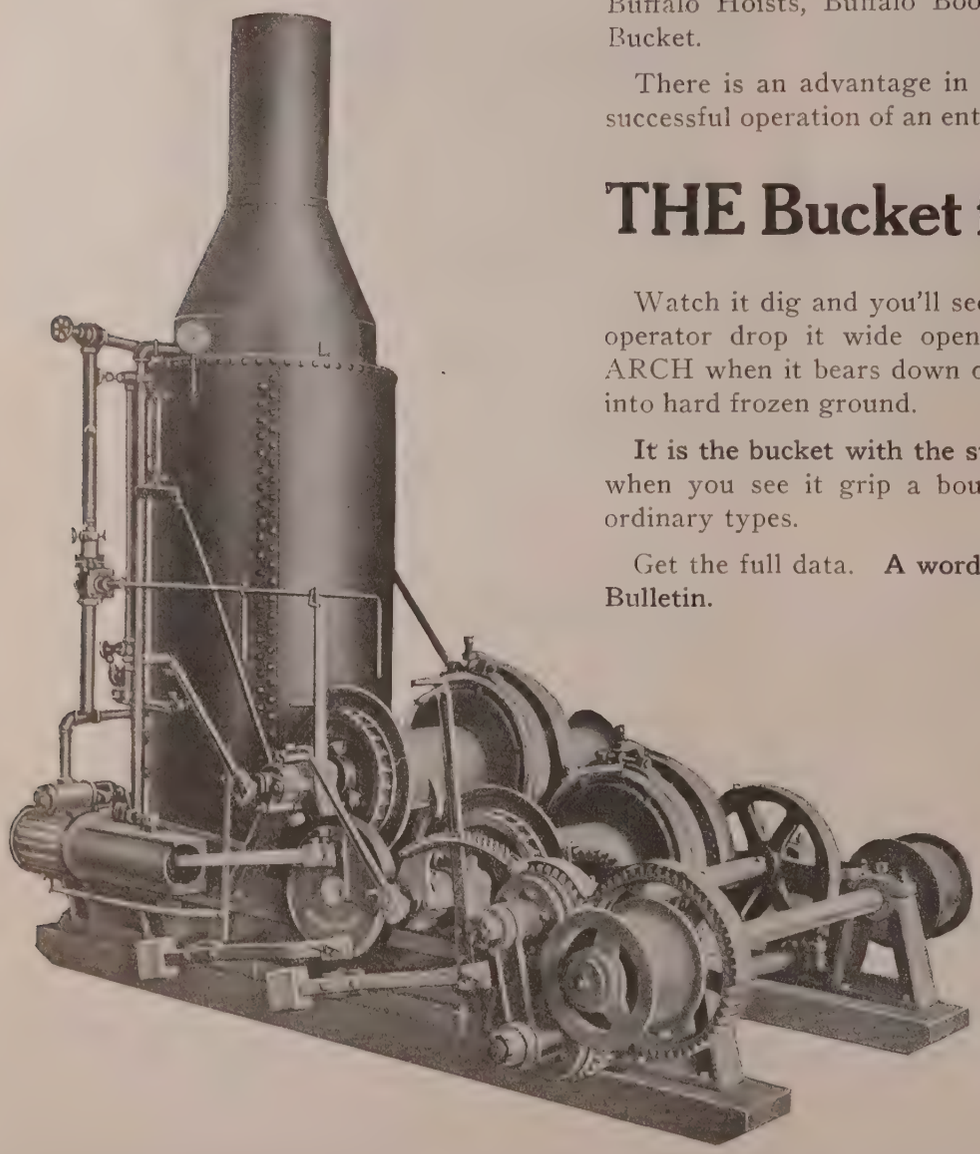

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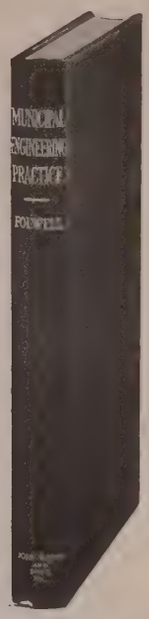

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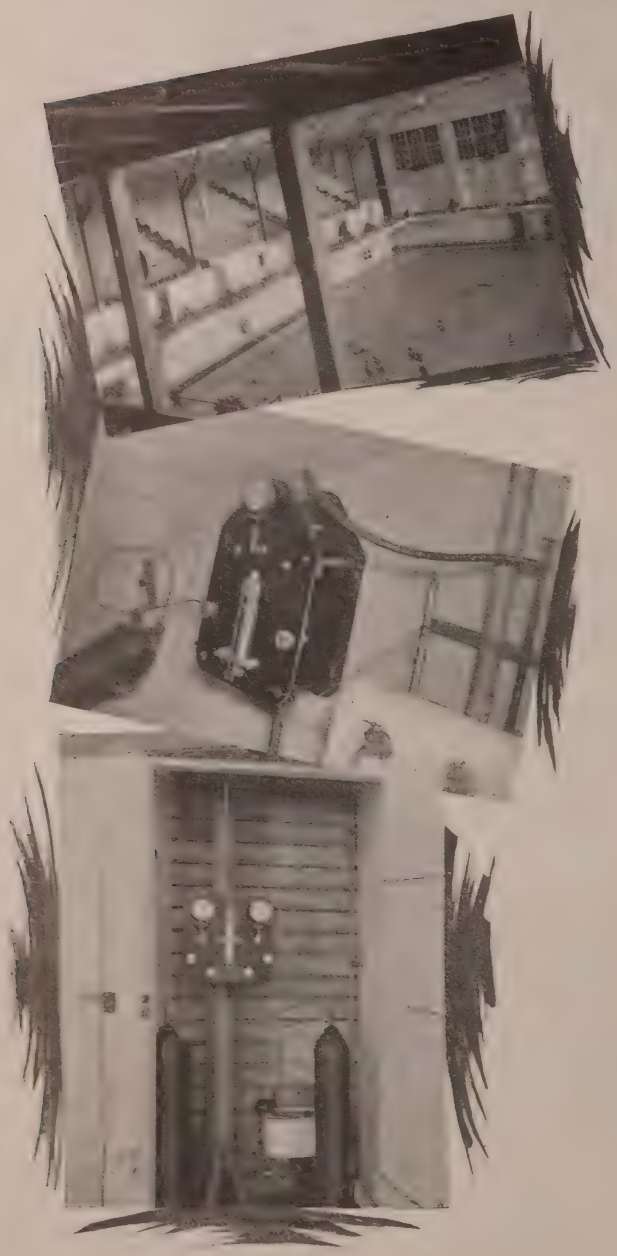

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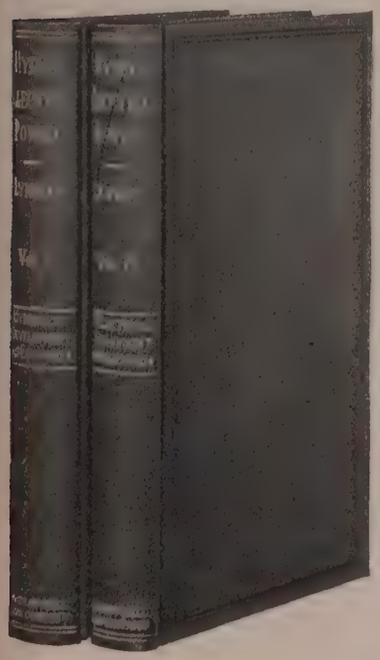

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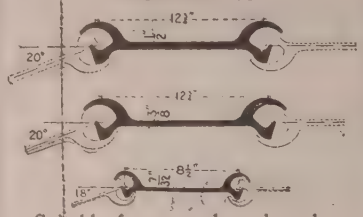

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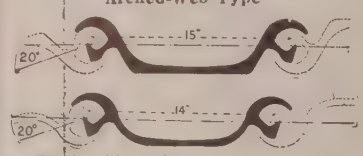
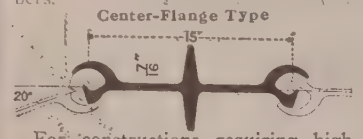
For cut off walls, permanent form work, sewers, trenches, and other light work.

Arched-Web Type



Preferable where transverse strength of the pile is of primary importance, as in braced or tied constructions. The high modulus of the single section per inch of width of pile, gives a high moment of resistance to sustain the maximum bending moment produced by the load, where the pile is used as a simple, continuous or cantilever beam. A wall of this piling is very thin, in proportion to its transverse strength, having no greater thickness over all at the centers of the arches than the over-all thickness of the interlocked joints. The arching of the web prevents distortion of the section in transmitting the load at the bearing on the waling timbers. Flattening the back of the web furnishes a long straight contact with the waling timbers.

Center-Flange Type



For constructions requiring high tensional and compressive strength, in connection with a fairly high transverse strength. The center-flange acts as a stiffener, increases the section modulus and furnishes means for attaching transverse ties, braces, etc., needed in special work, and for the mechanical bond of the concrete facing in protected piling.

Lackawanna Protected Steel Sheet Piling

Best for *permanent* installations exposed to severe corrosive action, as sea walls, building foundations, railroad embankments, dock walls, core walls for dams, revetments, etc. By grouting the interlocked joints, such a wall is made entirely waterproof, and rigid.

Complete dimensions, weights, and properties of all of the above sections will be sent upon application.

Building the Walls of Lock No. 2, Cape Fear River, Brown's Landing, N. C., Within a Lackawanna Steel Sheet Piling Cofferdam that Was Unharmed by Unusually Severe Conditions

The outside head of water at the time this picture was taken was 26 feet and shortly afterwards a fast rise in the river flooded the cofferdam completely. This flooding had already been a frequent occurrence due to the treacherous nature of the river here, and sometimes completely submerged the cofferdam. For this reason, a 12-in. pipe was put through one of the pockets 12 feet below the top as shown on the far wall and arranged with gate valve control, to partially flood the interior and ease off the excessive unbalanced pressure just before complete flooding.

The thorough ability of Lackawanna Steel Sheet Piling in cofferdam pockets to resist enormous overturning pressures is plainly indicated by the regular and pleasing appearance of the pockets shown at the right.

Our files abound with data on large and small installations of Lackawanna Steel Sheet Piling, and are always at the service of prospective customers.

Ask for our book—"Lackawanna Steel Sheet Piling."

Lackawanna Steel Company

Open Hearth and Bessemer Steel Products; Ingots, Billets, Blooms, Slabs; Standard Heavy and Light Rails, Contact Rails, Angle and Splice Bars, Abbott Rail Joint Plates and Tie Plates; Track Bolts and Spikes; Standard Structural Shapes; Sheared and Universal Mill Plates, Sheet Bars, Merchant Bars in Rounds, Squares, Flats, Ovals, Half-Ovals, Hexagons; Concrete Reinforcing Bars and Lackawanna Steel Sheet Piling.

General Sales Office and Works: Lackawanna, N. Y.

Atlanta	Buffalo	Cincinnati	Detroit	Philadelphia	San Francisco
Boston	Chicago	Cleveland	New York	St. Louis	Havana

Licensees for the manufacture of Lackawanna Steel Sheet Piling: For Great Britain and British Colonies in the Eastern Hemisphere: Cargo-Fleet-Iron Co., Ltd., Middlesbrough, England. For France, Italy, Spain, French Colonies and Protectorates, Italian Colonies and Spanish Colonies in the Eastern Hemisphere: Cie Des Forges & Aciéries de la Marine et d'Homécourt, Paris, France.

272

The Panama Canal Electrically Operated by G-E Apparatus

Experience at other ship canals has shown it to be a bad plan for ships to proceed through canal locks under their own power, so it was decided to tow vessels through the Panama Canal locks.

For this purpose not less than four locomotives are used for each ship. Two of these are opposite each other in advance of the vessel and two run opposite each other following the ship. The cables between ship and locomotives are adjusted by a winding drum on each locomotive so that the ship is kept substantially in mid channel and when towed by the forward locomotives is braked or guided by the rear ones. The pull is adjusted to the strength of the tow lines so it is practically impossible to break a line.

The operation of these specially designed G-E locomotives has been most satisfactory. This can also be said of the vast majority of electrical equipment used for building and operating the Panama Canal, which was furnished by the General Electric Company.

The experience gained in designing this equipment and the electrical equipment for building and operating the Catskill Aqueduct, the New York State Barge Canal and other public works is now placed at the disposal of those desiring to use electric power efficiently under the most exacting conditions.

G-E Industrial Locomotives are extensively used for many purposes

GENERAL ELECTRIC COMPANY

GENERAL OFFICE: SCHENECTADY, N. Y.

ADDRESS NEAREST OFFICE

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For Michigan Business refer to General Electric Company of Michigan, Detroit.
For Texas, Oklahoma and Arizona business refer to Southwest General Electric Company (formerly Hobson Electric Co.), Dallas, El Paso, Houston and Oklahoma City. For Canadian business refer to Canadian General Electric Company, Ltd., Toronto, Ont.

6467

Just Specify By BRAND

—by the brand reproduced on these timbers—when you want **reliable** structural timber. Make certain you're receiving GUARANTEED, UNIFORM, STRONG **long-leaf** yellow pine by simply insisting on the BRAND that identifies

Calcasieu Long Leaf Timbers

We, the undersigned competitive producers, have taken the step so strongly advocated in this journal —the BRANDING of Yellow Pine timber, **at the source.** And that source is the Calcasieu district, from which comes the finest grade of **long-leaf yellow** pine in the world. "Calcasieu" is another way of saying "long-leaf yellow pine timber graded according to the specifications adopted by the country's foremost engineers." Timber from the Calcasieu district means the highest durability requirements as to percentage of heart wood. The BRAND is your insurance.

Write to Any of Undersigned for Information

Associated Calcasieu Long Leaf Mills:

Louisiana Saw Mill Co., Ltd., - - **Glenmora, La.**
Sales Office, Consolidated Saw Mills Co., St. Louis, Mo.

Pawnee Land & Lumber Co., - - **Pawnee, La.**

Peavy Byrnes Lumber Co., - - - **Kinder, La.**
Sales Office, Shreveport, La.

W. G. Ragley Lumber Co., - - - **Ragley, La.**

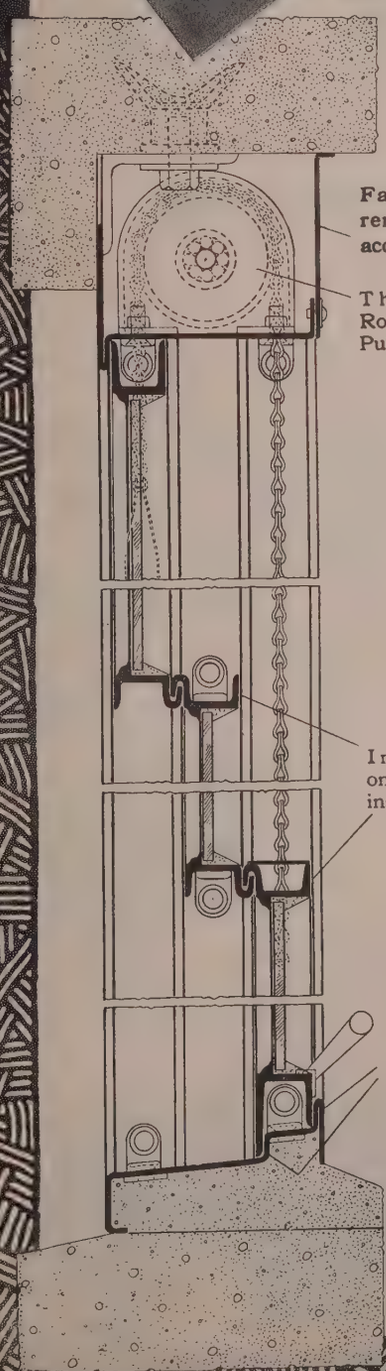
Crowell & Spencer Lumber Co., - **Long Leaf, La.**

Forest Lumber Co., - - - - - **Oakdale, La.**
Sales Office, Missouri Lumber & Land Exchange Co., Kansas City, Mo.

Industrial Lumber Co., - - - - **Elizabeth, La.**

LOOK FOR THESE FEATURES

when you next order side wall sash



They embody the very latest ideas for mill, loft and factory requirements. Every one of them helps toward better weather exclusion or cheaper maintenance.

And remember that Lupton welding doesn't mean a dab here and there—it means complete fusion into a permanently rigid unit.

LUPTON STEEL SASH
COUNTERBALANCED TYPE

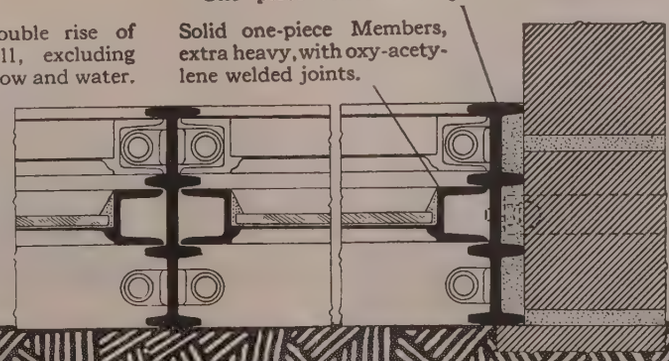
is distinguished by the use of the specially rolled and welded sash members, and the one-piece head and sill here shown. No riveted-on weathering members are used; even the meeting rails are specially rolled. The double offset in sill is another exclusive Lupton feature.

Owing to the simultaneous movement of the upper and lower sash in opposite directions, equal top and bottom ventilation is assured. Hence this type of sash is especially desirable for multi-story buildings with side wall ventilations.

DAVID LUPTON'S SONS COMPANY

Allegheny Ave. & Witte St., Philadelphia, Pa.

Our new Catalogue No. 9 gives full particulars of this and other Lupton Products.



Lupton Products

Lupton Steel Sash
- Pivoted Factory Type
- Counterbalanced Type for factories
- Counterweighted Type for offices
- Power House Type

Pond Continuous Sash
- For Pond Truss, saw-tooths, monitors and side walls
- Pond Operating Device for long lines of sash

Lupton Steel Skylight

Lupton Steel Partition and Doors

After all—you can't beat everlastingly durable construction in a concrete mixer!

And that's what you get in the

INTERNATIONAL Concrete Mixer

A mixer may embody all the latest "modern improvements" (as this mixer does)—but if it isn't built to stand up to the wear and tear on the all-day grind and to stand rough treatment by hurried, unskilled men—well, no need to tell you the last chapter! The International is built to stand the grind, from the steel truck up. Every part requiring riveting is *properly* riveted—and fitted—and reinforced—properly put together. You can't begin to realize the substantial makeup of this machine until you see Catalog PM 60-42. Have you got a copy?

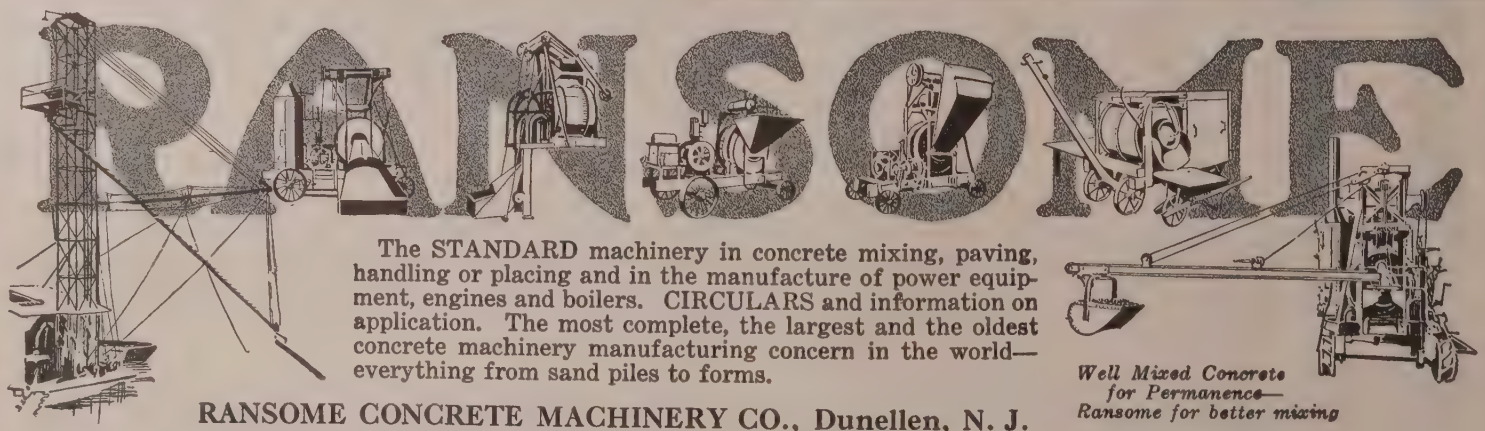
10 sizes, 4 to 100 cu. ft. per batch. Steam, Gasoline or Electric.

WORTHINGTON PUMP AND MACHINERY CORPORATION

Power & Mining Machinery Works

Cudahy, Wis., U. S. A., Suburb of Milwaukee

M 407.4



The STANDARD machinery in concrete mixing, paving, handling or placing and in the manufacture of power equipment, engines and boilers. CIRCULARS and information on application. The most complete, the largest and the oldest concrete machinery manufacturing concern in the world—everything from sand piles to forms.

Well Mixed Concrete for Permanence—Ransome for better mixing

RANSOME CONCRETE MACHINERY CO., Dunellen, N. J.

Chicago Office: 208 North Clinton St. San Francisco Office: 931 Hearst Building. Executive Offices: 115 Broadway, New York City.

(Member National Association Mixer Manufacturers)

NOT HOW MUCH BUT HOW GOOD

Knickerbocker Low Loading Mixers

Give the largest daily capacity with the lowest cost of upkeep.

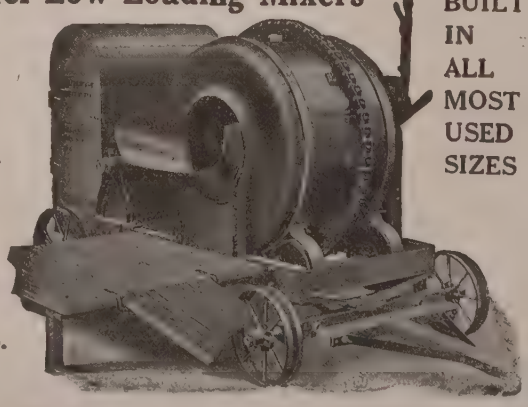
Our 1917 Line

NOW BEING DELIVERED

Write or Wire

The Knickerbocker Co.

Jackson, Mich.



BUILT IN ALL MOST USED SIZES

A feature of

KENT PRECISION MIXER

is the **thorough** mixing, in which the Kent excels. The materials fall into the trough in small units of exactly the right proportions, which are effectively combined by the thorough but rapid agitation of the paddles. There is no possibility of unevenness in the mass, as every part is repeatedly turned over and stirred before reaching the discharge end.

This feature, combined with its high productive capacity, makes the Kent the most economical and efficient Mixer on the market today.

Send for Catalog.

THE KENT MACHINE CO., KENT, OHIO, U. S. A.

Ask Us About the Kent Mortar Mixer

Millions for Installations— Not a Cent for Repairs!

Millions of square feet of Federal Cement Tile—laid in all kinds of weather—on the world's greatest industrial plants, shipping piers, railway buildings, etc. — have for years withstood all destructive elements *without one cent for repairs.*

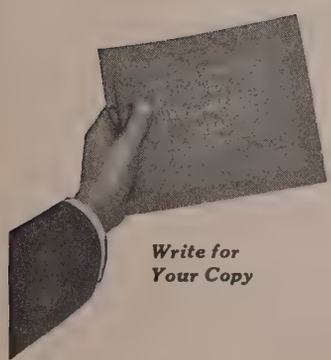
Federal Tile, made of selected materials, properly reinforced, is easily and quickly laid on flat and pitched roofs *and then can be forgotten.* It requires *no maintenance, no repairs.*

There's Nothing In It To Wear Out

Stop *spending* money on roof repairs and maintenance. *Invest* it once and for all in the permanent roof—Federal Cement Tile.

For pitched and flat surfaces and with glass inserts where a daylight roof is desired.

Made, laid and guaranteed by

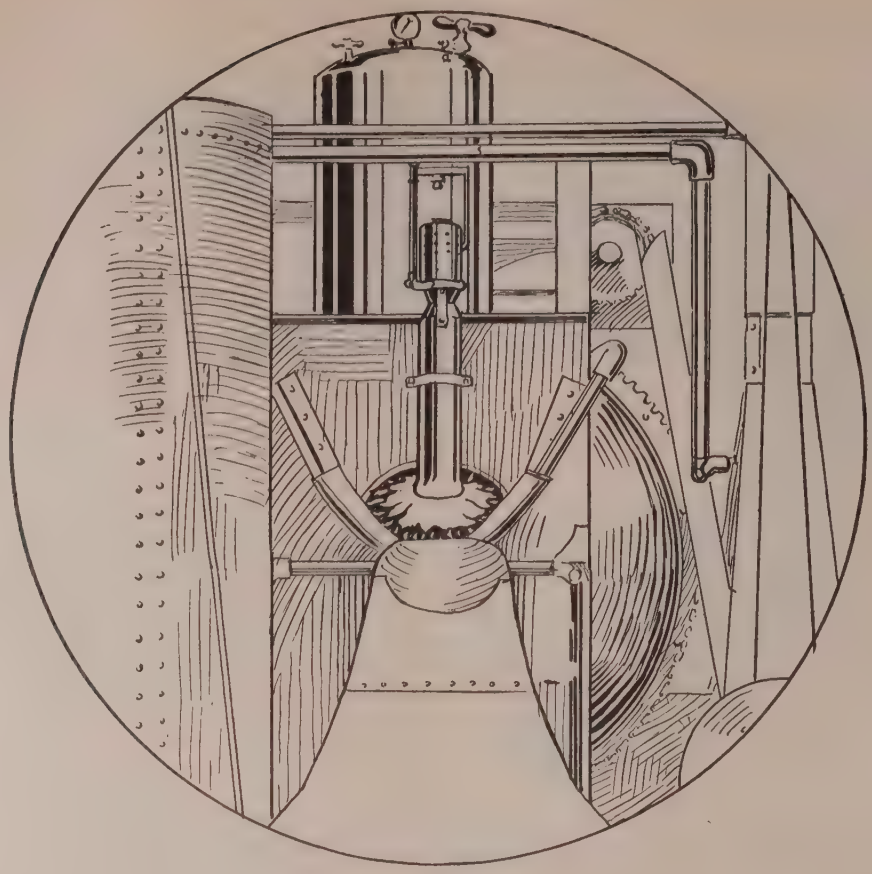


Write for Your Copy

FEDERAL CEMENT TILE CO.

920 Westminster Building, Chicago

A Few of the 50 Buildings of the $100,000,000 Gary Plant of U. S. Steel Corporation. All Roofed with Federal Cement Tile Without One Cent for Roof Repairs or Maintenance in Over 9 Years' Continuous Service



Make Winter Concreting Safe and Economical—
Heat the Materials in the Drum

No need to heat the water or aggregate before charging. The Milwaukee Heater delivers the flame where it's needed—**right on the materials revolving in the drum.** If the aggregate is frozen, just break it into lumps and the flame will thaw it out.

MILWAUKEE CONCRETE HEATER

For Any Mixer—Burns Fuel Oil or Kerosene

PRICE, Complete $125.00

Consumes only 2 gallons of fuel per hour and heats a ½-yard batch to 50 degrees F. in 3 minutes—*and heats it thoroughly!* The burner is of the vaporizing type. The 20-gal. oil storage tank is provided with a powerful hand pump and a few minutes' operation supplies pressure for three hours. The tank can be placed anywhere on the mixer or on the ground. The burner and flame pipe are quickly attached to the drum frame.

Only a half hour is required to securely attach the entire outfit and it is ready for steady operation after 5 minutes' pre-heating. No trouble to operate—requires little attention—efficient and economical. It satisfies the engineer's demands for safety and meets the contractor's requirements for speed.

Milwaukee Concrete Heaters are not experiments. They have made good for some of the biggest contractors in the country—notably on the New York Subway job, winter of 1915-16. They'll make good for you.

Don't lose valuable time because of cold weather. Order a Milwaukee heater at once and go right ahead with your work.

Complete information and descriptive matter on request.

MILWAUKEE CONCRETE MIXER COMPANY

960—30th Street **Milwaukee, Wis.**

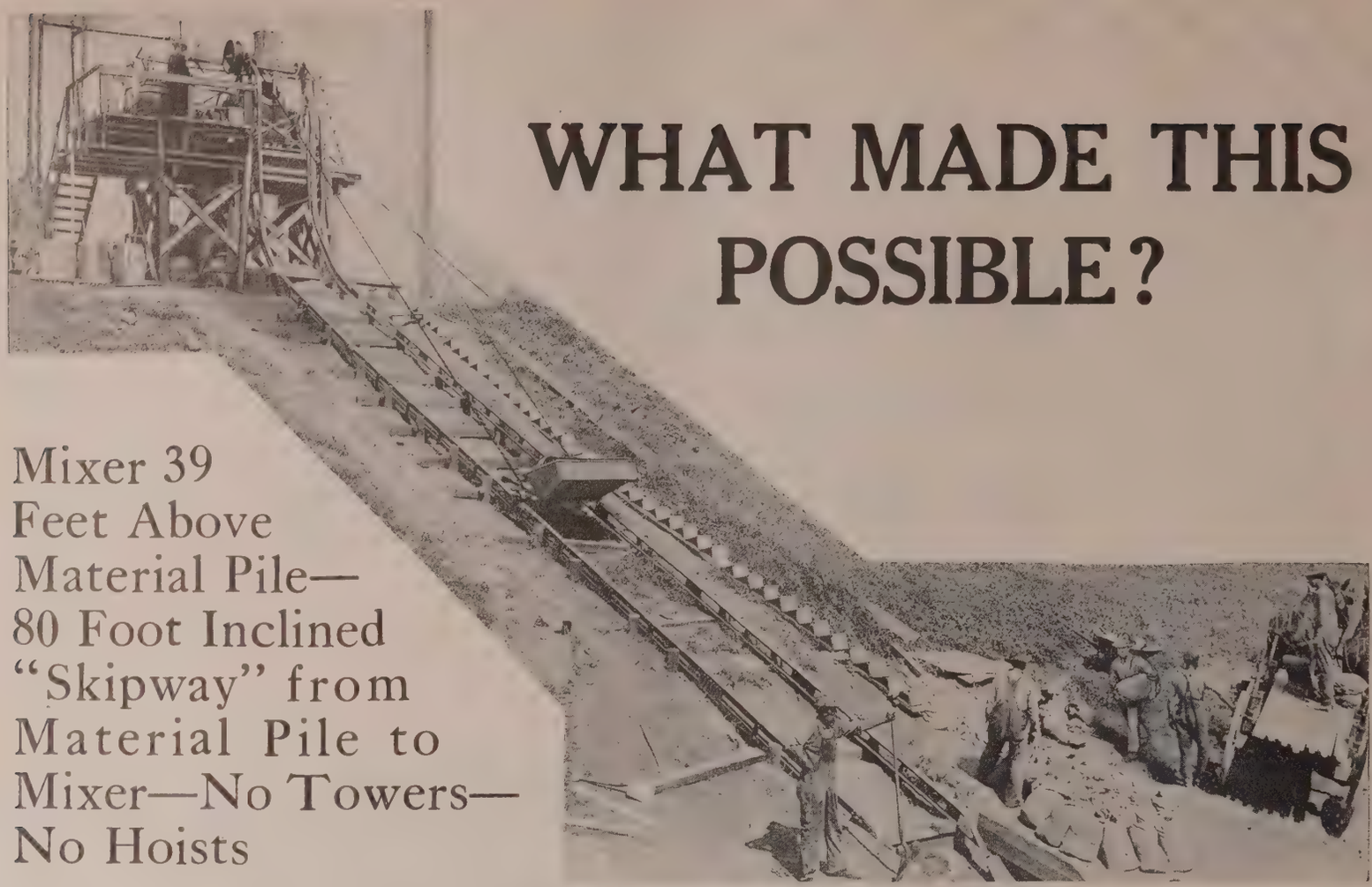
METHOD of driving a mixer has a lot to do with the mixer's dependability.

Besides "Milwaukees" two other good mixers use the efficient chain drive.

THOUGHT SEVEN

Milwaukee Concrete Mixer Company
960–30th St. Milwaukee, Wis.

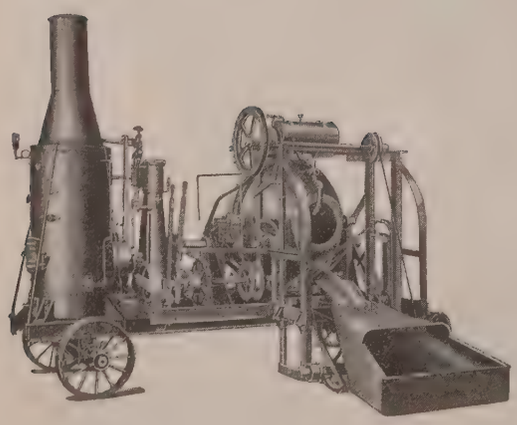
MEMBER OF NATIONAL ASSOCIATION OF MIXER MNFRS.



WHAT MADE THIS POSSIBLE?

Mixer 39 Feet Above Material Pile—80 Foot Inclined "Skipway" from Material Pile to Mixer—No Towers—No Hoists

SMITH MIXER FLEXIBILITY Is the Answer!



By "flexibility" we mean ability to adjust itself to unusual conditions. In this case the problem of eliminating concrete towers and hoists was solved by the

Smith Non-Pivoted Power Charger

A Combined Hoist, Tower and Automatic Loader

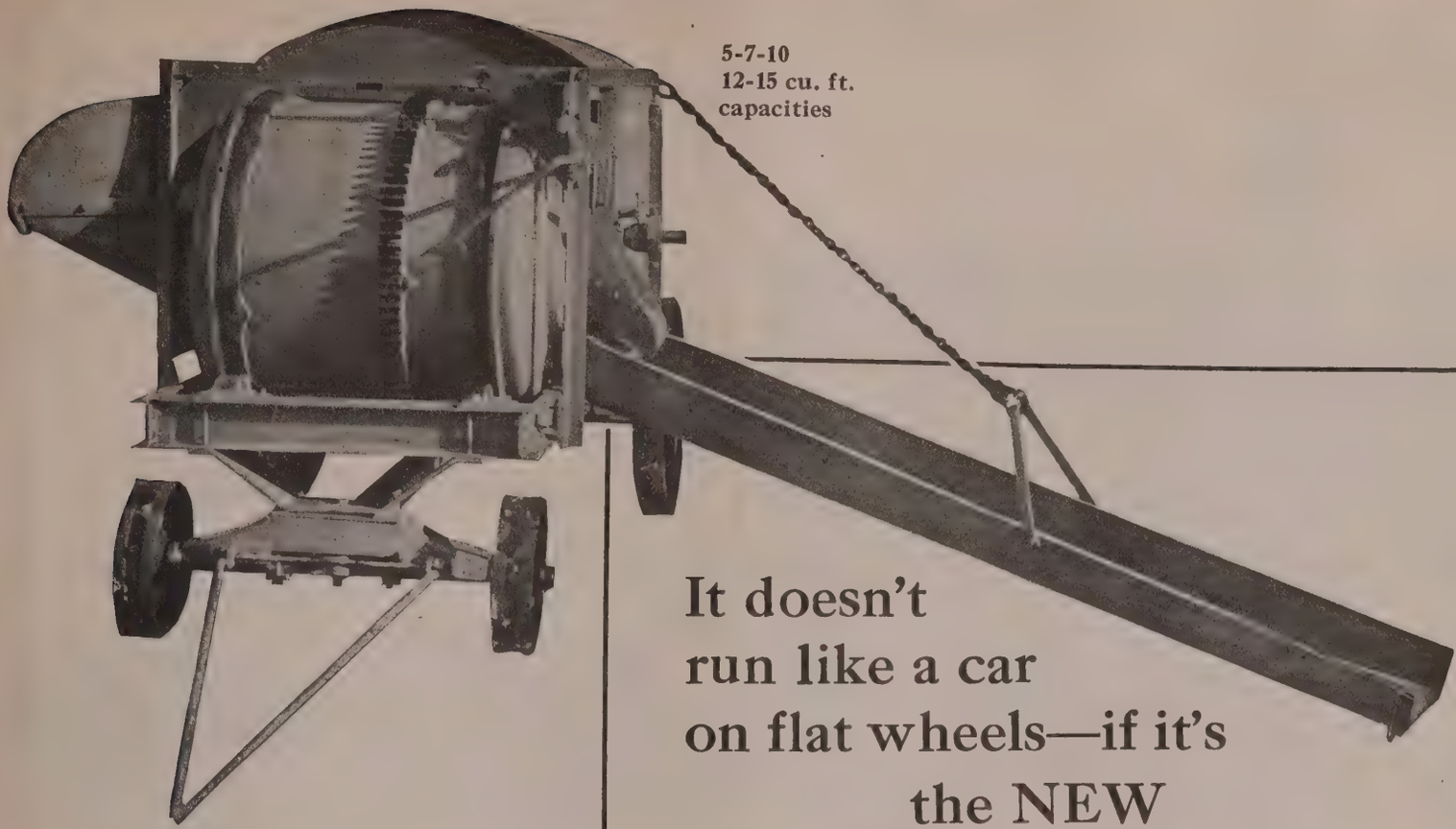
This is just one of the exclusive features that give Smith Mixers their inherent "flexibility"—a quality that has saved contractors hundreds of dollars and has helped establish the Smith as The Standard of Mixer Quality.

Years of mixer building experience makes the Smith Mixer catalogue interesting.

Send for a copy. No. 552.

THE T. L. SMITH COMPANY

1127-L 32nd St., Milwaukee, Wis. MEMBER OF NATIONAL ASSOCIATION MIXER MNFRS. **1403-L Old Colony Bldg., Chicago, Ill.**



5-7-10
12-15 cu. ft.
capacities

It doesn't run like a car on flat wheels—if it's the NEW

LANSING

Consider one point at a time and you'll get a clear idea of the big value in this moderate sized mixer.

Take that question of smooth operation.

The Lansing gives long service because, among many other things, it does NOT bump and jar. It does NOT shake itself to pieces. It operates "smooth as silk" because the trunnion trackways are machined on, and they run on lathe-turned trunnion wheels.

Sounds good, doesn't it? You'll find other equally interesting details in Catalog 518. A copy?

It has
Heavy Boiler Plate Drum.
Cast-Iron Drum Heads.
Steel Paddles, Bolted in Place.
Renewable Clutch (Auto-Brake Lining).
Diamond Roller-Bearing Chain Drive.
Cut Steel Pinion and Sprockets.
Power Loader, Batch or Wheelbarrow Hopper.

LANSING COMPANY
"KEEP YOUR PRODUCT ON WHEELS"

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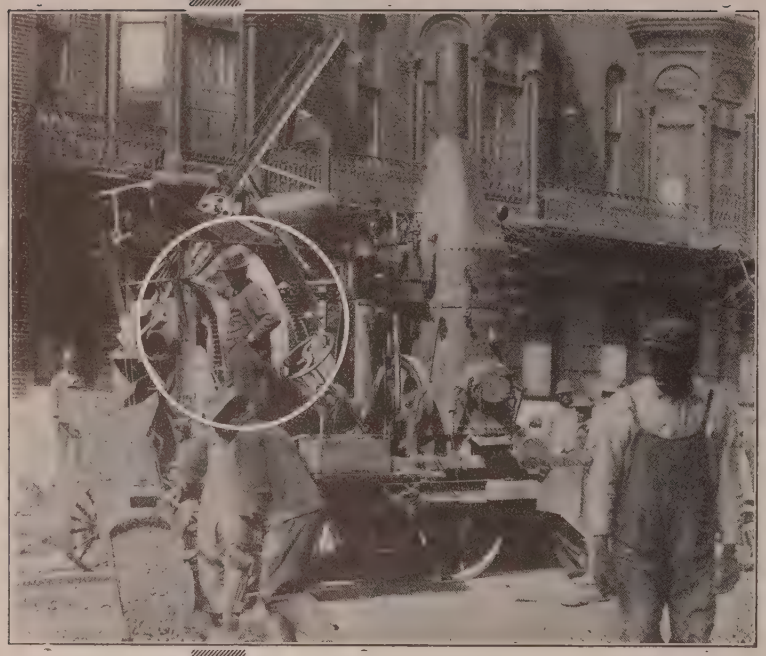


FOOTE

Mixer Operation

Look at the operator on this Foote Paver —high above the road—every operating mechanism in easy reach from one position —unobstructed view of the skip, loading gang, discharge chute and the "spreaders."

His work is easy. Every move and operation so well thought out that he just *has* to be speedy and efficient. He likes his job.

Speed—prevention of delays—bigger yardage. All result from the ease and simplicity of Foote operation.

Another reason why Foote Paver and Side-Loader sales are 65% repeat orders.

EVERY FOOTE A MIXER

Address Nearest Agent

Foote Concrete Machinery Co., 110 South La Salle St., Chicago, Ill.

Wilcox Bros., Inc., 26 Roosevelt Ave., Binghamton, N. Y.

E. J. McHarg & Co., 3 Crandall St., Binghamton, N. Y.

Edward R. Bacon Co., 51 Minna St., San Francisco, Cal.

Made by C. Foote Manufacturing Co., Nunda, N. Y.

MEMBER OF NATIONAL ASSOCIATION OF MIXER MNFRS.

No More Frozen Concrete

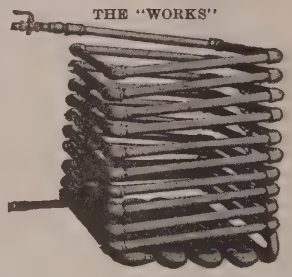
Don't worry about cold weather concreting. That problem has been solved, and the danger from freezing eliminated.

This heater enables you to keep your job going the year round. Burns coal, coke or rubbish and supplies the job with a continual stream of hot water.

PRICE $40

Londelius Portable Contractors' Water Heater

THE "WORKS"

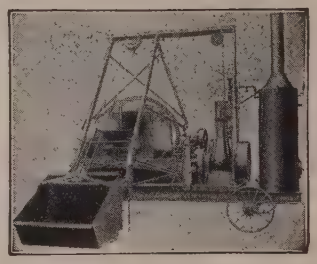


A strong reinforced steel fire box, inside of which is a self-draining coil of 1-inch pipe 100 ft. long. The unit is very compact and easily moved. When large capacity is desired two or more units can be connected in series.

Write today for literature.

C. A. LONDELIUS & SONS CO.
847 West 63rd St., CHICAGO ILLINOIS

Austin Improved Cube Concrete Mixers



Made the World's Best Records on the Panama Canal and the Los Angeles Aqueduct.

Built in ten sizes 2½ to 64 cubic feet capacity.

Special machines for street and road paving.

MEMBER OF NATIONAL ASSOCIATION OF MIXER MNFRS.

Our Mixer Capacities Based on N. A. M. M. Wet Batch Rating

Send for Catalogue No. 3

Municipal Engineering & Contracting Co.
Main Office, Railway Exchange, Chicago
New York City, 30 Church St. Agents wanted in open territory

HAINS { GRAVITY BATCH CONCRETE MIXERS AND CONTROLLABLE DISCHARGE BOTTOM DUMP BUCKETS

Knowing the whole story about them now may save you dollars later.

AUTOMATIC CONCRETE MIXER CO., Inc.
428 Kinsley Ave., PROVIDENCE, R. I.
Sole Makers and Distributors

"THE STANDARD" LOW-CHARGING MIXER SAVES YOU ⅓
Charging Platform Only 24 in. High

Large, open drum; semi-automatic discharge, simple construction; light weight, etc., are all labor and money savers for the live contractor. Catalog No. 28, on request.

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145 Chambers St. NEW YORK — 1345-47 Wabash Ave. CHICAGO — 1631 Liberty Ave. PITTSBURGH — 523 Arch St. PHILADELPHIA

Protection for Structural Steel

Concentration Mill at Elvins, Mo.

Structural Steel Painted with Superior Graphite Paint

A PLANT of this kind represents a large investment of money, and it merits the best possible protection in every way.

Therefore, when it was built, the steel used in its construction was painted with

SUPERIOR Graphite Paint

This will insure its protection against rust for many years.

Thousands of the most important steel structures in America are protected against corrosion with Superior Graphite Paint. Office buildings, factories, piers, smelters, penstocks, tanks—and countless other structures are painted with Superior Graphite Paint.

It is a good investment. Proven service for many years has established it as such.

Let the Degraco Service Bureau suggest the proper paint for your requirements.

DETROIT GRAPHITE CO.
Paint and Color Makers
Dept. 1265 Detroit, Mich.

WONDER MIXERS AND PAVERS

Give longer mix and better quality with output equal to others of same capacity by reason of their short travel loaders. Or, if speed is the main thing you get more batches per hour with quality equal to any.

This is only one of the reasons why many of the largest contractors are *Standardizing* on the WONDER.

Ask us for more reasons.

Waterloo Cement Mach'y Corporation
110 Vinton St. Waterloo, Iowa
NEW YORK CHICAGO KANSAS CITY SAN FRANCISCO

Stop "Patching" Concrete

"The mere patching of concrete work has been a thorn in the side of everybody responsible for its maintenance for a generation. If

The CEMENT-GUN

offers a way out, which I think it does, that alone is a tremendous achievement."—*J. H. Prior,* M. W. S. E.

The CEMENT GUN *has* "offered a way out" on a great many big jobs.

Write for the engineering story of its full scope.

Cement-Gun Co., Inc.
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RUGGLES-COLES DRYERS

DIRECT INDIRECT STEAM

"Built to Dry at the Lowest Ultimate Cost"

Over 500 Ruggles-Coles Dryers are now in operation, of which 119 have been sold on repeat orders.

Let us know your problem.

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Chicago, Ill.

MINWAX MINWAX MINWAX MINWAX

WATERPROOFING

Metal Protective Paints—Floor Treatments

SEND FOR THE BULLETINS

MINWAX CO., Inc., 18 E. 41st St., New York

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"Homogeneous, FREELY FLOWING concrete"

HYDRATED LIME BUREAU PITTSBURGH, PA.

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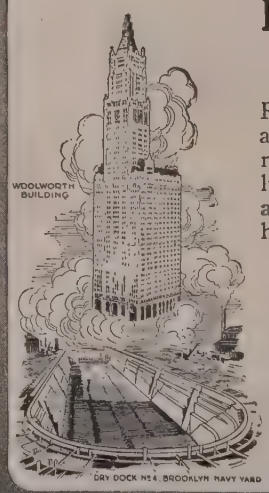

R. I. W. Toxement is a dry powder added to Portland cement to make the resultant mixture waterproof. It lubricates the mass and binds it into a more impenetrable body. Neither hastens nor retards the setting action.

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PENNSYLVANIA PORTLAND CEMENT

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The Master Builders of Ancient Rome

Looking Backward Twenty Centuries on Concrete Construction

WHEN the fighting legions of Rome had pushed her boundaries practically to the outposts of the then-known world, innumerable public works, monuments, temples and triumphal arches were projected. For the moral effect on conquered territory, these symbols of might and energy were needed, and quickly.

A "man's job" faced the Roman engineers, architects and builders. They had to abandon the tedious stone-construction of the Greeks and Egyptians and invent methods that meant speed. It was primarily this necessity for speed that resulted in the development and use of *concrete* construction by the Romans.

Abundance of Unskilled Labor

WITH treasuries bulging from the spoils of conquest, and hordes of soldiers and captive slaves, providing ample unskilled labor, all that lacked was a suitable building material. "To this end, *concrete*, which can be mixed, carried, dumped and rammed by the most ignorant laborers, formed the great part of the walls, piers and vaults; brick and stone were used only for the facings, and this called for a minimum of skilled mason-work."

The Romans did not surround their temples with peristyles, after the Greek fashion, but built their columns as a part of the walls. The three beautiful columns shown in the illustration on the reverse page are the remains of the Temple of Castor and Pollux in the Roman Forum. This temple was used for meetings of the Senate and "stood on a base raised about twenty-two feet from the Forum pavement and was approached and flanked by flights of eighteen steps. It has eight columns in front and probably thirteen on each side. Originally erected about 484 B. C. it was afterwards rebuilt by Tiberius about 6 A. D." The *podium*, or base, on which the temple stood, was a solid mass of pozzuolana concrete.

The Roman Forum

THE Forum Romanum was a great civic center where the public assembled for sacrifices, funeral pageants, the decisions of rulers and the gladiatorial games, and was the site of many temples and public monuments of great architectural beauty. The ruthless Normans robbed us of the glories of the Forum, but the astonishing Pantheon and other marvels have survived for twenty centuries as evidence of the permanence of concrete construction, as well as the prodigious skill and energy of the Roman builders. One can fairly see the "Do it now" signs in Latin equivalent, over their draughting tables, for these men put things through as we pride ourselves we do to-day.

Pennsylvania Portland Cement was used in the construction of the new Department of Interior Building at Washington, our National Forum

Pennsylvania Portland Cement

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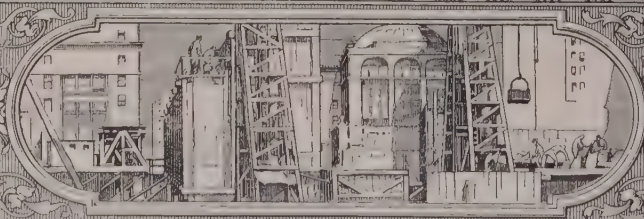

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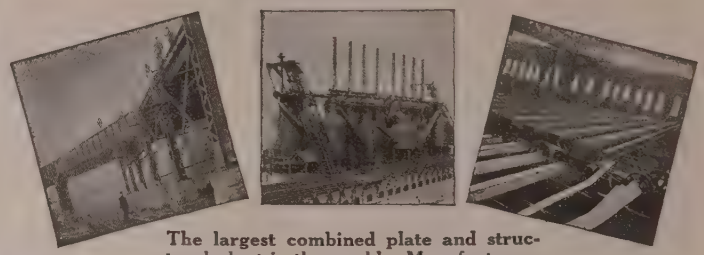

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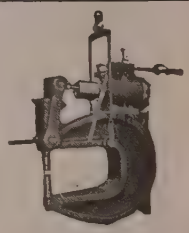

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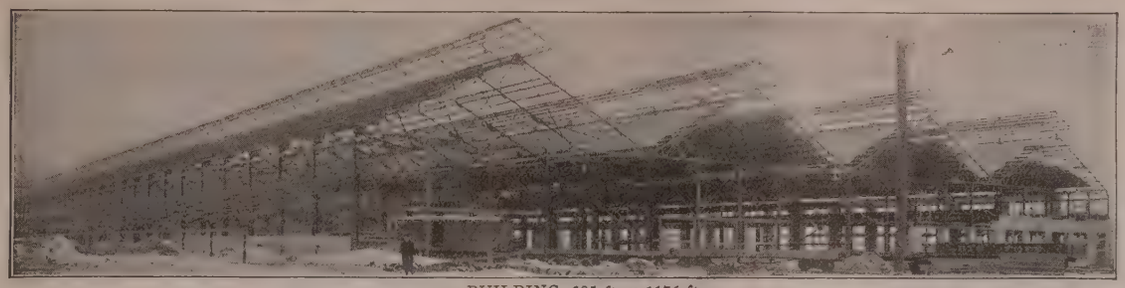

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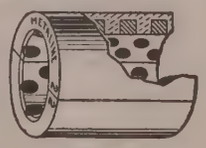

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Bill Muldoon Says:

"It's all over but the bills—now—the old lady has her summer furs and little Katie that new dress that shows her wishbone—and—yes, I've got another smoking jacket. My boy Tim will inherit that next week.

"But—say—the fun in Christmas is watching the wee little shavers' eyes pop, when they see the tree, and candles and toys.

"We old-timers are apt to get too wise—we think we know it all—and then some fellow comes along and proves what a back-number we are.

"Take the man who tried to sell me my first Erie Shovel. I had what I thought was a good shovel and told him so and I showed her to him. So he said, 'I'll tell you, come over to the Chase Metal Company's plant at Waterbury and I'll show you a twin sister of your shovel, and the Erie working side by side.'

"So I did—and sure enough, there they were, working side by side. The Chase people told me they were going to buy another Erie as soon as they could dispose of my shovel's mate.

"Then I saw the Erie's speed—her long, high reach—her simple control. 3 levers and a foot-brake handling every digging motion. And I talked to the operator. He was an Erie booster, right! He was spry and active at 4 P.M., instead of fagged out like I used to be toward the end of a hard day's digging. And he showed me the arm-saving action of the Erie control.

"So I went back that night an Erie Owner.

"I'll give you a new slogan:

" 'Ask the man who owns ***both.***' Profit by his experience. He's the fellow who knows.

"Yours for a Happy and Prosperous New Year,

Bill Muldoon.

"Facts, Figures and Photos" gives a lot of interesting views of jobs. Just write for Bulletin S-14.

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ERIE PA

Drop That Hammer!

And Listen a Minute, Mr. Archie Tect

When Jenner proposed vaccination, who laughed him to scorn?
THE DOCTORS

When Morton proposed anaesthetics, who laughed him to scorn?
THE DOCTORS

When Hahneman proposed Homeopathy, who laughed him to scorn?
THE DOCTORS

When Fletcher proposed folks thoroughly chew food, who laughed him to scorn?
THE DOCTORS

When Still proposed Osteopathy, who laughed him to scorn?
THE DOCTORS

When Galileo, Fulton, Goodyear, Howe, Edison, Wright, and a thousand more pioneers in achievement offered their discoveries and inventions, who laughed them all to scorn?
THE "DOCTORS!"

When Some Fellow proposed exposed-pipe plumbing, who laughed him to scorn?
THE ARCHITECTS

When Some Other Fellow proposed metallic lathing and window sash, who laughed him to scorn?
THE ARCHITECTS

When Another Fellow proposed concrete piles and buildings, who laughed him to scorn?
THE ARCHITECTS

When "Barrett Specification" proposed tar, paper and slag roofs, who laughed him to scorn?
THE ARCHITECTS

When RIDGWAY proposed folks who required elevators should "HOOK 'ER TO THE BILER," who laughed him to scorn?
THE ARCHITECTS

But today everybody who has wit vaccinates, everybody who has nerves takes ether, everybody who has a factory uses slag roofs, and the big fellows, of which these are samples:

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Erie Railroad Co.
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Packard Motor Car Co.
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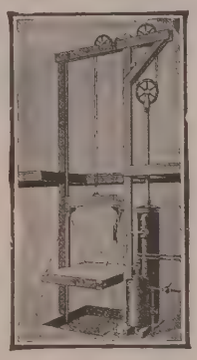

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PROPOSALS

Bids open January 11, 1917.

INTERCEPTING SEWER SYSTEM

OFFICIAL NOTICE NO. 21.

MILWAUKEE, WIS.

Published by authority of the Sewerage Commission of the City of Milwaukee.

Sealed proposals for the construction of extension to the intercepting sewer system for the City of Milwaukee, Wis., will be received by the Sewerage Commission of said city at its offices in the City Hall, until 2 p. m., the 11th day of January, A. D. 1917, at which time and place, during the session of said Commission the proposals will be publicly opened and read.

The work to be done embraces the building of the following work:

13,551 lin. ft. 72" concrete sewer in tunnel.
66 lin. ft. 30" concrete sewer in open cutting.
511 lin. ft. 12" terra cotta pipe sewer open cutting.
660 vertical ft. of standard manholes.
150 vertical ft. of drop manholes.
19 manhole frames and covers.

Together with all manholes and other appurtenances.

The time allowed for the completion of this contract shall be eighteen (18) months from the date of the Engineer's notice to begin work.

The liquidated damages for not completing the work within the time above stated, shall, for each day in excess thereof, be an amount equal to one-half of one percentum of the aggregate cost of the work embraced in the contract.

Each proposal submitted must be accompanied by a cash deposit of, or, in lieu thereof, by a certified check drawn upon a national or state bank or trust company, and to the order of the "Sewerage Commission of the City of Milwaukee" to the amount of sixty thousand dollars ($60,000.00).

All cash deposits or certified checks deposited by bidders to whom the contract is not awarded will be returned upon application to the Secretary of the Sewerage Commission after the contract has been awarded, or after the rejection of all bids. The cash deposit or certified check which has been deposited by the successful bidder will be returned to him as soon as the contract is properly executed and approved by the City Attorney and Sewerage Commission.

Specifications and blank forms of proposals can be obtained, and detailed plans examined, at the office of the Sewerage Commission in the City Hall, and a full set of plans will be sent to any contractor upon receipt of five dollars ($5.00). This sum to be returned upon surrender of the plans in good condition.

The Sewerage Commission of the City of Milwaukee reserves the right to reject any and all bids submitted.

J. H. FOWLES,
Secretary.

Countersigned:
A. P. PUELICHER,
Deputy Comptroller.

Bids open January 11, 1917.

SANITARY SEWERS

SIDNEY, OHIO.

Sealed bids will be received by the Director of Public Service of Sidney, Ohio, until 12 o'clock noon, January 11, 1917, for the necessary labor and materials for the construction of approximately 3.45 miles of 6-8-10-12 inch sanitary sewers. Plans and specifications on file at office of Director of Public Service, Sidney, Ohio.

C. B. DEWEESE,
Director of Service.
W. L. HEISER
Clerk.

PROPOSALS

PROPOSALS FOR DREDGING—U. S. Engineer Office, Custom House, Norfolk, Va. Sealed proposals will be received here until 12 M., Jan. 29, 1917, and then opened, for dredging in Southern Branch of Elizabeth River, Va. Further information on application.

PROPOSAL FOR JETTY REPAIRS, Office U. S. Engineer, Galveston, Texas. Sealed proposals will be received here until 12 M., January 24, 1917, and then opened, for Jetty Repairs at Port Aransas, Texas. Further information on application.

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CIVIL engineer, graduate, 20 years' experience on all kinds of construction and design, canal, docks, railroads, rivers, bridges, concrete steel and timber, desires position. Will go anywhere. Box 1024, Eng. Record, 501 Rialto Bldg., San Francisco, Cal.

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CIVIL engineer, technical graduate, experienced on construction. Competent to design, estimate and layout work. Speaks Spanish. Experienced in Latin-American countries. Box 1076, Eng. Record.

CIVIL engineer, graduate, American Society, 41, wide general experience, especially harbor, municipal, water works construction and operation. Responsible positions held as resident, principal assistant, and acting chief, in South, Middle West and tropics. Now on water supply in East. Early completion makes me available at once. Box 1061, Eng. Record.

CIVIL engineer, 26, technical graduate, 1913. 2½ years inspector and instrumentman on earth work and reinforced concrete construction. One year mechanical and structural draftsman, desires a position at $110 per month in the East. Box 1058, Eng. Record.

CIVIL engineer, technical education, nine years' experience structural, municipal, irrigation engineering. Specialist reinforced concrete design and construction. Married. Location preferred, Western States, Hawaii, South America. Employed. Box 1271, Tucson, Arizona.

CIVIL engineer, age 26, university graduate, degree of C. E., desires position with contractor or corporation. Experience: 2 years field engineer and assistant construction engineer for large industrial corporation, on pier construction, dredging, etc.; 2 years as assistant to city engineer and water works engineer of Eastern city. Work consisted of design, field layout and supervision of general municipal work, viz., streets, sewers, pipe lines, etc. At present employed, open for engagement Jan. 1, 1917. Box 1066, Eng. Record.

CONTRACTORS' engineer, superintendent, 32, Assoc. Member Amer. Soc. C. E. Ten years' experience on factory construction. Box 1030, Eng. Record, 935 Real Estate Trust Bldg., Philadelphia, Pa.

DRAFTSMAN, technical graduate, six years' experience detailing steel for bridges, mill and office buildings, designing steel and reinforced concrete for subways. Location New York City. Box 1074, Eng. Record.

Rates Effective Jan. 1, 1917

SEARCHLIGHT SECTION

Display Advertisements

(Type page—3 columns, 10 inches deep)

1 in.	$3.00 an inch	15 ins.	$2.70 an inch
4 ins.	2.90 an inch	30 ins.	2.60 an inch
8 ins.	2.80 an inch	90 ins.	2.40 an inch

Undisplayed Advertisements

Advertisements for positions, 3 cents a word, minimum charge 50 cents an insertion, payable in advance.

All other undisplayed advertisements set solid in one paragraph, 5 cents a word, minimum charge $1.50 an insertion; if tabulated, or a paragraph for each item, 30 cents a line.

Advertisements for bids (Proposals) $2.40 an inch.

POSITIONS WANTED

EXPERIENCED business man, 30, wants permanent position in anything with a chance to work up. Ten years in quarrying and road work, both office and outside. Box 1040, Eng. Record.

FIRST class foreman, energetic and resourceful, is open for position. Heavy railroad masonry, cut stone or setting. Strictly temperate, age 45. Box 788, Eng. Record, 1570 Old Colony Bldg., Chicago, Ill.

ELECTRICAL estimator, first class, 10 years' enperience, superintendence layout. Correspondence and buying. Salary or commission basis; also investment if advantageous. Box 1067, Eng. Record.

ENGINEER, estimator and designer. Six years' experience on design of reinforced concrete buildings, structural steel, steel sash and fireproofing specialties. Box 1033, Eng. Record, 1570 Old Colony Bldg., Chicago, Ill.

ENGINEER and superintendent of construction, 15 years' experience—12 in charge of piers, railroads, bridges, power houses, steel plant chemical and explosive plants, office, mill and factory buildings. Clean record. Just completed large plant, married, 36. Box 1048, Eng. Record, 935 Real Estate Trust Bldg., Philadelphia, Pa.

ENGINEER, young man, 28, fitted for purchasing department or expediter on structural and plate steel and general construction work. Rounded experience in drafting, design, estimating, shop and field inspecting, field supervision, purchasing, cost and bookkeeping, correspondence and executive duties. Box 1049, Eng. Record.

GENERAL foreman with good gang. Reinforced concrete or terra cotta sewers; open for job at once. J. P. Ryan, 1304 West Front St., Plainfield, N. J.

GRADUATE civil engineer, 20 years' experience in design and supervision of steel, concrete and wooden structures, desires position. Will go anywhere. Box 1059, Eng. Record, 1570 Old Colony Bldg., Chicago, Ill.

HIGHWAY engineer and superintendent, 14 years' experience in highway and municipal engineering. Five years as engineer and superintendent for a city of 30,000. Box 860, Eng. Record.

Study Reinforced Concrete Engineering and Structural Steel Designing Under an Experienced Engineer

A superior course of mail study has been prepared by this engineer. The plan is to teach students by having them *actually do the work*, and all criticisms and corrections are made in person by the instructor.

Each individual is treated as though he were the only one taking the course of work.

You get actual Engineering Experience

Address Box 534, Engineering Record.

POSITIONS WANTED

ITALIAN foreman for sewer, waterworks and general construction. Hundreds of best Italian and foreign laborers can be procured, provided camp and commissary privilege is granted. Box 1069, Eng. Record.

MECHANICAL-Electrical engineer, experienced in installation and maintenance electric power plants, industrial haulage systems, and industrial applications of electrical machinery in general. Technical education. Associate member American Institute of Electrical Engineers. For past four years engineer in charge electrical and mechanical departments of a number of coal mining companies. I desire to change to a broader field. Box 1055, Eng. Record, 935 Real Estate Trust Bldg., Philadelphia, Pa.

MECHANICAL structural engineer, 30, experienced in foundry, machine and structural shops, designer hoisting and conveying machinery time-study, plant improvements. Box 901, Eng. Record.

MECHANICAL engineer, graduate, 37. Fifteen years' experience on mill construction work, rolling mills and hydraulic presses, wishes change of position. Box 1051, Eng. Record.

MUNICIPAL engineer, 25, technical graduate, experienced in land surveys, design and construction of municipal improvements and real estate subdivisions. Ability to manage labor and direct work both field and office. Available January 15. Box 1060, Eng. Record, 1570 Old Colony Bldg., Chicago, Ill.

OFFICE and field civil engineer, graduate, 11 years' experience, designs, surveys, construction, railroad, highways, sewerage, topography, underpinning, subways, reniforced concrete, etc. Box 1077, Eng. Record.

RECENT graduate with one year experience in field construction and drafting office desires location in or around New York City. Salary is least consideration. Employed at present. Box 1042, Eng. Record.

STRUCTURAL shop superintendent or general foreman, bridges, buildings, transmission towers, steel sash, ornamental. Practical mechanic with broad experience. Box 1034, Eng. Record.

SUPERINTENDENT or manager, American, age 42, technical education, long experience in building construction as contractor, superintendent, designer, estimator, etc., wishes to connect with parties contemplating extensive construction work. References furnished, liberal salary expected. Available January 1. Box 1021, Eng. Record.

SUPERINTENDENT of bridge construction, practical in all lines of highway work, is open for position after January first. Charge of a county in one of the Dakotas is preferred. I have A-1 credentials. Box 1054, Eng. Record, 1570 Old Colony Bldg., Chicago, Ill.

SUPERINTENDENT or estimator. Eighteen years' experience. Ten years railroad engineering. Eight years architect's office. Ten years with last concern. Box 1072, Eng. Record.

Advancement is nearly automatic to Structural Draftsmen

And they are always in demand

The knowledge you acquire in studying structural Draftsmanship *is the kind that counts in Structural Engineering!* It leads to higher salaries, the breaking away from routine and A FUTURE FOR YOU.

A thorough course by mail is now available. Write for details.

Box 2600 Engineering Record

SEARCHLIGHT SECTION

POSITIONS WANTED

SUPERINTENDENT and contractor's en-[illegible] open for immediate engagement. [illegible] years' broad experience in charge of heavy construction and difficult reinforced concrete work, comprising pumping stations, large sewers, cofferdams, bridges, aqueducts, dams, etc. Experienced estimator and executive. Age 30. American, graduate civil engineer. References. Box 1057, Eng. Record.

SUPERINTENDENT, age 40, 20 years' [illegible]al experience on rock and soft [illegible] tunnels. Sewers, foundations, dams and irrigation work. Difficult excavations and reinforced concrete a specialty. Best of references. Strictly temperate, go anywhere. Box 1015, Eng. Record.

TECHNICAL graduate, 31, single. Able to [illegible] line of work. Under-[illegible] on and efficiency. Re-[illegible] experience in engi-[illegible] construction and export com-[illegible] Moderate salary to demonstrate [illegible]ness ability. Box 1073, Eng Record.

TECHNICAL graduate, age 27. Five [illegible] designing and detail-[illegible] reinforced concrete struc-[illegible] year selling building mate-[illegible]ection with sales or-[illegible]ern where experience [illegible] Initial earnings a sec-[illegible]ation. Box 1071, Eng [illegible]

YOUNG [illegible] ambitious, desires po-[illegible]ring concern. Two [illegible] school. Frank Bartunek, [illegible] 7th St., New York City.

YOUNG [illegible] six years' experience in va-[illegible] offices of large Eastern [illegible] and lighting company; now law clerk, legal department; college graduate; member of Bar. Correspondence solicited. Box 773, Eng. Record, 935 Real Estate Trust Bldg., Philadelphia, Pa.

YOUNG energetic civil engineer, graduate of Princeton, several years' practical railroad and office experience, desires position with construction or other company in vicinity of New York or New Jersey; not afraid of hard work; will make himself useful; best references. Address S. Rideout, 115 Franklin St., New York.

YOUNG energetic civil engineer, graduate of Princeton, several years' practical railroad and office experience, desires position with construction or other company in vicinity of New York or New Jersey; not afraid of hard work; will make himself useful; best references. Address S. Ridout, 115 Franklin St., New York.

POSITIONS VACANT

CHIEF draughtsman wanted for shipbuilding and engineering works. Must be thoroughly conversant with marine engine and boiler works, design and pipe arrangements. State salary expected, experience, age and when at liberty. Box 1031, Eng. Record.

EXPERIENCED draftsman wanted. Permanent position and opportunity for advancement. Box 1052, Eng. Record.

ENGINEERS and CONTRACTORS

We make up Special Structural and Light Fabricated Materials.

Let Us Quote You.

INDUSTRIAL SERVICE CO.
LINCOLN, N. J.
Phone Bound Brook 167-J

POSITIONS VACANT

DRAFTSMAN experienced in railroad work. State age, education, experience, references, least salary considered and when available. Enclose small specimen of work. Location Western Maryland. Box 1068, Eng. Record, 935 Real Estate Trust Bldg., Philadelphia, Pa.

ESTIMATOR-Superintendent experienced in general building construction. One able to take complete charge of contractor's office. Write fully your ability, experience and salary desired. Box 1023, Eng. Record, 1570 Old Colony Bldg., Chicago, Ill.

MAN with theoretical and practical experience in construction concrete chimneys wanted to organize department for building concrete chimneys, with an established concern. Give full details, especially experience, salary demanded, technical training, age and how soon available. Box 1075, Eng. Record.

RECENT civil engineering graduate wanted for fire protection inspection work with engineering department of insurance rating association. Salary dependent upon experience. Reply should state education, experience, if any, salary required and date available. Box 1064, Eng. Record, 935 Real Estate Trust Bldg., Philadelphia, Pa.

WANTED—Several first-class draftsmen on structural steel and bridge work. Permanent positions and excellent opportunity for advancement for men who show ability above the average. In applying state age, experience, salary expected and when available. Box 97, Buffalo, N. Y.

EMPLOYMENT AGENCIES

AMERICAN SERVICE COMPANY (General Engineering Agency), Pittsburgh, Pa., require architectural-constructing engineers. Twelve power plant designing engineers, $150-$175. Forty mechanical draftsmen, engines, machinery, conveyors, $125-$150. Eighteen draftsmen hydroelectric paper mill work, $100-$125. Thirty map draftsmen, $100 each. Fifty instrumentmen, first class construction draftsmen, $90-$110. Bonus of 10 per cent to 20 per cent offered for all classes of draftsmen.

Engineering Positions
All Over the Country

Give us in order the names of your former employers, exact duties performed and what you accomplished with each, age, education and average salary desired. We will then advise you what we have open in your line. You can get immediate results and avoid a lot of unnecessary correspondence by giving the above information in your first letter. POSITIVELY NO REFERENCES INVESTIGATED UNTIL YOU HAVE BEEN CONSULTED.

WORKS MANAGERS	$8,000-$15,000
ENGINEERS (all lines)	2,000- 10,000
SUPERINTENDENTS (all lines)	2,000- 6,000
FOREMEN (all lines)	1,800- 3,600
DRAFTSMEN (all lines)	900- 2,000
TRACERS (all lines)	700- 900

V. G. TRUEBLOOD & CO.
Employment Service, Engineering Commercial and Educational Depts.
19 So. La Salle St., Chicago
Established 1904

BUSINESS OPPORTUNITIES

Engineer-Representatives Wanted

Wanted, engineer-representatives with business ability, experience in design of reinforced concrete buildings and acquaintance among architects and contractors for a meritorius reinforcing system which proved very successful in territories covered. Position does not involve sale of materials. Good opportunity for developing general engineering practice. Box 1044, Eng. Record.

AGENTS AND SALESMEN

Pacific Coast Representatives

Having offices in San Francisco and Manila, we desire to represent manufacturers, engineers or contractors in this territory. Construction & Engineering Co., Inc., 1047-1049 Folsom Street, San Francisco, Cal. Cable address "Constructo, San Francisco."

Salesman Wants Position

Engineering salesman handling New York territory in electrical field, selling jobbers, contractors, factories, etc. Would like to make 1917 arrangements. Box 1062, Eng. Record.

Agents for Floor Specialty

Established manufacturers' agents to sell high grade concrete floor specialty. Advertised line. State age, lines now handling. Box 1065, Eng. Record, 1570 Old Colony Bldg., Chicago, Ill.

FOR SALE

Quarry for Sale

Owing to ill health of owner, there is offered for sale 50 acres of valuable quarry property near Princeton, N. J. This quarry was opened by the state about two years ago, for constructing a new road, now completed. The stone is high grade trap rock and dresses beautifully for building purposes. The supply is estimated to last 150 years. Abundant water on property. James L. Smith, Supt., Princeton, N. J.

Stock-Taking Time

Now is the time to turn the surplus stock of metals you have on hand into cash. We buy all grades of scrap metals, small lots as well as large lots. Write us today and tell us what you have and we will be pleased to quote you prices. National Metal & Rubber Company, 30-31 India Wharf, Boston, Mass.

FOR IMMEDIATE DELIVERY

One 10-ton INDUSTRIAL standard gauge four-wheel

Locomotive Crane

f.o.b. cars PHILADELPHIA, PA.

Complete line of
Hoisting Engines,
Pumps,
Concrete Mixer
and Boilers

THOS. J. CAMPBELL
1006-08 Marlborough St., Philadelphia, Pa.

MISCELLANEOUS WANTS

Supplies Wanted

We are in the market for mine, mill, lumbering, and railroad construction supplies. Send us your catalogs bearing on these and particulars of general supplies for same. Colorado Central Mining Co., Inc., Georgetown, Colo.

Car and Tractor Wanted

Tractor wanted for 24-inch gage railway. Also Koppel Car, 50 to 60 cu. ft. capacity. Box 1078, Eng. Record.

WANTED
HOISTING ENGINES
any size or make. Reply stating condition and lowest cash price and where same can be inspected to
BECKWITH MACHINERY CO.
Office, Warehouse and Yards
108 W. Park Way, N. S. Pittsburgh, Pa.

WANTED
One 30,000 gallon steel or cypress
TANK
on 50-foot steel tower.
HACKLEY MORRISON,
P. O. Box 120, Richmond, Va.

WANTED
Stuebner, self-righting tip-over
BUCKETS
½ to 2-yards capacity
Box 938, Eng. Record,
935 Real Estate Trust Bldg., Phila., Pa.

WANTED
One—Standard gauge 4 driver saddle tank
LOCOMOTIVE
40 to 50-tons with air brakes and automatic couplers. Must be first class. Require delivery in sixty days.
E. C. SHERWOOD
50 Church Street, New York

WANTED
1—14 x 28 x 20 or 24 Fore and Aft
Compound Marine Engine
with or without shaft and propeller. Must be complete and in good order. State make, price and location.
A. A. SCULLY, 123 Bay St., Toronto, Ont.

SECOND-HAND
TRANSITS AND LEVELS
FOR SALE
Send for complete list with prices. Used instruments bought, sold, rented and exchanged for new.
The Engineering Agency, Inc.
Monadnock Block Chicago

Used
Transits and Levels
FOR SALE
W. J. BUFF,
50 Church St. New York City

999 NEW & USED
Surveying & Scientific Instruments
Rented, Bought, Sold, Exchanged
Architects & Engineers' Supply Co.
913 Grand Ave., Kansas City, Mo.

PARTNER WANTED

Civil engineer preferred. Must have five to ten thousand dollars to go into a general contracting business, but specializing in concrete construction of all kinds. Have the best granite quarry proposition in northeast Virginia to operate in conjunction with contracting business and independently. Washington, D. C., interview or at plant.

Box 977, Eng. Record, 935 Real Estate Trust Bldg., Philadelphia, Pa.

WANTED

Koppel or similar
V-shaped two-way

Dump Cars

2-yard capacity,
36″ gauge.

Morris County Crushed Stone Co.
Morristown, N. J.

SEARCHLIGHT SECTION

Responsible Jobbers Wanted

in Detroit, Columbus, Atlanta, Florida, Texas, California, Montana for one of the best known, strongest advertised and fastest selling lines of

Mixers—Pavers—Grouters—Hoists—Backfillers

Address Box 1025, Eng. Record, 1570 Old Colony Bldg., Chicago, Ill.

Large Steam Driven Compressors

Are You Interested?

We purchased four steam-driven compressors used in the construction of the Penn. tunnels from Weehawken, N. J., to N. Y. City. They are assembled on the original foundations same as when shipped from factory. Have been well taken care of and in excellent repair.

1—Ingersoll-Sargeant high pressure duplex Corliss cross compound, direct to Bass Corliss type engine, No. 7399-7400. Steam cylinder high pressure 14¼ x 36, low pressure 30 x 36", air cylinder 22⅝ x 36; pressure 80 to 100 lb.; capacity 1500 cu. ft.

3—Ingersoll-Sargeant low pressure duplex Corliss compressors, direct connected to Cooper Corliss type engine, No. 7407, No. 7409 and No. 7411. Steam cylinder high pressure 14", low pressure 30", stroke 36", air cylinder 23¼ x 36", stroke, pressure 40 lb.; capacity 3900 cu. ft.

Will sell at one-half original cost, which is equal to one-third of present selling price. Will sell one or all. Can furnish further data or information on application.

MARINE METAL & SUPPLY CO.
167 SOUTH STREET NEW YORK CITY

FOR SALE

Complete Lidgerwood Cable Tramway, drums side by side; drums 54 x 42, 1100 ft. 2½" cable, 12 buckets, receiving hopper; in first-class condition.

Two car-loads of large and small tools, chains, to 200-ft. rock drills, cant hooks, wood and iron blocks, all sizes; wire cable, all sizes; tools of all kinds; in whole or part; cheap.

We have used machinery of all kinds for the Contractor. Machinery in first class condition. We can save you money.

Hoists all sizes, steam shovels, cars, rails, tanks, boilers, derricks, pumps all sizes and kinds, dredges, tugs, pile drivers in stock.

Try us for quick and good service.

MORIARTY BROS., Oliver Bldg., Toledo, Ohio

LABOR LABOR LABOR

Most advantageous arrangements made with firms employing contract laborers.

Skilled and unskilled laborers of all nationalities supplied. Foreign colonies located.

We also specialize in the management of commissary and boarding camps.

INTERNATIONAL LABOR AGENCY
153 BOWERY Phone Orchard 77 7075 NEW YORK, N. Y.

AMERICAN-ITALIAN EXCHANGE
SPECIALISTS IN SUPPLYING LABOR
Established 1900 Commissary
Best References Privileges
Tel. 527 Spring Optional
49-51 PRINCE STREET, NEW YORK

FOR SALE
Tug Boat
61 x 14 x 6
Two Deck Lighters
90 x 30 x 10
LEWTER F. HOBBS, Norfolk, Virginia

Hundreds of Successful Draftsmen and Engineers
owe their rapid advancement to proficiency in my system of lettering. Correspondence course of Recognized Standard by author of system. Guarantee results.
C. W. Reinhardt, Arlington, N. J.
Freehand Lettering

FOR SALE
90 ft. Boom, 3 cu. yd. **Dragline.** Now working at Port Arthur.
100 H.P. **Marine Boiler,** 28 foot Circle. Every part good as new. Ready for delivery Sept. 20th.
L. J. PATTON
636 Proctor St. Port Arthur, Texas

SEARCHLIGHT SECTION

FOR SALE

Air Compressors
Anvils
Blowers and Fans
Buckets
Boat
Buildings
Cars
Chain Blocks
Derricks
Drill Steels
Electric Locomotives
Electric Heaters
Electric Switchboard
Elevator Engine
Air Engines
Hoisting Engines
Fire Hydrants
Fire Extinguishers
Grout Machines
Generators
Caulking Hammers
Hose Carts
Hospital Equipment
Jacks
Lockers
Oil Separator
Pile Hammer
Spiral Pipe
Pipe Vises
Pumps
Steel Pontoon
Boiler Stacks
Gasoline Storage Tanks
Wire Cable

Apply to
HAROLD CARPENTER, Resident Engineer
Astoria Light, Heat & Power Company
East 132d St. & Locust Ave., New York City

Announcement to Contractors

Beginning January 1st, 1917, we are going to make an effort to serve more fully the interests of the contractors in this territory, and in addition to our complete line of new equipment, we will open a department to handle second-hand machinery.

We are doing this with the idea of serving the contractor in two ways. First, we will be in position to furnish re-built second-hand equipment at attractive prices, and second, we can offer the contractor an opportunity to list with us any equipment which he may desire to dispose of. Our new department will sell it.

To this end we shall be glad to have you send us a list of any such machinery, giving full description and condition, price desired and location.

W. B. LOUER COMPANY
NOT INCORPORATED
New and Rebuilt Contractors' Machinery
OLD COLONY BUILDING, CHICAGO

FOR SALE

One New Haven vertical brick machine and pug mill.
One Potts disintegrator.
One Horton sander.
One 12 x 14-in. Automatic engine, made by the Valley Iron Works, Williamsport, Penna.
One Atlas engine, 12 x 20 in.
One Atlas tubular boiler, 54 in. x 14 ft.
One 70-h.p. Economic boiler.
One tubular boiler, 42 in. x 12 ft.

GEO. T. DICKOVER & SON
WILKES-BARRE, PENNA.

FOR SALE

STEEL SHEET PILING
100 pcs. Lackawanna 14-in. x ⅜-in. arch web type 16 ft. long

HOISTS
1 Sprague 1-ton monorail grab bucket hoist.
1 Sprague 5-ton monorail S-3 hoist.

BUCKETS
2 Hayward Clamshells
1 Hayward Orange Peel

Immediate Delivery

Gibbons Bros., Reed & Roche
203 Kearns Bldg. Salt Lake City, Utah

Manufacturing Plant For Sale

Unequaled opportunity to secure plant, fully equipped for manufacturing steel castings, equipped with a two-ton Tropenas Converter, overhead traveling cranes, complete machine shop, and grey iron foundry, all electrically operated. Two acres under cover. Three trunk railroads switch into the plant. Excellent labor conditions. 175 skilled workmen now employed. For further information address

Box 957, Eng. Record,
935 Real Estate Trust Bldg., Philadelphia, Pa.

Air Compressor

FOR RENT

1 Ingersoll-Rand Imperial, Type 10, 450 cu. ft.

First-class outfit. Immediate delivery.

Located at shaft 18 of the Catskill Aqueduct, 24th St. and Broadway, New York.

LUPFER & REMICK
Broadway and 24th St. New York City

AIR COMPRESSORS

All makes, types and sizes, steam and power driven and for various pressures, guaranteed condition. Some are factory repaired. **Twenty years' experience with compressed air apparatus at your command.** Send me your inquiries.

George S. Githens, 6 Beacon Street, Boston, Mass.

FOR SALE

One Surface Track Type of

Potter Machine

for sale. In good condition. Price $1250. Machine at Topeka, Kas.

JAS. A. PRINGLE
Topeka, Kansas

Plant for Sale

Property 148 ft. x 380 ft., formerly occupied in Philadelphia by N. & G. Taylor Co.'s Tinplate Works, Delaware Ave. and Tasker St., Philadelphia. (Plant recently removed to Cumberland, Md.)

Buildings of substantial, heavy mill construction, artesian well, pump, and 40,000 gallon storage tank, electric elevator, power equipment. Railroad connections with all lines entering the city.

Two blocks from Delaware River front—15 minutes from banking center. Convenient access via new Delaware Ave. improvement to all docks and factories along the river front.

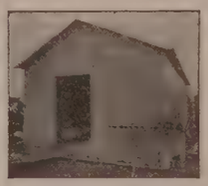
N. & G. TAYLOR CO.
300 Chestnut St. Philadelphia, Penna.

N. Y. Water Front

13 acres on New York Harbor within free lighterage limits, 1200 ft. deep-water frontage. B. & O. main freight line through property.

BARGAIN

Box 695, Eng. Record.



Prudential
Portable Galvanized Steel Buildings
ALL SIZES
New and Second Hand

For Contractors' Use,
Bunk, Tool, Storage Houses, Etc.
Ask for Catalog "N"

C. D. PRUDEN CO., Baltimore, Md.

FOR SALE

No. 1 Austin Trenching Machine

will dig 42" wide and 24 feet deep.

John B. McLane & Co.
Newport, Ky.

Lime Manufacturing Plant

Lime Manufacturing Plant, on trunk line midway between Jacksonville and Tampa, Florida. Best of freight rates. Substantial business already acquired in building, sanitary, fertilizer and paving stone lime.

John M. Graham, Ocala, Fla.

FOR SALE

Two 10-ton Austin gasoline

Macadam Rollers

Used but little. Low price.

Box 114, Engineering Record.

Ready for Delivery

DREDGE—2½ yd., 70' boom, 40 x 110' hull.
TRENCHING MACHINE — Parsons Model "E."
HAULAGE OUTFIT—12 Troy trailers, 3½ yd. and one Huber Tractor, 27 H.P.
HORIZONTAL BOILERS — 150-200 H.P., good for 130 lb. pressure, complete.
LOCOMOTIVE CRANE—Industrial, 10 ton, 40' boom, single line.

Also Hoisting Engines, Crushers, Engines, Pumps, Etc

MOORE BROS.
39 So. La Salle St. Chicago, Ill.

12-INCH HYDRAULIC DREDGE

Fully equipped. Electric light plant, Pontoons, Pontoon pipe, shore pipe, rubber sleeves and bands, coal scow with mast and boom. Double drum hand power with wire blocks and falls. Galley and sleeping quarters for eleven men. All in first-class condition, ready to go into commission.

A. R. Powley Dredging & Construction Co., Inc.
P. O. Box 65, Kingston, N. Y.

BOILERS

100 h.p. Donegan & Swift portable boiler, 100 lb. pressure.
100 h.p. locomotive type boiler, 100 lb. pressure.
125 h.p. locomotive type boiler, 125 lb. pressure.
60 h.p. locomotive type boiler, 100 lb. pressure.
45 h.p. locomotive type boiler, 100 lb. pressure.
20—25 and 30 h.p. vertical fire tube boiler, 100 lb. pressure.

Located our shop, Woodbridge, N. J.

LINES-FLYNN CO.
Contractors Machinery
30 Church St. New York, N. Y.
Telephone Cortlandt 7867

FOR SALE

10-ton 3-wheel

ROLLER

Good condition. Seen very little service.

Box 115, Eng. Record.

FOR SALE

100 H.P. Sotter R. T. **Boiler**, butt-strapped, 100-lbs.
150 H.P. Heine Safety **Boiler** water tube, butt-strapped, complete.
11 x 10 R. H. Harrisburg standard slide valve, self-oiling, horizontal.
Steam Engine direct connected to a 40 K.W. D.C. Generator.

Dallett & Co., 413 Harrison Bldg., Phila., Pa.

FOR SALE

One 10 x 12 Lidgerwood

CABLEWAY ENGINE

and one 12 x 14 Lidgerwood

CABLEWAY ENGINE

One Morris Direct Connected Horizontal Centrifugal

PUMP

12" Suction and 12" Discharge.

BOILERS

Four 100 H. P. Return Tubular Boilers. Practically new.

We also have a good selection of Ingersoll

COMPRESSORS

in thoroughly first-class working condition. All located in Pittsburgh. Complete specifications and price on application.

The Dravo Contracting Co.
Pittsburgh, Pa.

FOR SALE

FORM LUMBER

including 3" x 4", 2" x 8", in good condition.

418 Lafayette St., New York.

FOR SALE

One Lidgerwood 4-ton 1200 ft. span **CABLEWAY** complete with engine, head and tail towers and with or without boiler.
One Dixon 10 x 16 x 18-ton 36-inch gauge saddle tank **LOCOMOTIVE**

JOHNSTOWN WATER CO.,
332 Locust St. Johnstown, Pa.

SEARCHLIGHT SECTION

CONTRACTORS' EQUIPMENT

HOISTS

2 Flory, 2-drum Cableway Hoists, 60" drums with 4 operating levers, lock rods, etc., also about 2000 ft. 2½" cable wire, anchors, spanning rollers, etc., direct connected to 300 HP. Gen. Elec. slip-ring induction motors, ITC, form M, 440 volt, 60 cycle, 600 RPM.

7 Maine Electric Hoists, 2-drum, 18" drums, 7" flanges, 32" between flanges, 5 operating levers, ratchet operating lever, etc., direct connected to 75 HP. slip-ring motors, 220 volt, 3 phase, 60 cycle, 865 RPM.

2 Flory, 2-drum Hoists, drums 18" x 32", 7" flanges, 6 hand operating levers, direct connected to 75 HP. Gen. Elec. induction motors, type ITC, form M, 60 cycle, 220 volts, 600 RPM.

10 Flory Hosts, 2 drum, 2 speed, 16" diam. drums, 30" between flanges, 11" flanges, direct connected to 75 HP. Gen. Elec. 60 cycle induction motors.

2 Williamson Electric Hoists, 2 drum, 2 speed, drums 32" between flanges, 4½" flanges, drums 17" diam., direct connected to 75 HP. Gen. Elec. induction motors, 60 cycle.

1 Maine Electric Hoist, 2 drum, 28" between flanges, 6½" flanges, direct connected to 52 HP. Gen. Elec. induction motor, 220 volt, 60 cycle, 850 RPM.

1 Flory Friction Hoist, double drum, drums 14" diam., 26" face, for lifting on single line 8000 lbs. at 200 ft. per min., direct connected to 52 HP. Gen. Elec. form M motor, 60 cycle, 830 RPM.

2 Maine Electric Hoists, 2 drum, 28" between flanges, 6½" flanges, direct connected to 37 HP. Maine motors, 25 cycle.

2 Flory single drum hoists, 10" x 16", complete with induction motors, 5 HP., 3 phase, 60 cycle, 220 volt, 900 RPM.

2 Sprague 3-drum hoists for monorail service, 5 HP., 3 phase, 60 cycle, 220 volts.

1 Shepard monorail hoist, capacity 4 tons, with twin trolley Westinghouse motors and Gen. Elec. hoisting motor, 3 phase, 60 cycle, 220 volt.

AIR COMPRESSORS

1 Ingersoll-Rand, straight line, class BB-2, 20¼" x 13¼" x 18", 1130 cu. ft. capacity, belt driven.

1 Ingersoll-Rand, class P, cross compound, 11¼" x 18¼" x 16" direct connected to 137 HP. Gen. Elec. ATI motor, 6600 volt, 25 cycle, 214 RPM.

3 National Brake & Elec. Co., 300 cu. ft. per min. capacity, direct connected to 50 HP. motors, 220 volt, 60 cycle.

1 Hall Steam Pump Co., class K, 2 stage, 13" x 7½" x 9", 182 cu. ft. capacity, belt driven.

1 Christianson, 50 cu. ft. capacity, direct connected to 10 HP., 550 volt motor.

CABLEWAYS

1 Lidgerwood Stationary Cableway, 1250 ft. span, for handling a two cu. yd. Hayward Class "G" clamshell bucket, loaded weight 6 tons, with 12" x 12" double cycle, patent tandem three friction drum cableway engine. About 1770 ft. main cable, 2½" diam., 19 wire, hemp center. Will hoist loaded bucket 200 ft. per minute and convey along cable at 800 to 1000 ft. per minute.

1 Lidgerwood patent traveling type cableway, span 1460 ft., capacity 7 to 10 tons, with 12¼" x 15" double friction drum, reverse link motion cableway engine and complete in all details except towers.

DERRICK

1 5-Ton Maine Pillar Derrick, 50-ft. boom, two member latticed structural steel reinforced with four truss rods, mounted on structural steel "I" beam base suitable for mounting on concrete sub-base, mast 13' heavy cast iron; 2 drums, each 11" x 16", operated by Fort Wayne induction motor, 3 phase, 60 cycle, 200 volt, 1200 RPM.

PUMPS

1 16" 2-stage centrifugal pump driven by 350 HP. Gen. Elec. motor, 3 phase, 60 cycle, 2300 volt, squirrel cage induction, 720 RPM., designed for 150 ft. head.

2 Morris Machine Works electric-driven centrifugal pumps, 13" suction, 14" discharge, 24" impeller, with two hanging bearings and end thrust attachment. Each pump flexible coupled to 300 HP. Gen. Elec. induction motor, 440 volt, 60 cycle, 900 RPM.

1 Buffalo Steam Pump Co. triplex plunger pump, 11" x 10", 8" suction, 6" discharge, driven by 75 HP. Gen. Elec. induction motor, 60 cycle, 720 RPM.

2 Platt Iron Works 2-stage turbine pumps, 4" suction, 4" discharge, designed for 110' head, flexible coupled to 25 HP. Westinghouse CCL induction motors, 3 phase, 60 cycle, 440 volt, 850 RPM.

2 Morris 2-stage service pumps, 6" suction, 4" discharge, dir. conn. to Gen. Elec. motors, 25 HP., 25 cycle, 2200 volt, 1500 RPM.

2 Morris vertical 3" centrifugal pumps, dir. conn. to Gen. Elec. vertical motors, 5 HP., 25 cycle, 2200 volt, 1500 RPM.

2 1½" Lawrence centrifugal pumps, dir. conn. to Gen. Elec. motors, 2 HP., 3 phase, 60 cycle, 220 volts, 1720 RPM.

2 14" x 8½" x 12" Dean duplex, double plunger, steam pressure 175 lbs.

1 10" Worthington Centrifugal Circulating Pump, direct connected to 6½" x 9" Harrisburg engine.

CONCRETE MIXERS

3 Ransome Concrete Mixers, drum 54" x 66" diameter, mounted on common sub-base and counter-geared to 37 HP. Gen. Elec. induction motors, 220 volt, 60 cycle, 900 RPM.

DRILLS

4 Temple-Ingersoll Wagon Drills, mounted on wheels and equipped with self-contained pulsator, hand-operated swinger, hand-operated tool winch, 26' towers with jack arms on either side for steadying; driven by 12 HP. Gen. Elec. type M motors, 220 volt, 60 cycle, 690 RPM. Used for drilling 5" holes for blasting purposes.

20 Temple-Ingersoll Electric Pulsator Drills, each mounted on a 4-wheel truck and geared to 5 HP. Gen. Elec., 2-speed, 60 cycle motors.

LOCOMOTIVES

1 Davenport 4-wheel, 10-ton, saddle tank dinkey locomotive, 36" gauge, type No. 0-4-0.

2 H. K. Porter, 4-wheel, 14½-ton, extended saddle tank dinkey locomotives, 36" gauge, type Class BS.

2 Pennsylvania Railroad Co. 4-wheel, 40 ton switching locomotive, type 0-4-0.

MAC GOVERN AND COMPANY, INC.

114 LIBERTY STREET NEW YORK CITY

SEARCHLIGHT SECTION

Cableway and Tramway

American Hoisting Engine

Double cylinder, 10" x 12", reversible.
3-drums, 40" diameter.
First class condition.
Immediate shipment.

Harris Machinery Co.
1025 Washington Ave., S. E.
Minneapolis, Minn.

CRANES CRANES CRANES

I am headquarters for Locomotive Cranes. If you want a Crane for immediate delivery confer with me by wire. I have 10 Standard Gauge 4-wheelers and 7 Standard Gauge M. C. B. 8-wheelers for immediate delivery, sizes 10 to 25 tons capacity. Use the wires. State your requirements. Get prompt service.

WILLIS SHAW, 239 Railway Exchange, Chicago, Ill.

FOR SALE

"American" 8¼ x 10 Erectors

Hoisting Engine

D/D D/C with extension shaft and four independent Bronze Bushed Clutch Winches, with new boiler. Also—

One Oregon Fir Stiff Leg

Derrick

with mast 18 x 18 and 100-foot sectional steel boom with 16-foot bull wheel.

Full line of Concrete Mixers and Hoisting Engines.

Chicago Builders' Specialties Co.
11 So. La Salle St. Chicago, Ill.

Some Opportunity Specials

500 ft. span Lambert Cableway with steam hoist and buckets.
15 Steel Frame Universal Clamshell Excavator complete.
12" x 12" Triplex Pump, double acting.
26" x 42" First Motion Coal Hoists.
2—600 cu. ft. belted Air Compressors.
12—70 ton Watson-Stillman Hydraulic Shield Jacks. Pump for same.
1180 cu. ft. low pressure Air Compressor.

Wm. C. Johnson & Sons Machinery Co.
210-12 Washington Ave., St. Louis, Mo.

Locomotive Cranes

One four-wheel, 10-ton Industrial Locomotive Crane, 38-ft. steel boom.

One 20-ton, eight-wheel Locomotive Crane with 50-ft. boom.

Also two 43-in. Lifting Magnets.

The Factory Products Co., Inc.
203 Oliver Building Pittsburgh, Pa.

FOR SALE

Locomotive Crane

20-25-ton McMYLER, standard gage, 8-wheel, double drums, for operating bucket, 50-ft. boom, outriggers, extra heavily built, immediate shipment.

Dallett & Company
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FOR SALE

LOCOMOTIVE CRANES

One 30 ton, 8 wheel double drum
One 20 ton, 8 wheel double drum
One 15 ton, 8 wheel double drum
Ready for immediate operation and delivery.
For price and full particulars apply:
Box 1038, Eng. Record.

HOISTS

Compressors. Boilers.
Mixers. Derricks. Cableways.

HOISTING ENGINE SALES CO.
3636 Grand Central Term., N. Y. City.

FOR SALE
6¼ x 10 D.C. D.D. Mundy **Hoisting Engine**, boiler and boom swinger.
½-yard Orange Peel **Bucket.**
Heavy Friction **Drum** for counterweight.
415 ft. 1½" galv. **Wire Rope** for cable way.
F. R. Long—W. G. Broadburst Co., Hackensack, N. J.

FOR SALE—New and Used

STEEL DERRICKS

Ten days delivery on new derricks built to your designs, attractive prices.
Wire Rope, Rails and other equipment
R. W. BAILY
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FOR SALE OR RENT

LOCOMOTIVE CRANES

Steam Shovels
General Contractors' Equipment.
The Frank T. Craven Company,
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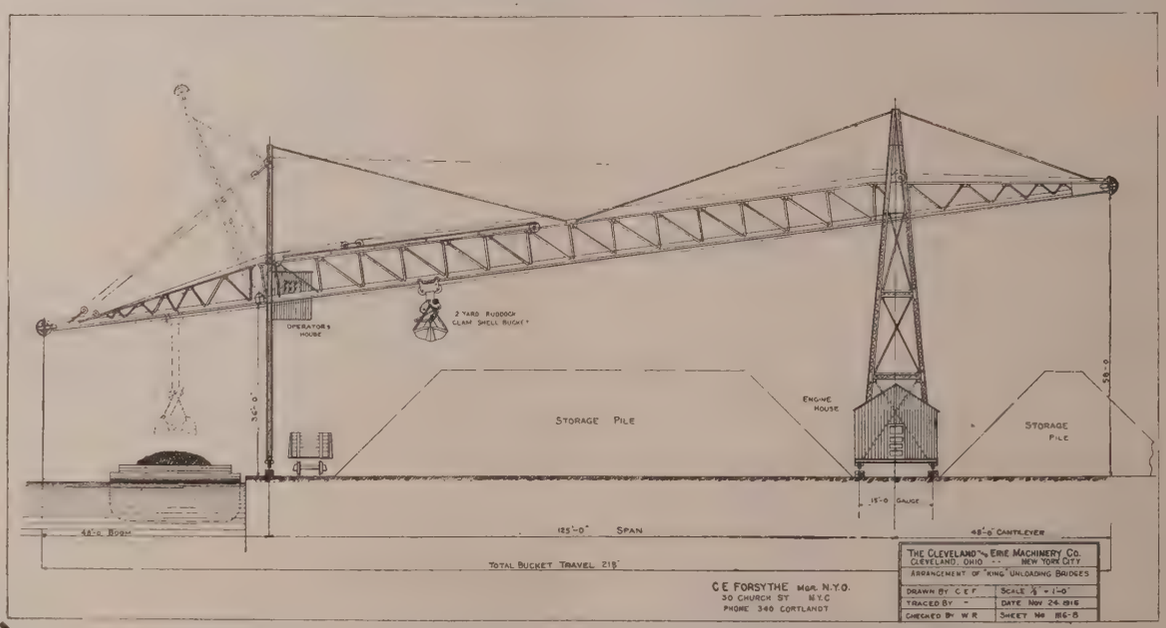
In Use by Some of the Largest Concerns in the Country



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KING UNLOADING BRIDGES

With 76′ and 125′ center spans. Ideal for coal, sand and gravel plants and general bulk material handling. Excellent condition—very efficient—immediate delivery.

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FOR SALE

No. 9½ ACME CRUSHER on skids, Elevator, Screen, Engine and Boiler. New Plant. Bargain before moving.
TRAVELING DERRICK with Hoister, Slower and ¾ yd. Clam Shell, complete. Can be inspected, erected.
1—No. 5 PULSOMETER STEAM PUMP.
½-yd. Haines-Weaver MIXER.
½-yd. FOOTE STREET PAVER, steam power.
2—No. 10 Lansing MIXERS. Power Loaders. Gas Engines on Trucks.
2—No. 15 Lansing MIXERS. Power Loaders. Gas Engines on Trucks.
1—TRAVELING DERRICK (8 wheel) complete, fitted with American Stiff Leg Derrick, forty (40) ft. Boom, operated by Lambert two drum 8¼ x 10 Engine and Boiler with Holding Drum, equipped complete ready for work, eighteen (18) ft. Gauge.
150 tons 1¼, 1. Square Corrugated REINFORCING BARS. Immediate delivery.
2—¾ yd. Steubner 2 Door Bottom Dump Concrete BUCKETS.
1—Williamson 1 yard CLAM SHELL BUCKET.
1—1½ yard Owen CLAM SHELL.
1—1¼ yard Hayward CLAM SHELL.
1—9 x 14 LOCOMOTIVE 36" Gauge.
20 ton 40 lb. RELAYERS.
8—36" Four yard Western 2 way dump CARS, 36" Gauge.
10—36 ft. 30" gauge Koppel CARS.

Edward Ehrbar, 270 West St., New York, N. Y.

FOR SALE

Two 615 B. H. P. four-cylinder vertical Willans Diesel

Oil Engines

direct coupled to two 530 K. V. A. three-phase, 60-cycle 2300-volt, 180-r.p.m. generators. These machines are new and in their original packing cases.

Full particulars on application to

G. W. WINTER
210 Bank of Ottawa Building, Vancouver, B. C., Canada

Portable Boilers

In Stock—Ready for Delivery

1—100 HP. "Ames" locomotive.
1—100 HP. "Ames" Empire type.
2—90 H.P. "Ames" locomotives.
2—60 H.P. "Ames" locomotives.
2—50 H.P. "Ames" locomotives.

MISCELLANEOUS

1—No. 15 "Champion" crusher with elevator on trucks.
1—9" x 15" jaw crusher "Chalmers."
1—No. 5 gyratory crusher "Gates."
1—24" x 14" crushing rolls "Chalmers."
1—105 cu. ft. "Chicago Pneumatic" direct gasoline driven air compressor, with water and air tanks, and all attachments on trucks.
4—24" x 24" x 30" "Rand," Class C, compressors.
2—8¼" x 10" D.C., D.D. "American" hoists with boilers.
1—48" x 8½' "Lebanon" vertical boiler.
1—42" x 10' vertical boiler.
2—No. 8 steam driven "Morris" centrifugal pumps.

We have also a large stock of other contractors' equipment, iron and wood-working machinery, steam and electric power equipment. Send for latest list.

L. F. SEYFERT'S SONS, Inc.
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MOTORS RENTED

Contractors requiring motors for temporary installations can frequently get just the motors needed for *immediate delivery* from us, either on rental by the month, or we will sell outright, buying machines back at an agreed price when work is completed. Some of the largest contractors are among our customers.

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Largest stock of electrical machinery (second-hand) in America—alternating and direct current, all voltages.

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16TH AND LINCOLN ST
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SECOND HAND PIPE

Large Stock All Sizes

Recut—Perfect Threads and Couplings

Also Large Stock Contractors' Equipment

MARINE METAL & SUPPLY CO.
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Concrete Mixers

Koehring No. 14 Paver. Steam Power, Boom and Bucket, Charging Hopper, Traction.

Foote ½-yd. Batch.

Hauling Wagons

5 Buffalo-Pitts 6-yd., Reversible, Broad Tire.

Air Compressors

Abenaque, Ingersoll-Rand and Sullivan. All mounted.

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Guaranteed
for all purposes. Pipe fittings of all kinds. Pipe to 18" cut to sketch.

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2½" complete, excepting engine.

15 Hoisting Engines
with boilers and skeletons.

50 and 80 h.p. Loco. Boilers.
One 1-yd. Orange-Peel Bucket.
12 h.p. Advance Traction Engine.
Eureka electric continuous and Smith and Ransome Concrete Mixers.
Wire rope, blocks, rails, canvas, etc.

PIPE & CONTRACTORS SUPPLY CO.
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FOR SALE

Electric Engines

2—220 volt D. C. double drum Lidgerwood

Electric Hoists

with swinging gear attached. Engine numbers 697 and 701. 25 H.P.

Street Railway Motors

Suitable for derrick work. Price $1,000 each, f.o.b. Camden, N. J.

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SECOND HAND

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Large Stock, All Sizes, with New Threads and Couplings

JAMES F. GRIFFITH
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Wrought Pipe

New and Second Hand

GUARANTEED

Large Stock—All Sizes

Special Low Prices

Eagle Pipe Supply Co., Inc.
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INQUIRIES SOLICITED

FOR RENT—FOR SALE

Portable Boilers

Hoisters, Air Compressors, Concrete Mixers, Centrifugal Pumps, Diving Outfits, Rock Drills, Derricks, Pile Drivers and General Contractor's Equipment, both Steam and Electrically Driven.

MARVIN BRIGGS, Inc. 167 Sixth St.
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Ingersoll-Rand Air Compressor

1—22¼ x 14¼ x 14" Class "JU" Air Compressor — No. 8130-H.P. and 8131-I.P. complete. This machine is for all practical purposes good as new, having been in actual service less than two years.

Racine Stone Company
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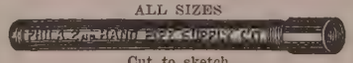
ALL SIZES



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STEAM SHOVEL OUTFITS — LOCOMOTIVES DUMP CARS — LOCOMOTIVE CRANES

H. KLEINHANS CO. Oliver Bldg., PITTSBURGH, PA.

FOR SALE

Air Compressor

Ingersoll-Rand, Class AA-2, 22 x 24¼ x 15¼ x 24.

Boilers

5—100 H.P. Ames.

C. G. A. Schmidt, Jr.
639 Land Title Bldg. Philadelphia, Pa.

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1—No. 60 Ransome engine, boiler and side loader.
1—11 ft. Cube with engine and boiler.
1—Ransome Bantam, Gasoline Engine.
1—7 ft. Broncho with Gasoline Engine.
1—6 ft. Rex with Gasoline Engine.

STEAM SHOVELS

2—Model 60 Marions, 2½-yd. Dipper.

CARS

31—4-yd. 36" gauge Western & Continental.

BUCKETS

5—1½-yd. Clam Shell
5—½-yd. and ¾-yd. Shaft Buckets

PILE HAMMER

1—No. 3 McKiernan-Terry Steam Pile Hammer.

Ward Equipment Company
331 Fourth Avenue, Pittsburgh, Pa.

MARSH-BOTHE MACHINERY CO.

"ALWAYS A SQUARE DEAL" ON

Contractors' Equipment

CONSULT US ON THE FOLLOWING:

Steam Shovels	Locomotive Cranes	Hoisting Engines
Crushing Plants	Air Compressors	Trench Machines
Drag Line Excavators	Engines	Back Fillers
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SPECIALS NOW

No. 6 Gates Crusher
No. 8 McCully Manganese Filler
No. 10 Kennedy—fine condition
And many others

SHOVELS

Thew 0 ⅝ Dipper—fine condition
Bucyrus 70C—fine condition

Cars, locomotives and other bargains in equipment

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975 OLD COLONY BUILDING, CHICAGO, ILLINOIS

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Until March 15, three first-class rear dump

TRUCKS

of seven tons capacity.

Available at once for service in any section of the country.

Skilled operators furnished.

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Thew Shovel

1—No. 1, standard gage trucks, one-yard dipper, good condition.

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1—Negley Slackline, 550 ft. complete, with 80-ft. steel tower, 10 x 12 D.D.D.C. American hoist.

Boiler

1—150 H.P. Erie Economic. 125 lb. pressure.

The Carmichael Gravel Company
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SPECIAL ATTRACTION

70 C Bucyrus Shovels
Thew Revolving Shovels
24" gauge Davenport Locomotives with Ohio Boilers
36" gauge Davenport, Vulcan and Porter Locomotives
Sparta Well Drills, Pumps, Boiler
Marion Side Plows, etc.
4-6-12-Yard Dump Cars

Immediate delivery and sold under one guarantee
(To be Right in every Respect)

CLAPP, NORSTROM & RILEY EQUIPMENT CO.
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For Immediate Delivery

Mixer—¾-yd. Smith, on trucks, No. 6918, side loader, automatic water tank and Engine No. 8515.
Skip Bucket—1 cu. yd.
Hopper—1 cu. yd.
Spouting—80 ft. with remixing hoppers.
Boom—For hanging spouting.
Hoisting Engine—Lambert, 6¼ x 8", double cylinder, single drum.
Recently overhauled and in A1 condition.

Service Equipment Co.
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Rebuilt Crushers

One 9 x 15 Farrel

One No. 2 Gates Gyratory

At Bargain Prices

Universal Road Machinery Co.
Kingston, N. Y.

BUCKETS

For Sale — For Rent

New and Second-Hand

½ and ¾-yd. Clam Shell Buckets, $2.00 per day.

1 and 1½-yd. Clam Shell Buckets, $2.75 per day.

George Haiss Mfg. Co.
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IN STOCK

Ready for
IMMEDIATE SHIPMENT
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Orange Peel Buckets

Two ½ cu. yd.
One ¾ cu. yd.
One 1 cu. yd.

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Thew "0" Steam Shovel
Thew "A-1" Steam Shovel

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Plow Steel Wire Rope—18 reels, 2¼, 2, 1⅞, 1¾, 1½, 1¼, and 1⅛; 1000 to 6000 ft. lengths. 30,000 ft. ¾ and ⅞; 500 to 3000 ft. lengths; all like new.
50 H.P. Upright Boiler, used 4 months, 125 lbs. steam.
12 x 15 D.D. Cableway Hoist, without Boiler.
25 Dump Cars, two-way, 36" gage, $50 each.
Easton Machinery Co., Drake Bldg., Easton, Pa.

Mixer and Spouting Plant

1—20 foot belt driven Milwaukee concrete mixer on steel skids, with batch hopper, with 10 H.P. AC. electric motor if desired.
1—150 foot Spouting Plant with bucket, hopper, boom, etc.

ROY C. WHAYNE SUPPLY CO.
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FOR SALE CHEAP

68 ft. 14"

BELT CONVEYOR

complete.

THOS. DORAN, JR.
Huntington, L. I., N. Y.

FOR SALE

35-TON STEEL DERRICK

Stiff leg, 125-ft. boom, bull wheel.

LOCOMOTIVE CRANES

1 each—Ohio, McMyler, Exeter.

TITAN EQUIPMENT CO.
30 Church St., N. Y. City (Cort. 1111)

MIXERS, CRUSHERS, BOILER, ROAD ROLLER

3—26 ft. M-C Mixers on trucks, side loaders, with steam power
1—15 ft. Standard Mixer with 10 H. P. Novo Engine.
4—Stone Crushers, good as new.
1—60 H. P. Locomotive Boiler on wheels.
1—Paving Mixer, nearly new, 20 ft. boom.
1—3-wheel Kelly-Springfield gasoline road roller.

KNAPP MACHINERY SUPPLY CO. 120 Liberty St., New York

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FOR SALE

Locomotive Cranes, Derricks, Concrete Mixers, Steam Shovels, Locomotives, Cars, Rails, Hoisting Engines, Electric Hoists, Cableways.
All necessary equipment for complete plant.

JOHN M. GREENE
267 Drexel Bldg., Philadelphia, Pa.

60-Ton 2-yd. Vulcan **Steam Shovel**, extra Boiler with new Flues.
Austin No. 3 **Gyratory Crusher Plant.**
Potter Drag Bucket **Trench Machine.**
Model "F" Parsons **Trench Machine.**
Hoisting Engines, Concrete Mixers. Guy and Stiff Leg **Derricks.**

Let Me Know Your Requirements.

THOS. J. LANE, 240 Bushnell Bldg., Springfield, Ohio

DALLETT & COMPANY,
413 Harrison Building, Phila., Pa.,
have FOR SALE a

Large Contractor's Plant

consisting of Boilers, Cars, 36" gauge Locomotives, Derricks, Hoisting Engines, Jacks, Concrete Mixers, Pumps, Pipe, Small Tools, etc. List gladly furnished upon request.

Contractors' Machinery

25 H.P. D.D. 220 V., D.C. Lambert Hoist
5 x 8" Carlin D.D. Hoisting Engine
½ yd. Smith, 9 ft. Standard Mixers
63 cu. ft. Foote—¾ yd. Ransome Mixers
¾ yd. McMyler Clam Shell Bucket
16 ft. Steel Bull Wheel
Porter 12 ton Saddle Tank, 3 ft. gauge

John H. Carlin Machine Co., N. S. Pittsburgh, Pa.

FOR SALE

One 3-yard orange-peel

BUCKET

Condition A1. Used 3 days

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FOR SALE

No. 2 "Thew" **Steam Shovel**, rebuilt; practically new.

No. 20 "Marion" **Steam Shovel** in good condition.

10½-in. x 12-in. double-cylinder, double-drum "Lambert" **Hoisting Engine**, with intermediate gear.

8¼-in. x 10-in. double-cylinder, double-drum "Lidgerwood" skeleton **Engines**; many other sizes.

Two brand new horizontal return-tubular **Boilers**, 125 lb.; Massachusetts requirements; size, 78 in. diameter x 20 ft. long.

Howard W. Read Company
N. W. Cor. 3rd and Arch Sts.
Philadelphia, Penna.

READY TO SHIP TODAY

Structural Steel for a Building

14 trusses 53 ft. 7 in. span, wall bearing, with monitor and purlins for 250-ft. length, fabricated but never erected. F. O. B. for less than steel would cost now at the mill. Can furnish columns, or can erect anywhere.

Also a

Power House

118 ft. x 120 ft. x 30 ft. to trusses. Arranged for traveling crane.

Also 1200 tons other material.

Details on application.

R. W. BAILY
122 So. Michigan Blvd., Chicago

FOR SALE

PRACTICALLY NEW!

1 Complete Skid Pile **Driver** (new) 50' leads
1 Complete Roller **Driver** (new) 50' leads
1 Wood Skid **Derrick** 50 ft. boom (new)
2 Stiff Leg **Derricks** 50 ft. boom (new)
1 3 Drum American **Hoisting Engine** 8¼ x 10"
1 3 Drum Mundy **Hoisting Engine** 8¼ x 10"
1 3 Drum Lambert **Hoisting Engine** 8¼ x 10"
2 Dake Swinging **Engines**
1 Complete Telsmith **Crusher, Elevator** and **Screener,** (new) 10 Ton per hour.
1 70 Ton Bucyrus Steam **Shovel** used eight months, 2½ yd. dipper.
Switches and **Frogs**
1 Rand Air **Compressor**
2 **Air Receivers**
1 ¾ yd. Smith Concrete **Mixer** (side loader)
2 No. 1 Vulcan Steam **Hammers**
1 No. 6 McKiernan Terry Steam **Hammer**
1 50 H.P. Erie **Boiler,** (loc. type) used 3 months
2 Emerson **Pumps,** 1 No. 3 Emerson Jr.
1 Duplex **Pump,** 10" x 6" x 10" Canton Hughes
1 Centrifugal **Pump,** 2½" with engine

CHARLES FATH & CO.
1025 Illuminating Bldg. Cleveland, Ohio

LOCOMOTIVES and CARS

2—10 & 16 Porter Saddle Tank, 36" gauge.
1—11 x 16 Vulcan Saddle Tank, 36" Gauge.
10—4 yard Western Dump Cars, 36" Gauge.

STEAM SHOVELS

70 C Bucyrus, 2½ yard Dipper.
Model 61 Marion, 2½ yard Dipper.
30 ton Ohio Traction, 1½ yard Dipper.
A1 Thew Traction, 1 yard Dipper.
No. 0 Thew Traction, ⅝ yard Dipper.

CENTRIFUGAL PUMPS

2—5 M. G. D. 12" Centrifugal Pumps, direct connected to vertical engines. Price $1250 each.

Send for our list.

RALPH R. LEWIS CO.,
538 Commercial Trust Bldg., Phila.

CHICAGO HOUSE WRECKING CO.

Offer These and Many Other Snaps

Available at Once for Quick Shipment

1—2½-yard, 70-ton Bucyrus Steam Shovel.
1—5-ton McIyler Standard Gauge, 8-wheel Locomotive Crane; self-propelling 50-ft. boom.
2—Baldwin 8-wheel Locomotives. Cylinder 15-in. diameter; 18-in. stroke; 36-in. gauge, complete with tender.
1—10 x 12 Flory Hoist; 3 drums; double cylinder; complete with 2 direct slewing drums; main drums are 18 in. diam., 31 in. between and 12 in. flanges. Capacity 70 tons.
1—Lidgerwood 3-drum hoist with 8¼ x 10 in. double cylinder Engine; with 36 in. diameter and 4 ft. boiler drums, 14 in. diameter, 22 in. between flanges and 7 in. flanges.
1—Strawdsburg 3-drum 8¼ in. x 10 in. double cylinder hoisting Engine, complete with slewing drums; drums are 16 in. diam. and 28 in. between flanges; 7 in. flanges.
1—Smith ¾-yd. portable Batch concrete mixer connected to a 7 x 8 Mansfield steam engine with a 30 x 7½ ft. boiler; outset mounted to an 8-in. stand on "I" beams; tilting lever discharge; 18-14 ft. lengths of 26-in. galvanized perforated screening; 3/32 holes, 12-gauge material with flanges on each end.

20 miles of 20-inch spiral riveted steel pipe; standard lengths; asphalt coated, baked on; Abendroth and Root made. Root bolted wrought steel joints. This pipe was just secured by us in our purchase of a complete Water Works in operation less than 30 days.

3500 sections of steel pipe, made up for an export order but never shipped. All sizes from 12 in. to 42 in. diameter in 8 ft., 16 ft., 24 ft., 32 ft. and 40 ft. sections. Waterproof corked seams. Just the thing for piping, culverts, smokestacks, etc.

Western and Oliver 12-yd. all steel, either side dump cars. We have a large number on hand for rent or sale.

6—18-cu. ft. all Steel "V" shaped dump cars, fitted for 20-gauge track, 12-in. wheels.

10,000 standard iron body valves, float valves, foot valves, check valves, globe valves, gate valves, angle valves, cross valves—made by Crane Co., Kelly & Jones & Chapman Valve Co. Good condition—never in use. Priced at 75% off standard list.

Complete railroad consisting of 50 miles 30 lbs. rails, car trucks, hand cars, logging cars, frogs, switches, jacks, track tools and all equipment. What can you use? Name your wants or ask for complete list now.

Complete 160 page buyers' guide of every needed item in all equipment secured in our numerous complete plant purchases. New copy just off the press. Write for this list now—ER No. 301.

ADDRESS **HARRIS BROTHERS CO.** OWNERS
35th and Iron Sts., CHICAGO, ILL.

BUY SELL or RENT

Draglines

And Other Equipment

Why buy new when you can get almost any size, any kind of *guaranteed* equipment at less than half price? We stand back of every deal.

Write for our price list.

United States Equipment Company
208 S. La Salle St., Chicago, Ill.

Iron Railroad Bridge

FOR SALE

Consisting of three 100 ft. spans. Located near Marlinton, W. Va., on C. & O.

G. W. CAMPBELL
Box 952 WARREN, PA.

FOR SALE

McMyler Whirley

We offer subject to prior sale a McMyler Whirley in good working order. Gauge 14' 6"; diameter of boiler 4' 2"; height 6' 4"; cylinders 9 x 11; two drums 2' 3"; wooden boom (new) 56' long. Is self propelling. We have installed auxiliary drum for opening and closing clam shell. Has water tank for 1,000 gal. Will operate 1 yd. bucket. Price $2,500 loaded on cars or boat at our dock, Buffalo, N. Y.

NIAGARA SAND CORPORATION,
907 White Bldg., Buffalo, N. Y.

FOR SALE

1—Dragline "Bucyrus" 175-B, 125 ft. boom; large rugged motors; Cutler-Hammer control (convertible into steam-driven dragline or revolving shovel).
1—Ingersoll-Rand Imperial X-B Air Compressor, 888 cu. ft., 19 x 12 x 16 duplex with short belt, without motor, 170 RPM, including inlet and discharge unloader, intercooler and lubricator.
1—Ingersoll-Rand Aftercooler, 169 sq.ft.
(All the above equipment good as new.)
5—Sullivan 3⅝" Air Drills and steel available the first of the year at Blue Island, Ill.
1—10" Erie Sand Pump, belted.
1—10" Morris Water Pump with engine direct connected (used a few weeks).
1—60 H.P. Brownell Locomotive Boiler (used a few weeks).
1—Clipper Well Drill, portable, with 220 v. 10 H.P. D.C. motor.
1—7¼ x 10 Mundy DD. D.C. Hoisting Engine, with boiler.
1—No. 2 Vulcan Steam Pile-Driver Hammer.
1—2500 lb. Vulcan Drop Pile-Driver Hammer.
(Above available now.)
3—Sullivan Duplex Channelers (latest), and steel, and
6—Sullivan 3⅝" Tripod Steam Drills and steel available in a few months at Lambert, Ill.

JAMES O. HEYWORTH
HARVESTER BLDG. CHICAGO, ILL.

LOCOMOTIVE CRANES

1—10-ton 4-wheel Industrial.
1—McMyler Whirlie.

ROCK CRUSHER

1—Climax Portable; elevator, screen, hopper, Boiler and Engine on wheels.

ROAD ROLLERS

3—10-ton Buffalo Pitts.
1—5-ton Tandem.

HOISTING ENGINES

1—8¼ x 10 Lidgerwood, skeleton, with swinger.

COUNTERWEIGHT DRUM

1—Lambert; A1 condition.

SWINGING ENGINES

2—Dake.

ORANGE PEEL BUCKETS

1—¾-yd. Hayward, reconstructed.
2—1-yd. Hayward.

What do you need? Write us.

HERBERT GIVIN CO.
30 Church St. New York

FOR IMMEDIATE DELIVERY

TIES 3"x4"—3' 6" / 4"x5"—4' 6" / 4"x6"—6'

Also PILING and SHEET PILING
My prices will interest you.

F. H. WELLS, Agent, Savannah, N. Y.

FOR SALE

Type "O" Thew **Steam Shovel,** high number, Mass. boiler, practically good as new.
W. I. Skeleton Building, 72' x 42', 25' columns, 18' apart, 2 story.
Locomotive Cranes from two to forty tons.

DALLETT & COMPANY
413 Harrison Bldg., Phila., Pa.

Contractors Engineers

We have in stock for immediate delivery

150 9" Beams 8' to 19' long.
100 12" Beams 5' to 19' long.
750 15" Beams 8' to 20' long.
150 20" Beams 8' to 20' long.

All material in fine condition. Inspection invited.

The Perry Buxton Doane Co.
Chelsea, Mass.

SEARCHLIGHT SECTION

STEEL PILING

355 pieces 7 ft. Lack. 7"x¼"
360 pieces 10 to 15 ft. Lack. 12¾x⅜
310 pieces 12 to 16 ft. Wemlinger 12"
200 pieces 14 ft. Lack. 7"x¼"
200 pieces 15 to 20 ft. Wemlinger 12"
775 pieces 15 to 20 ft. Lack. 12¾x⅜
1700 pieces 20 ft. U. S. 12"x⅜"
250 pieces 20 ft. U. S. 9"x¼"
250 pieces 20 ft. Lack. 7"x¼"
450 pieces 20 ft. U. S. 12¼x⅜
70 pieces 20 to 24 ft. Lack. 14" Arched Web
100 pieces 22 ft. U. S. 12¼x⅜
400 pieces 22 ft. Lack. 7"x¼"
215 pieces 22 to 25 ft. Lack. 12¾x⅜
150 pieces 25 ft. U. S. 12"x⅜"
70 pieces 25 to 30 ft. U. S. 12¼x⅜
25 pieces 25 to 30 ft. Lack. 12¾x⅜
220 pieces 25 to 30 ft. Lack. 14" Arched Web
84 pieces 42 ft. U. S. 12"x⅜"
205 pieces 32 to 35 ft. Lack. 14" Arched Web
56 pieces 32 to 35 ft. U. S. 12¼x⅜
240 pieces 32 to 35 ft. Lack. 12¾x⅜
75 pieces 35 to 40 ft. Lack. 12¾x⅜
400 pieces 35 to 40 ft. U. S. 12¼x⅜
67 pieces 35 ft. Lack. 14" Arched Web
185 pieces 40 to 45 ft. U. S. 12¼x¾
8 pieces 45 ft. Lack. 14" Arched Web
450 pieces 65 ft. Lack. 14" Arched Web

Also thousands of tons located everywhere.

CARS

10—36 ft. 50,000 Cap. Box. Can convert to Flats.
[illegible] Flats.
36—35 ft. 80,000 Cap. Steel Truck Flats.
10—41 ft. 80,000 Cap. Steel Truck Flats.
4—35 ft. 60,000 Cap. Box. Make Excellent Camp Cars.
[illegible] Wheel Switcher.

All first class—for immediate delivery.

RAILS

100 tons 80 lb.	500 tons 40 lb.
100 tons 68 lb.	400 tons 35 lb.
[illegible] tons 55 lb.	500 tons 30 lb.
[illegible] tons 56 lb.	250 tons 25 lb.
[illegible] tons 52 lb.	300 tons 20 lb.
400 tons 6 in. 60 lb. Shanghai	100 tons 16 lb.

This is only a partial list of our good Relaying Bargains.

Large quantities of all Sections located all over the country.

Why pay present high prices for new rails, when these first class relayers are available?

Before Buying
Locos., Equipment, Machinery, Tanks
WRITE FOR COPY of the "ZELNICKER" BARGAIN LIST

ZELNICKER IN ST. LOUIS
423 First Nat. Bk., Chicago
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General Offices:
St. Louis: 4th and Locust Sts.

Immediate Deliveries **Low Prices**

First Class Plant

18 Western 12-yd. standard gauge air dump cars

52 Western 4-yd. 36" gauge dump cars.

2300 Dinkey ties for 36" gauge track.

A number of Vulcan, Porter and Davenport locomotives, 24, 36, 42" and standard gauges. Ranging in size from 6 to 60 tons.

A number of steam shovels both revolving and railroad types, all sizes.

Portable track, relaying rails in all sizes.

Wire *Write* *'Phone*

CONTRACTORS' MACHINERY & SUPPLY CO.
504-6-8 Wabash Bldg., Pittsburgh, Penna.

STEEL PILING SECOND-HAND

Wemlinger, Type A, 12"x⅛"

200 pcs. 4 ft. long	600 pcs. 10 ft. long
70 pcs. 6 ft. long	307 pcs. 12 ft. long
80 pcs. 8 ft. long	73 pcs. 16 ft. long

Wemlinger, Type B, 12"x3/16"

100 pcs. 10 ft. long	980 pcs. 20 ft. long
150 pcs. 13 ft. long	250 pcs. 24 ft. long
150 pcs. 18 ft. long	

United States, 9"x¼"

190 pcs. 10 ft. long	150 pcs. 12 ft. long
200 pcs. 11 ft. long	26 pcs. 9 ft. long

United States, 12½"x⅜"

80 pcs. 12 ft. long	302 pcs. 20 ft. long
50 pcs. 15 ft. long	65 pcs. 27 ft. long
45 pcs. 16 ft. long	115 pcs. 32 ft. long
45 pcs. 18 ft. long	27 pcs. 43 ft. long

Lackawanna, 7"x¼"

38 pcs. 8 ft. long	750 pcs. 12 ft. long
42 pcs. 10 ft. long	227 pcs. 24 ft. long

Lackawanna, 12¾"x⅜"

210 pcs. 18 ft. long	147 pcs. 27 ft. long
550 pcs. 20 ft. long	105 pcs. 30 ft. long
80 pcs. 24 ft. long	50 pcs. 32 ft. long
90 pcs. 25 ft. long	212 pcs. 38 ft. long

We purchase piling at the end of job or rent it under certain conditions, thus greatly reducing cost to user.

Wemlinger Steel Piling Company
42 Whitehall St., New York City
"The Steel Piling Exchange"

FOR SALE

Lackawanna Sheet Steel Piling

Straight web, ⅜ thick x 12¾ wide. Approximately 50 pieces, 11 ft. 6 to 12 ft. long. Approximately 45 pieces, 28 ft. long. $35 per ton, f.o.b. Dayton.

Miami Construction Co.
Sidney, Ohio

Locomotives

BALDWIN 13½ x 22 S.T., 6 wheel, standard gauge.
BALDWIN 13" x 20 S.T., 4 wheel, standard gauge.
BALDWIN 12" x 18" S.T., 4 wheel, standard gauge.
BALDWIN 10 x 16 S.T., 4 wheel, 36" gauge.
PORTER 10 x 16 S.T., 4 wheel, 36" gauge.
AMERICAN 9 x 14 S.T., 4 wheel, 36" gauge.
PORTER 9 x 14 S.T., 4 wheel, 36" gauge.

In addition a complete stock of second hand cranes, rail cars, steam shovels, hoisting engines, derricks, air compressors, rock crushers, drills, pumps, concrete mixers, boilers, engines and electrical equipment.

For Sale or Rent

HENRY A. HITNER'S SONS CO.
Sta. K. PHILADELPHIA

WE SPECIALIZE IN

Steam Shovels Locomotives Dump Cars
Locomotive Cranes

FOR SALE OR RENT.

STEAM SHOVELS

R. R. Type	Traction Type
Marion, Models 60-61-70-75.	Marion, Models 28-31-36-40.
Bucyrus, Models 45-70-70C-95C.	Osgood, Models 18-29.
	Thew, Models 0-A1-No. 1.

Narrow and Standard Gauge Equipment Guaranteed Right in Every Way.

CONTRACTORS SERVICE CO., 48 Church St., New York, N. Y.

RAILS

We have for prompt shipment:
65 tons 25 lb. relaying rails.
7 miles 30 lb. relaying rails.
11 miles 40 lb. relaying rails.
Also, a LARGE TONNAGE of 56 to 75 lb. relaying rails with angle bars.

LOCOMOTIVES
Dump Cars Spreader Cars

STEAM SHOVELS
Drag Lines Cranes

LOGGING EQUIPMENT
Passenger and Freight Cars.

GET OUR PRICES
Can furnish you with anything you may want in the way of equipment.

The Isaac Joseph Iron Company
525-535 Reading Road, Cincinnati, O.

FOR SALE
1—10 x 16-36" Gauge 4-Wheel Porter Saddle Tank

LOCOMOTIVE

No. 4797. New 1911. First-class condition. *Immediate shipment*, attractive price.
Everything for the Contractor, New and Second-Hand.
EMPIRE ENGINEER'G & EQUIPMENT CO.
Empire Bldg. Pittsburgh, Pa.

New RAILS Relays
2000 tons 56 lb. relayers with bars, some loaded.
500 tons 30s to 40s relayers, with bars.
4000 tons 20 lb. to 100 lb., with bars.
4000 pairs 85 lb. continuous rail joints.
Any and quick delivery. Inquire for prices.
We are in the market for your old railway material, relaying rail and scrap iron.
HIRSCH ROLLING MILL CO.
Office and Rolling Mills. **St. Louis, Mo.**

LOCOMOTIVES

narrow and standard gage, 6 to 90 tons ready for service—also CARS and STEAM SHOVELS
SOUTHERN IRON & EQUIPMENT CO.
Atlanta, Ga.

FOR SALE

Two 15-ton and three 10-ton, 3-ft. gage Davenport four-wheel, saddle-tank dinkey locomotives.

Six Dake No. 5-S derrick swinging engines.

Twenty "Sargeant" steam rock drills, type "E."

PRICE & PRATT
NORFOLK, VIRGINIA
NEW AND USED MACHINERY

"RAILS"

All Sections of New and Relaying
For Quick Shipment.
M. K. FRANK
Frick Bldg., Pittsburgh, Pa.

FOR SALE
Having purchased at auction the Lancaster & Southern Railway, we offer the following for sale:
7 miles 60 lb. rail with joints.
7 miles 2/0 Trolley wire.
4 miles 4/0 Trolley wire.
HENRY A. HITNER'S SONS CO.,
Station K., Phila., Pa.

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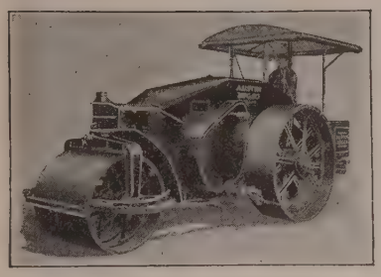
85 Tons 100 lb.
Relaying Rails

HENRY LEVIS & CO.,
26 S. 15th St., Philadelphia, Pa.

RAIL

FOR SALE
About 40 tons 60-lb. STEEL RAIL, with splices, bolts and nuts; prompt delivery. Never used.
DALLETT & CO.,
413 Harrison Bldg., Philadelphia, Pa.

Austin Motor (Kerosene) Road Rollers



Austin Motor Macadam Roller

fulfill the requirements of up-to-date road builders and contractors.

A roller that saves 30 to 50% of operating costs, causes no smoke, noise and annoyance, and is always ready for work on a moment's notice is the machine that really gives the service you have a right to expect.

Austin Rollers Use Kerosene

so that the temporary high price of gasoline is no argument against them. Even at present gasoline prices our roller shows vastly greater economy than can be got from any steam roller.

The Austin Rollers are built in Macadam and Tandem types.

THE AUSTIN-WESTERN ROAD MACHINERY CO.

Chicago

Builders of the largest line of Earth Handling Machinery, Rock Crushers, Road Oilers and other equipment for Road Making and Maintenance.

On country road building, bridges, foundation work, and similar jobs where it is *more economical* to bring the plant to the stone, the

Austin Portable Gyratory Crusher

and its working partner, the

Austin Portable Telescope Bin

are recognized nationally as composing the most advantageous crushing outfit.

This crusher, with manganese crushing parts, will handle the hardest rocks and its construction is as strong as that of a battleship—yet the machine *is surprisingly light in weight.*

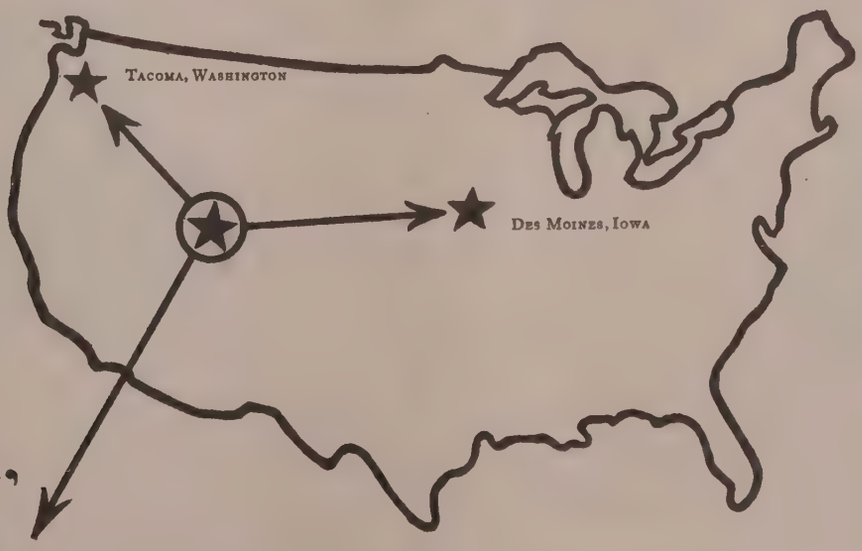
The telescope bin is also of simple and strong construction and can be raised into position for work by two men in a few minutes.

Send for our Catalogue of Road Making Machinery

Austin Manufacturing Co.

CHICAGO

NEW YORK OFFICE
50 Church St.



Myton, Utah

(80 miles from a railroad station)

SAVED $2,500

on a $10,350 contract

A few words from their Engineer:

"The contract has been awarded at $10,350 for the complete system. The contracts for materials went to firms in Tacoma, Wash., and Des Moines, Iowa. We received bids from twelve different parties.

The bids and inquiries came from all over the country and I am satisfied that we saved at least $2,500 by advertising with you. I was informed by one of the bidders that this was the best advertised job that he had come across in a long time.

Since the town of Myton is located in the Uinta Basin 80 miles from the nearest railroad station the presence of so many bidders at the opening of bids seems to me to be due to the advertisement we placed with you."

Remember that

plans and specifications may be filed without extra charge in any or all of the offices of Engineering Record, the publication that has for years printed more official Proposal advertisements than any other paper.

through a Proposal Advertisement costing $17.40 in the

Engineering Record

Heavy Duty Dump Cars

No Need to Chain 'em!

There's no need to chain CONTINENTAL Dump Cars when they are ready to dump excavated material.

The TRACK CLINGING ability is unsurpassed. They can handle the heaviest materials, yet safely tip up to a 45-degree angle and shoot clean in a moment.

The steep dumping angle and the wide door opening of CONTINENTAL Dump Cars mean SPEED.

Send for Booklets

CONTINENTAL CAR CO.

General Office: Pierce Bldg., ST. LOUIS

McCormick Bldg. Chicago — Factory: Louisville, Ky. — 17 Battery Place, New York

KOPPEL

Cars and Track

For Sale or Rent

A Koppel haulage outfit can be selected which will pay for itself through time and money saved.

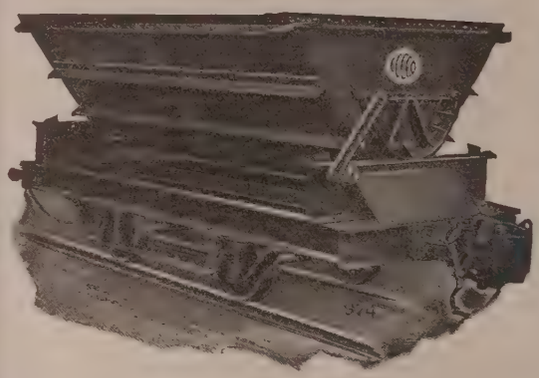
Write for sale or rental terms on Dump Cars, Portable Track, Rails, Frogs, Switches, Steel Ties, Turntables, etc.

Advisory Engineering Service is free to our customers.

ORENSTEIN-ARTHUR KOPPEL CO.

PLANT KOPPEL, PA.

SALES OFFICES
New York — Pittsburgh
Chicago — San Francisco
Branches throughout the world.



Prepare for Big Work and Hard Work

with the *right sort of cars.*

Here is our

Standard Type of Contractor's Car

(We build any type desired.) But this is *the* car we recommend for all round hard work—and hard usage. Send for Catalog 850-R, showing our full line of cars for contractors or industrial purposes.

Easton Car & Construction Co., Clinton St., Easton, Pa.

Branch at McCormick Bldg., Chicago

"RIGHT" Yells the Dump Boss

after the skinner has tripped his load. Of course it's "right" on a Western Wagon job, because the Western dumps clean and quick.

Light in weight, but STRONG, of Clear Washington Fir. Specify the Western for YOUR job or write for our Wagon Book.

WESTERN WHEELED SCRAPER COMPANY
Earth and Stone Handling Machinery
AURORA, ILLINOIS

Keep Your Teams and Trucks MOVING with RAPID LOADERS

Rapid Loaders save their cost in a few days' use. By using them you can haul ⅓ more material each day, as the teams are *kept moving all the time.*

Just the thing to use for unloading sand, gravel, crushed stone, slag, etc.

Write for circular describing this money saver.

The Bonney Supply Co., Inc., 371 St. Paul St., Rochester, N. Y.

The Rapid Loader was patented May 9, 1916.
Owned and manufactured by us *exclusively.* Beware of imitations and infringements.

GARBAGE REDUCTION MACHINERY

Cobwell Process

No Odors — **Absolutely Sanitary**

Now used in Los Angeles and being installed in New York City

The C. O. Bartlett & Snow Company
CLEVELAND, OHIO

Electric Locomotives

Safest and most economical for construction service.

Types and sizes to suit all industrial and contractors' requirements.

(*Write for Bulletin* 201-*D*)

Industrial Locomotive Dept. **Goodman Mfg. Co.**
4800 Halsted Street Chicago, Ill.

(53)

WHAT HAVE YOU

For Sale
For Rent
For
Exchange

?

Want and For Sale ads in the RECORD go to more than 20,000 contractors and engineers.

Let the Searchlight Help You

WHAT YOU WANT IN A LOCOMOTIVE

Every locomotive must have Reliability, Efficiency and Durability.

To secure reliability every part must have just the right amount of the right material in the right place. Materials must pass rigid inspection and tests. Generations of experience in building locomotives is back of every locomotive we build.

Efficiency means readiness to perform a day's work every day. You know how the work stops when the locomotive is out of service. We guard against breakdowns by the material and the design.

Durability is obtained because every part is made with reference to long life. Every part is made interchangeable for each size of locomotive, so that worn parts may be quickly replaced without a machine shop. This is most important in keeping the locomotive on the job.

AMERICAN LOCOMOTIVE COMPANY

30 CHURCH STREET, NEW YORK

McCormick Building, Chicago, Illinois. A. Baldwin & Company, New Orleans, La.
Dominion Express Building, Montreal, Canada.
N. B. Livermore & Company, San Francisco and Los Angeles, California.
Northwestern Equipment Company, Seattle, Wash., and Portland, Oregon.

VULCAN Locomotives—of this and many other types not shown here—are used in practically every variety of service, from fast passenger through fast and drag freight to contractor and plantation service.

A brief outline of the characteristics of your railroad will enable us to help you choose the most economical and efficient power for your line.

Vulcan Iron Works
1737 Main Street, Wilkes-Barre, Pa.
New York Chicago

Vulcan Locomotives

We can render Double Service

We can give expert advice as to which will be the most efficient for your work—

Locomotives for Steam or Compressed Air

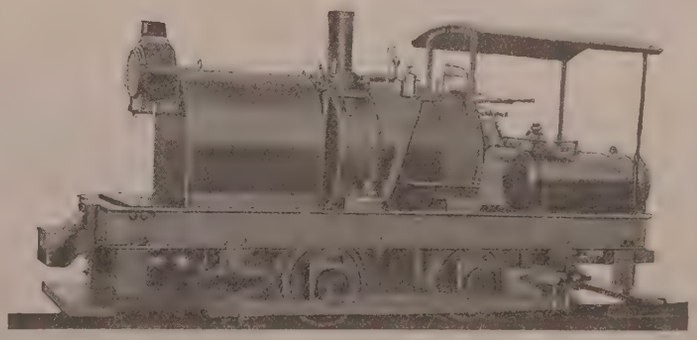
And then we can supply the most efficient machines. We are specialists in both. Write for our Catalog. Consult us.

H. K. PORTER CO. - 503 TRUST BLDG. PITTSBURG, PA.

New York Representatives: Wonham, Bates & Goode, Inc., 17 Battery Place.

Kerosene is about 9c a gallon—why not use it to run a BELL Steam Locomotive on your job? —**Particularly** as you can dispense with a licensed engineer and pull 50% more than other steam outfits. **Furthermore** — the first cost of the BELL is lower.

Bell Locomotive Works, Inc.
30 Church St., New York City



On Denison's Fine New Viaduct

CAREY
Elastite EXPANSION JOINT
The original and only Elastite Joint

Crossing the "Katy" tracks right in the Denison, Tex., yards, this $64,000 concrete viaduct will be subjected to vibration from heavy trains. There must be no contraction cracks develop in the structure.

So the Engineering Department of the City of Denison provided a *permanent* expansion joint of ELASTITE.

ELASTITE is preferred by engineers who perfect the details of their construction. It is made of pure asphalt combined between two thick layers of heavy felt. It retains its properties in every weather. Cut to size ready to install. It saves time and money for the contractors.

A free sample of Elastite sent to engineers or contractors.
Write for yours.

The Philip Carey Company, 36 Wayne Ave., Lockland, Cincinnati, Ohio

"The Sandwich Joint"

CENTURY WOOD BLOCKS

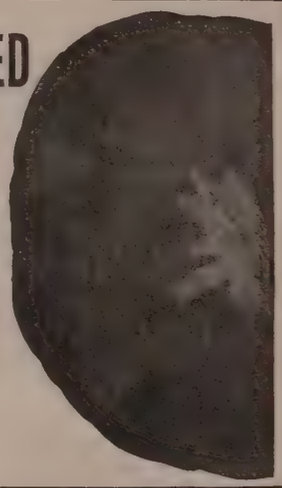
Creosoted Street Pavements, Bridge Flooring, Factory Floors, Timber, Ties, Poles and Piling.

THE OHIO WOOD PRESERVING CO., PITTSBURGH, PA.
THE RODD COMPANY, General Sales Agents
1400 Commonwealth Bldg., Pittsburgh, Pa.

WYCKOFF CREOSOTED
PAVING BLOCKS PILES
NEVER BUCKLE OR DECAY

We have been in the creosoting business 30 years and not a single piece of wood treated by us has ever decayed. We manufacture Creosoted:—Conduit, for underground wires, Poles, Ties, Cross Arms, Anchor Blocks, Posts, Piles, Plank, Lumber, Wharf and Bridge Timbers, etc. Also Wood Pipe and Steam Pipe Casings. Send for Catalogue C.

Wyckoff Pipe & Creosoting Co., Inc.
Established 1881
Creosoting Works and Factory: Portsmouth, Va.
Main Office: 30 East 42d Street, New York.



CREOSOTING
Southern Wood Preserving Co.
Lee Street
Atlanta, Georgia.

Wood Paving Blocks
RAILWAY TIES
AND TIMBERS
CROSS ARMS POLES

SPF

Preserves Wood in All Places—
Large Stock—Immediate Shipment
S.P.F. WOOD PRESERVING CO., Inc.
92 Wall Street, New York City

Give up the old method of pouring joints
USE
IDEAL
"The ideal method of providing for expansion in improved pavements"
EXPANSION JOINT
THE WARING-UNDERWOOD COMPANY
FERNWOOD, PENNSYLVANIA

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PILING—TIMBERS
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Barrett's
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Grade-One Liquid
Creosote Oil

Cuts Wood Preserving Bills in Half
Write for booklet
The Barrett Company
NEW YORK
Branches in Principal Cities

Rapid, Effective and Lasting Work

in the installation of drainage structures for steam and electric railroads is accomplished by the use of

ARMCO IRON
Culverts

The upper illustration is of a 60-inch corrugated pipe, 82 ft. long, made from 10-gage "Armco" Iron, being installed under the tracks of a great interurban railroad. Note the beveled end to conform with the line of the end-wall.

The lower picture shows twin 18-inch culverts of the same material.

"Armco" (American Ingot) Iron, the product of the American Rolling Mill Co., is the standard for purity and rust-resistance. Its adoption has made of the corrugated culvert a reliable and lasting installation.

AMERICAN ARMCO INGOT IRON

Resists Rust

Write or phone the nearest manufacturer for full information as to "Armco" Iron Culverts, Siphons, Flumes, Sheets, Roofing and Formed Products

Arkansas, Little Rock
Dixie Culvert & Metal Co.
California, Los Angeles
California Corrugated Culvert Co.
California, West Berkeley
California Corrugated Culvert Co.
Colorado, Denver
R. Hardesty Mfg. Co.
Delaware, Clayton
Delaware Metal Culvert Co.
Florida, Jacksonville
Dixie Culvert & Metal Co.
Georgia, Atlanta
Dixie Culvert & Metal Co.
Illinois, Springfield
Illinois Corrugated Metal Co.
Indiana, Crawfordsville
W. Q. O'Neall Co.
Iowa, Des Moines
Iowa Pure Iron Culvert Co.
Iowa, Independence
Independence Corrugated Culvert Co.
Kansas, Topeka
The Road Supply & Metal Co.
Kentucky, Louisville
Kentucky Culvert Mfg. Co.
Louisiana, New Orleans
Dixie Culvert & Metal Co.
Maryland, Baltimore
W. M. Baker, Munsey Bldg.
Massachusetts, Palmer
New England Metal Culvert Co.
Michigan, Bark River
Bark River Bridge & Culvert Co.
Michigan, Lansing
Michigan Bridge & Pipe Co.
Minnesota, Minneapolis
Lyle Corrugated Culvert Co.
Minnesota, Lyle
Lyle Corrugated Culvert Co.
Missouri, Moberly
Corrugated Culvert Co.
Montana, Missoula
Montana Culvert & Flume Co.
Nebraska, Lincoln
Lee Arnett Co.
Nebraska, Wahoo
Nebraska Culvert & Mfg. Co.
Nevada, Reno
Nevada Metal Mfg. Co.
New Hampshire, Nashua
North-East Metal Culvert Co.
New Jersey, Flemington
Pennsylvania Metal Culvert Co.
New York, Auburn
Pennsylvania Metal Culvert Co.
North Dakota, Wahpeton
Northwestern Sheet & Iron Works.
Ohio, Middletown
American Rolling Mill Co.
Ohio Corrugated Culvert Co.
Oklahoma, Shawnee
Dixie Culvert & Metal Co.
Oregon, Portland
Coast Culvert & Flume Co.
Pennsylvania, Warren
Pennsylvania Metal Culvert Co.
South Dakota, Sioux Falls
Sioux Falls Metal Culvert Co.
Tennessee, Nashville
Tennessee Metal Culvert Co.
Texas, Dallas
Wyatt Metal Works.
Texas, El Paso
Western Metal Mfg. Co.
Texas, Houston
Lone Star Culvert Co.
Utah, Woods Cross
Utah Cor. Culvert & Flume Co.
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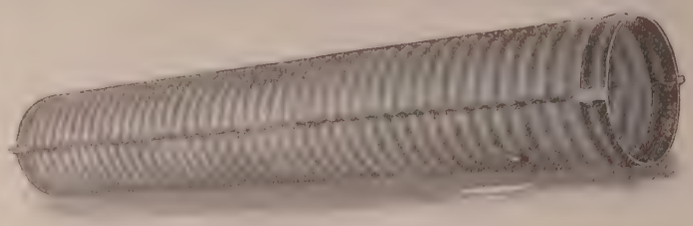
REGARDLESS OF THE INCREASING
SCARCITY OF GALVANIZED SHEET METAL
Seriously Inconveniencing Some Culvert
Manufacturers Throughout the Country

WE HAVE THE MATERIAL AND THE CULVERTS



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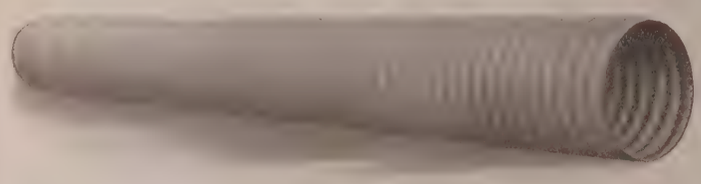
(Shipped Set-Up or knocked-down)



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WE CAN MAKE VERY PROMPT DELIVERIES

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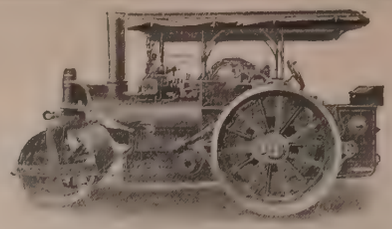

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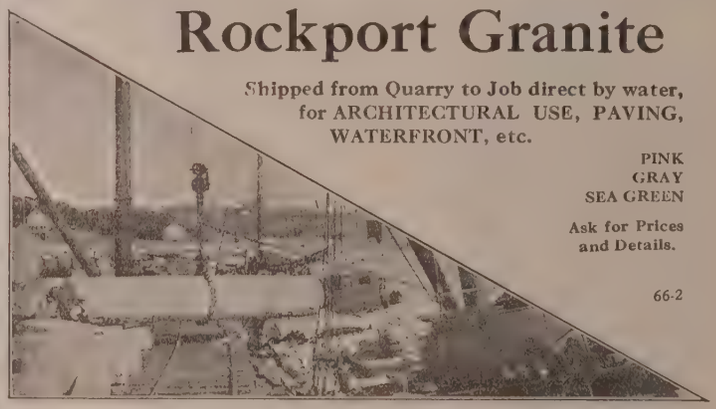

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Simple, Strong, Extensible,
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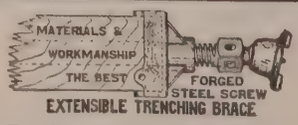

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STANDARD FOR QUALITY
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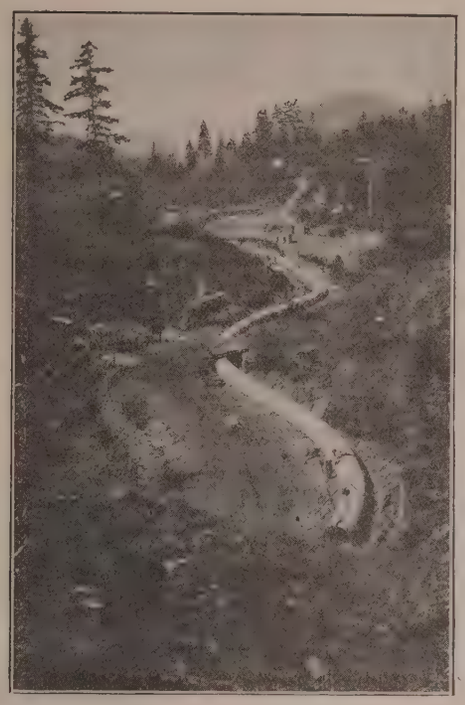

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Compare LOCK JOINT PIPE with any other type of water supply line construction. FIRST—Compare the cost.

THEN—Compare the smooth, tight Lock Joint, that gives the lowest coefficient of friction of any known construction.

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No Sewer Cleaning Problem Too Difficult

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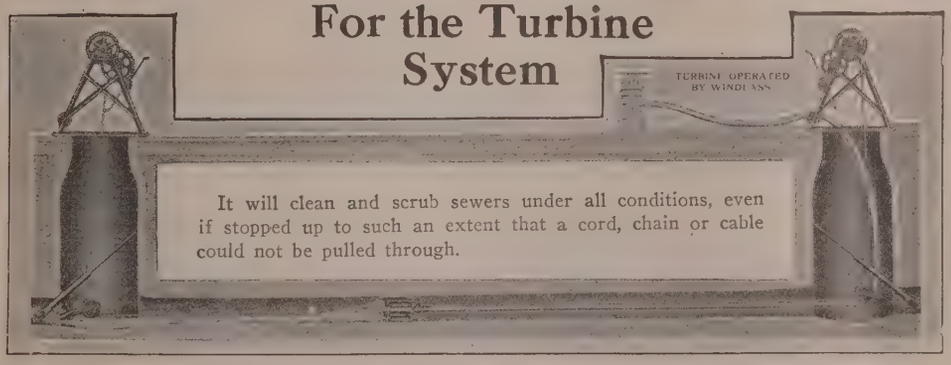

In partially clogged sewers the *Turbine* is drawn through by means of cable and windlasses. If completely clogged the *Turbine Forcing Jack* is used in forcing an opening through the stoppage. Not only roots, grease, tar and other resisting materials have been easily moved a distance of 200 feet, but ragged pieces of concrete have been ground up so as to open the sewer clean and free.

Write for "Sewer Cleaning Equipment."

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Incorporated
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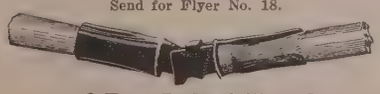
They cannot buckle or uncouple in the duct
Send for Flyer No. 18.



3-Foot Rods, $.65 each
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Security Rods are made from second growth hickory, with malleable iron couplings swedged or shrunk down very tightly on to the curved places at end of sticks. Security couplings *cannot* come off.

Joint and unjoint easily and quickly—light weight—long runs easily made. No slack but lend themselves to all practical bends.

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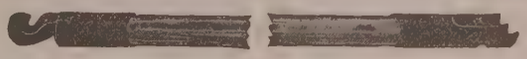

These Couplings represent the latest and most improved device for connecting sewer and conduit rods. No other coupling possesses so many strong features of merit.

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For Conduit and Sewer Rods

Some of the Users of Felton Patent Couplings

For Rodding Conduits: Electric Light Companies, Contractors. Street Railway Companies, Police and Fire Alarm Signal Systems, Telephone Companies.

For Cleaning Sewers and Drains: City Engineers, Contractors. Sewer Departments, also Schools, Hospitals, Asylums, Army Posts, Barracks, Railroads, Corporations with Independent Sewer Systems. **Send for circular and prices.**

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They are solidly anchored in the concrete, and are good for all the weight the bolt will carry.

A round disc closes the entrance of the insert until you are ready to use it. Being flush with the ceiling, the disc can be painted over so as to be practically invisible.

But the SECURITY INSERT is there when it is wanted —solid as a rock, permanent as the building.

Made in sizes from 3/8 to 7/8 inch. Write for the SECURITY BULLETIN.

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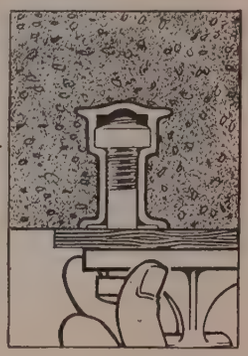

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N the O. & W. paint shop, at Middletown, N. Y., are two rows of sash—one on each side of the monitor. Each row contains forty exceptionally heavy sash, center pivoted. These forty sash are operated by five runs of our rocker shaft apparatus, operating eight sash from each handwheel; making it possible to vary the amount of ventilation to a nicety.

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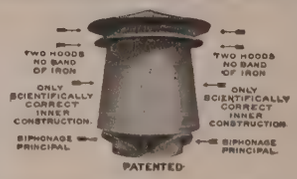

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for any type of roof. Gives real efficient Ventilation and prevents condensation.

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Engineers and Architects are requested to send for Reference Book on Roofing Tiles, which is a working hand-book for their use and not at all like the ordinary catalogue.

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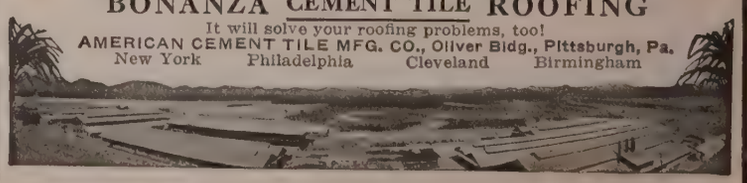

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The property of high elastic limit is generally accompanied with a great decrease in the ductility of the material. The effect of this on the safety of the building should not be overlooked. It is never possible to calculate all the loads that a building will be required to sustain. The falling of a two-ton load on a floor from a height of one foot will produce stresses on the whole building that will far exceed the common calculated quiescent loads. A shock due to internal or external explosions, earthquake shocks, common shocks encountered in the erection of the structure; none of these can be calculated. Conservative engineers provide for them by selecting a material which possesses ductility; in other words, which will yield under shock rather than snap in two.

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meshes meet every test for ductility, and the picture shows a tested specimen taken from a commercial sheet.

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Stock Carried in the principal cities

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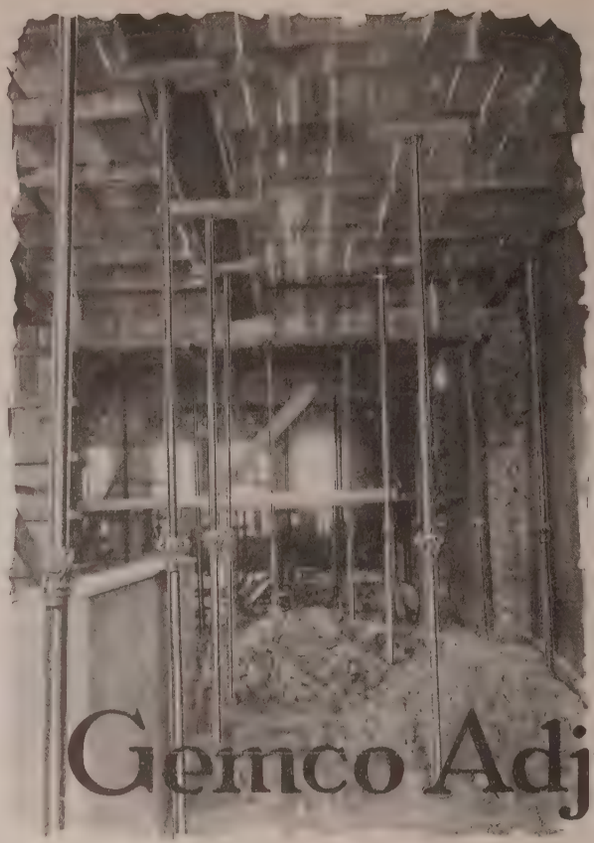

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Philadelphia, Pa., Sept. 21, 1916.

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Trusting we may be in the market for more in the near future, we remain

Yours very truly,

THE CONCRETE CONST. CO.
By Charles W. Toplin.

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Have you ever investigated the economies made possible by the use of GEMCO SHORES? With letters like this coming from satisfied users all over the country, don't you think it's about time you looked into the matter? They're strong and safe—their cost is low; their savings great—they can't wear out—their range of usefulness is practically unlimited.

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and effect the greatest possible economy in your concrete floor construction. Meyer Steelforms are made of heavy 16 gauge sheet steel, so solidly rigid that they are removed from the concrete after it sets, and re-used in the succeeding floors, *on a rental basis.* It costs less to rent form work than it does to buy it. No form work remains in the floor,—you have minimum dead load. Longer spans are possible. Heavier loads are carried with less material.

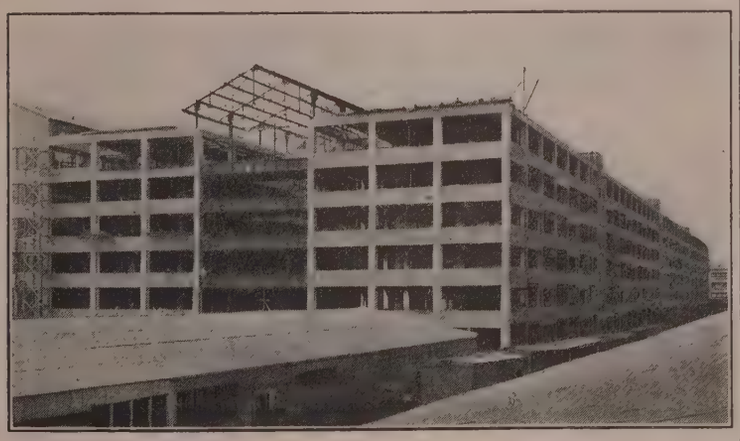
Meyer Steelforms after their removal leave a series of smooth concrete joists. This open joist ceiling is especially economical and pleasing to the eye. Metal lath ceilings may be erected at the bottom of joists, thus making the floor hollow and sound-proof. Discolored ceilings are prevented, for no concrete and plaster come in contact.

Investigate the economy of Meyer Steelform Construction. You can effect a substantial saving in your work.

Ask for our Handbook

CONCRETE ENGINEERING COMPANY

OMAHA District Offices: Chicago, Kansas City, San Francisco NEBR.



Ford Motor Assembly Plant, Highland Park, Michigan.
Geo. A. Fuller Co., General Contractors.

The above cut shows the concrete skeleton of the new Ford Assembly Plant at Highland Park, Michigan.

Nine hundred and twenty-four round columns and one hundred and two moulded square capitals were erected and removed in fifty-six working days on this job by the

Deslauriers Column Mould Co.

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Eastern Office, 320 Broadway, New York, N. Y.

13 Ways to Land the Job

Tenth

ADJUSTABLE

LANDING THE JOB IS EASY when you do your work with shores **ADJUSTABLE** in place. It means lower construction costs and greater economy.

THE OLD METHOD OF SPLICING SHORES IS LIKE MIXING AND HOISTING CONCRETE BY HAND. Adjustable Shores are modern equipment just as are **concrete mixers and hoisting engines.**

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Roos Self-Lock Adjustable Shore

IT IS ADJUSTABLE FROM THE FLOOR UP TO ANY DESIRED HEIGHT, AND TO THE SMALLEST FRACTION OF AN INCH.

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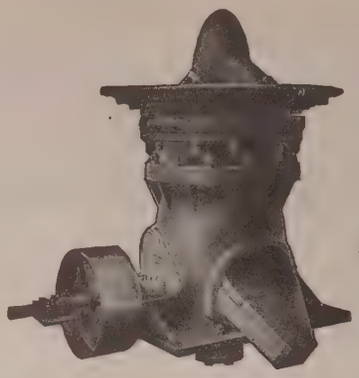
THE GREATER THE LOAD THE GREATER THE GRIP

The H. W. Roos Co.

2814-24 Stanton Ave., Cincinnati, Ohio

The Gates Breaker



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It means that we MAKE our machines MAKE GOOD.

We make them so that they will make good—and see to it that you get complete service.

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A Gates Breaker sold in 1887, and still in use by the original purchaser, has had no repairs requiring new parts in the last two years.

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Complete Crushing Plants
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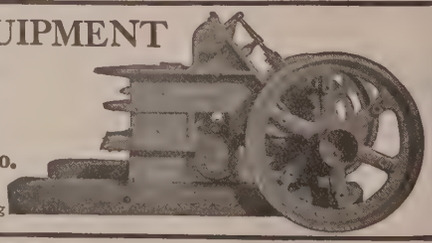

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Wood Drill Works, Paterson, N.J.

Makers of the Rock Drill that can be "cleaned up with a sledge hammer" and "wiped off with a scoop shovel," and yet "stay with you." *Ask us something!*

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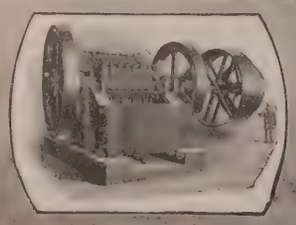

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Crushing Plants complete in all details from 100 to 5,000 tons daily capacity.

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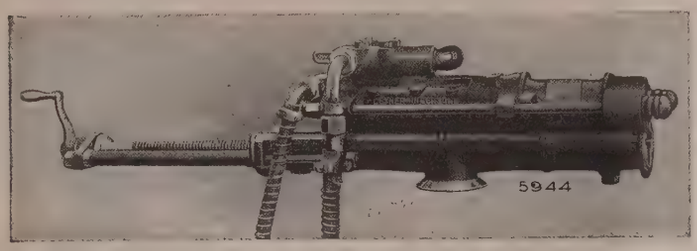
THE ROCK IN THIS TUNNEL

Is probably the hardest ever encountered in rock drilling. And yet, two "Leyner-Ingersoll" Drills established the remarkable record of 437 feet in 81 eight-hour shifts.



This tunnel is now 4 miles long and lies 1800 feet below the surface. Size of heading 9 feet x 8 feet.

This tunnel was originally started in 1907. Early attempts to drive it were abandoned by several contractors owing to their inability to drill the hard rock economically. A new contractor installed Leyner drills and no further difficulty was experienced.

The "Leyner-Ingersoll" Drill has demonstrated in miles of tunnel and drift work its ability to drill all kinds of rock, not only rapidly but at a low cost.

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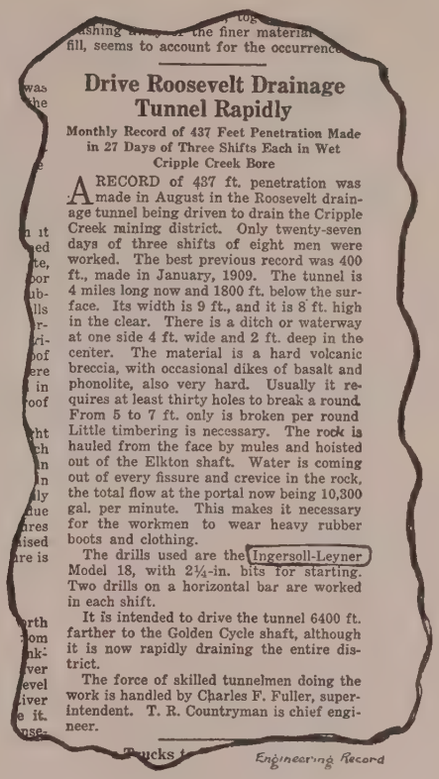
AIR COMPRESSORS — JACKHAMERS — LEYNER SHARPENERS



fill, seems to account for the occurrence

Drive Roosevelt Drainage Tunnel Rapidly

Monthly Record of 437 Feet Penetration Made in 27 Days of Three Shifts Each in Wet Cripple Creek Bore

A RECORD of 437 ft. penetration was made in August in the Roosevelt drainage tunnel being driven to drain the Cripple Creek mining district. Only twenty-seven days of three shifts of eight men were worked. The best previous record was 400 ft., made in January, 1909. The tunnel is 4 miles long now and 1800 ft. below the surface. Its width is 9 ft., and it is 8 ft. high in the clear. There is a ditch or waterway at one side 4 ft. wide and 2 ft. deep in the center. The material is a hard volcanic breccia, with occasional dikes of basalt and phonolite, also very hard. Usually it requires at least thirty holes to break a round. From 5 to 7 ft. only is broken per round. Little timbering is necessary. The rock is hauled from the face by mules and hoisted out of the Elkton shaft. Water is coming out of every fissure and crevice in the rock, the total flow at the portal now being 10,300 gal. per minute. This makes it necessary for the workmen to wear heavy rubber boots and clothing.

The drills used are the Ingersoll-Leyner Model 18, with 2¼-in. bits for starting. Two drills on a horizontal bar are worked in each shift.

It is intended to drive the tunnel 6400 ft. farther to the Golden Cycle shaft, although it is now rapidly draining the entire district.

The force of skilled tunnelmen doing the work is handled by Charles F. Fuller, superintendent. T. R. Countryman is chief engineer.

Engineering Record

49-LI

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GET OUR FREE TRIAL OFFER

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And when you don't need air, you have POWER to run the concrete mixer, hoist, etc., etc.

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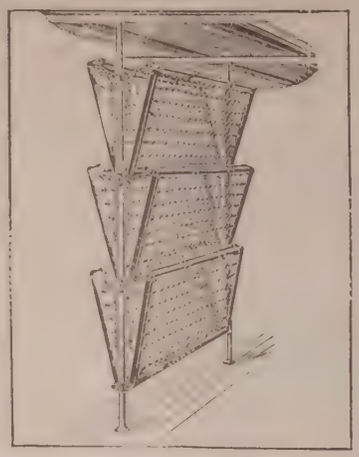

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Your men deliver more work and better work when they sleep well—and you can hold good men on the job.
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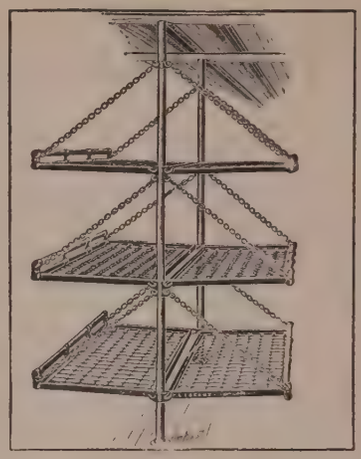

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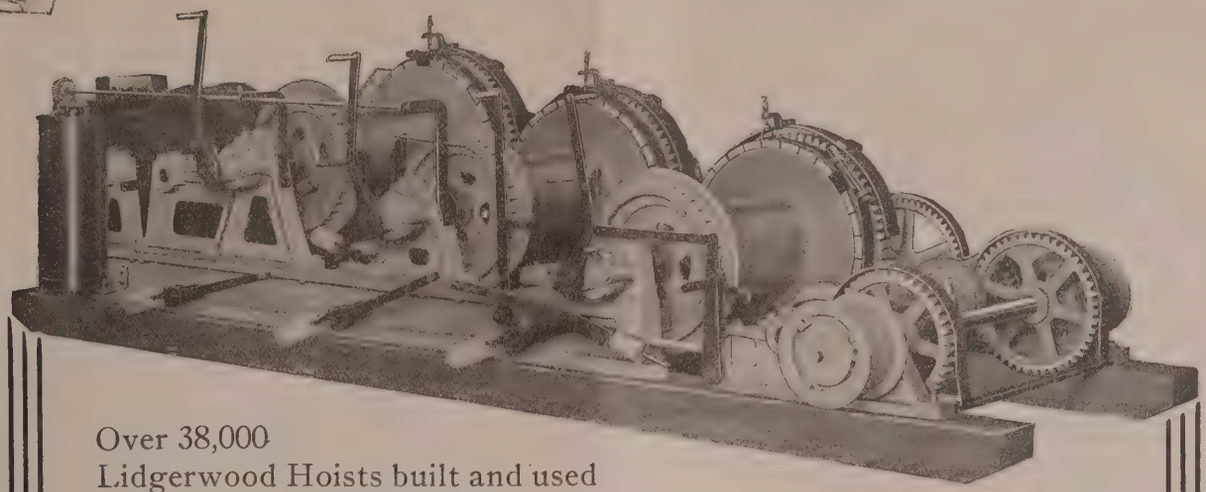

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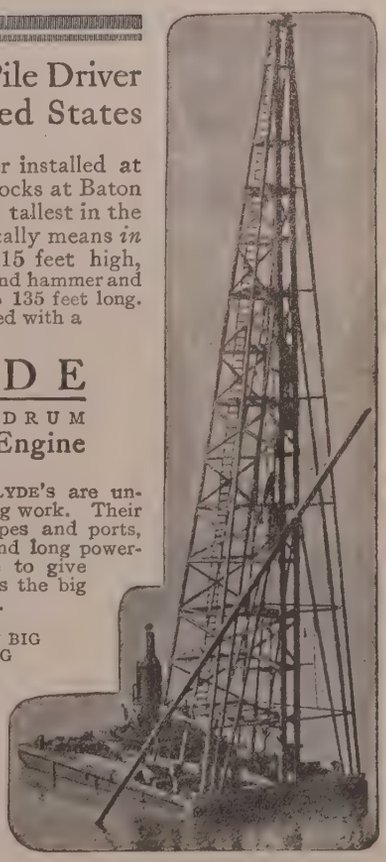

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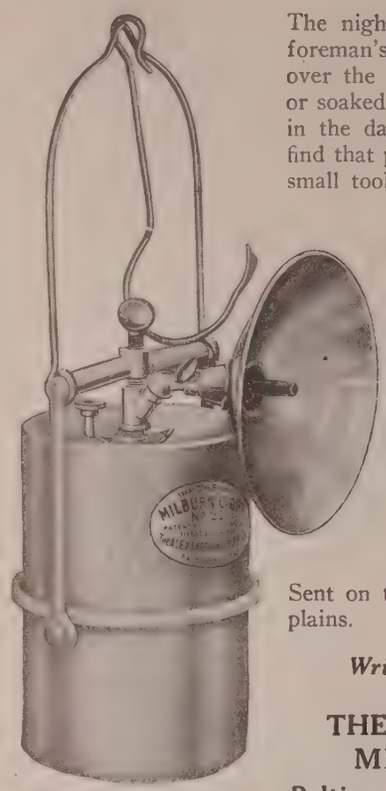

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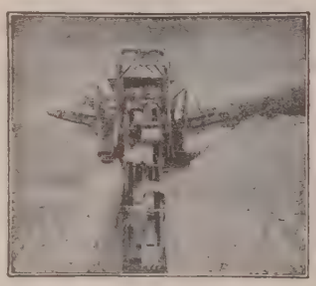

Such indorsement by the largest city on the continent in point of area—with more miles of various kinds of trench—ought to mean a great deal to the man in search of the best trenching equipment.

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Street Grader—
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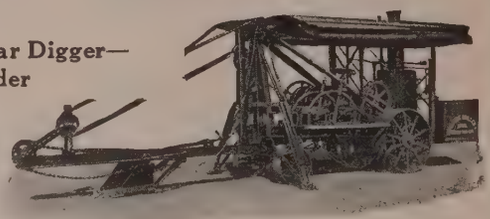

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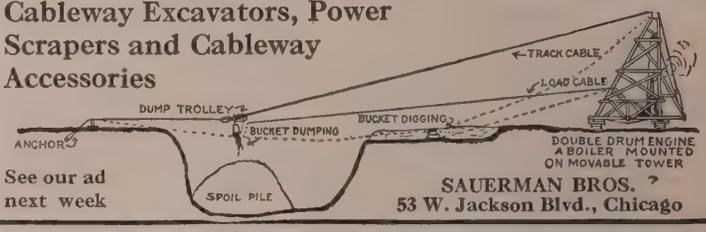

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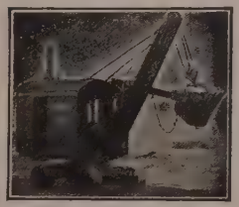

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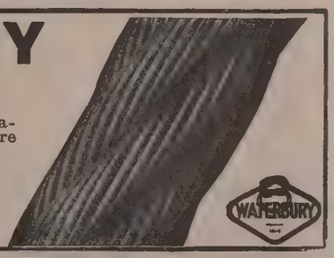

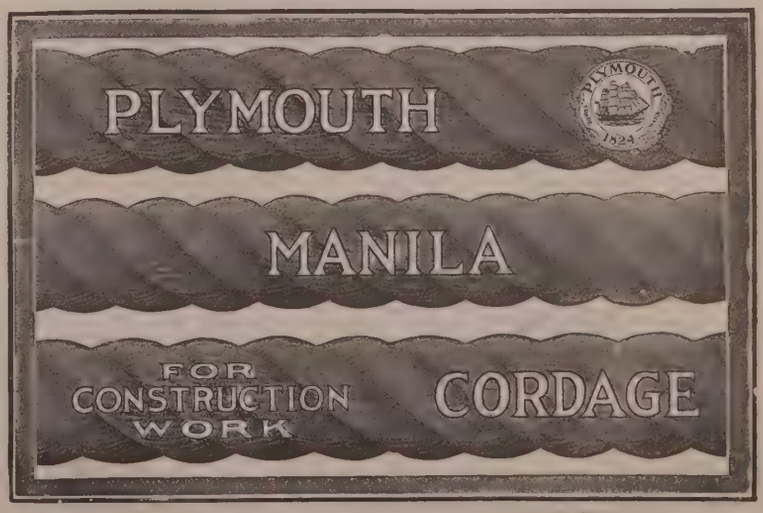

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good to your steel sheeting

The patented, cushioned cap prevents all injury to the sheeting and undue shock to the hammer itself. The sheeting that's been Union-driven can be pulled for re-use and has no joints ruptured. This is a mighty important consideration.

Can be used inverted for pulling sheet piling as well as for driving.

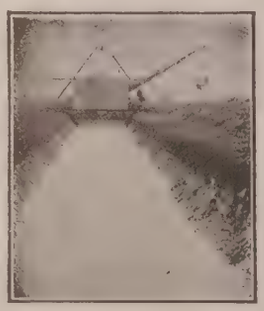
Better get Bulletin No. 24.

UNION IRON WORKS

Lackawanna Siding, Hoboken, N. J.

Manufacturers of Excavating Machinery and Contractors' Equipment

Bay City Land Dredge

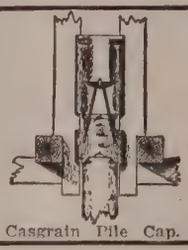


Spans the cut. Built any width required. ½, ¾ or 1 yard capacity. Steel construction. Easily dismantled and moved. Profitable on small jobs. Digs to cross section. No extra dirt handled. The right machine for clean out work.

Use a Dredge to fit your job.

Write for particulars.

Bay City Dredge Works. 2601 Center Avenue BAY CITY, MICH.



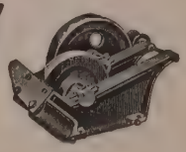
Casgrain Pile Cap.

Pile Drivers
Steam Hammers
Drop Hammers

Please send for catalogue.

Vulcan Iron Works
327 N. Irving Avenue
Station D, Chicago, Ill.

Pile Points.



Perfect Head Block.

The Underpinning & Foundation Co.
290 Broadway, New York City

Difficult Foundations

Pneumatic, Steel, Concrete and Wooden Pile Foundations. Bridge Piers; Underpinning Heavy Buildings.

UNDERPINNING AND FOUNDATION CO.

Shoring *Underpinning*

ENGINEERS-CONTRACTORS
THE SUBSTRUCTURE CO. INC.
115 BROADWAY NEW YORK

Foundations *Concrete Work*

PEDESTAL PILE FOUNDATIONS

Concrete for Permanence

Ask for 64-page Hand-Book—E. R.

MacArthur Concrete Pile and Foundation Co.
120 Broadway, New York

Chicago San Francisco Montreal Boston New Orleans Philadelphia Cincinnati Atlanta Detroit

PILE SHOES

STEEL POINT SOCKET SHOE

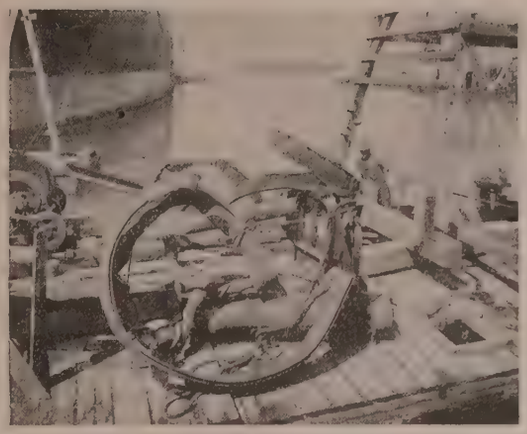
All Sizes In Stock

WRITE FOR BLUE PRINTS

JANNEY-STEINMETZ CO.
Philadelphia and New York

PILE SHOES

Steel for Service



The following is an extract from a letter by Mr. E. F. Cykler, Chief Engineer, Lord-Young Engineering Company, Ltd., Honolulu, T. H.:

"A piece of this piling was lost in the bottom of the harbor and when we began dredging for our cylinders on our Piers 8-9-10 job, this piece was caught in the runner of our dredger and twisted into the shape shown.

"You will note how many times a certain section of it was twisted through 360 degrees without showing any sign of rupture."

The steel used in the manufacture of

United States Steel Sheet Piling

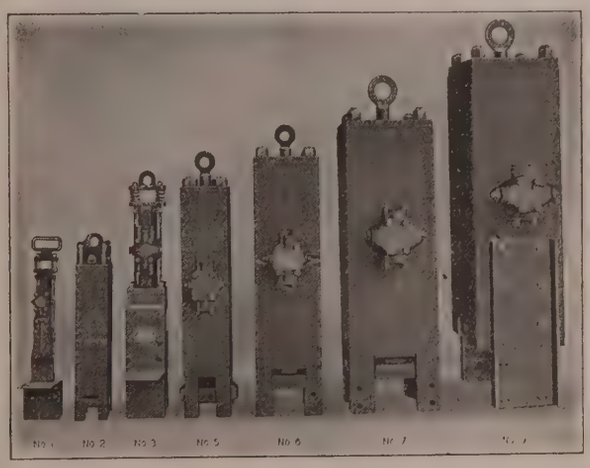
is well made, as are all the products of this company.

The mark of quality CARNEGIE It protects the user

Carnegie Steel Company

General Offices, Pittsburgh, Pa.

820



The pile hammers shown in the above illustration will drive the lightest or the heaviest section of steel or wood sheet piling, or wood or concrete piles up to 18 inches square or round. The high standard of excellence established by

McKiernan-Terry Pile Hammers

is known to users the world over. Their reputation for consistent and economical work is the reason. Before buying pile hammers for your next job, send for a copy of our new bulletin. Mailed to any address on request.

McKiernan-Terry Drill Co.

235 Broadway, New York, N. Y.

Foreign Representatives: British Steel Piling Co., London, Eng.
Canadian Representatives: Canadian Allis-Chalmers, Ltd., Toronto, Ont.

Rock Drills, Core Drills, Hammer Drills, Atlas Jacks

Faster pile-driving

The NATIONAL drives the piles down faster, and there's no brooming or splitting.

Instead of the destructive blow of the drop-hammer, you get a rapid succession of short jolts—with a shove to them.

Heavier blows and more of them

"NATIONAL" STEAM HAMMER

The added force of the blow comes from the *combined action of gravity and steam,* behind every stroke.

The blows come so rapidly that the motion of the pile is practically *continuous.* Even the heaviest National delivers 115 blows a minute. The lightest National delivers 250.

Simplicity makes the National TROUBLE-PROOF. Only four moving parts, of extra heavy construction.

We will send you a book that will put an end to your pile-driving difficulties. Mail the coupon for our catalog.

National Hoisting Engine Co.

Harrison, N. J.

National Hoisting Engine Co.,
Harrison, N. J.

Send me your latest Catalog of "National" Steam Hammers.

Name .....

Address .....

.....

Consider This Statement:

"A poor meter at $5 is a much poorer bargain for a city or a company than is a high grade meter at $8 or $10." This is the statement of a noted Public Utility Expert. It is particularly applicable to Trident Meters **because**

TRIDENT WATER METERS

"Sustained Price—
Based upon Sustained Accuracy and Durability"

mean lowest ultimate cost

in spite of the fact that, frankly speaking, they may be higher in **initial purchase price** than meters that look no better.

It's an old and trite saying that "all is not gold that glitters."

It's equally true that a meter is not necessarily cheap because it is **low** priced—

—or expensive because it is **high** priced.

And that is why we urge you—for your own pocket book and the good of your community—to allow us to submit data on the eventual economies effected by Trident Water Meters.

They cut maintenance costs to nil. Their saving in this department alone quickly more than offsets their initial "overprice."

And over a million and a quarter in service today can PROVE it.

Our Booklet "Reliability" is a neat, terse explanation of the reasons why. Send for your copy today.

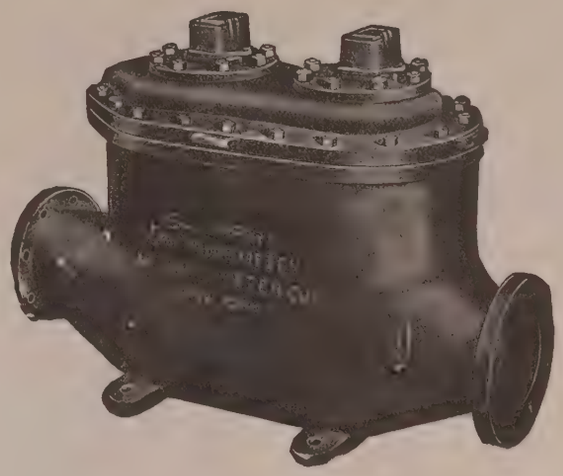
There is a Trident Meter for Every Service

NEPTUNE METER COMPANY

50 East 42nd Street, New York

CHICAGO BOSTON SAN FRANCISCO CINCINNATI
ATLANTA LOS ANGELES PORTLAND SEATTLE

THE EMPIRE-COMPOUND WATER METER



Eliminates all possibility of error in the measuring of large or small flows.

The Empire-Compound is the only large-capacity water meter which accurately measures **all of the water all of the time.**

ESTABLISHED 1870

NATIONAL METER COMPANY

84-86 Chambers Street, NEW YORK

APPROVAL

HERSEY DETECTOR METER

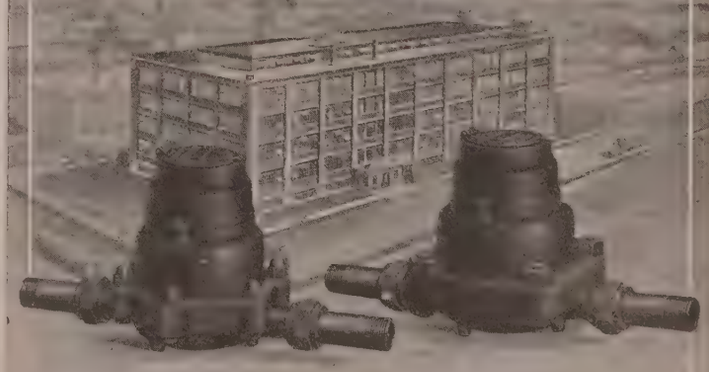
The Hersey Detector Meter has been accepted for eleven years in 3", 4", 6", 8", 10" and 12" sizes without any restrictions or conditions of any kind by every Insurance Company, Stock and Mutual, doing business in the United States, and by the Water Departments and Water Companies in more than 500 Cities and Towns for use on over 3,000 Fire Services protecting nearly $2,000,000,000 worth of Insured Property.

HERSEY MANUFACTURING COMPANY

BOSTON	COLUMBUS, O.	SAN FRANCISCO
NEW YORK	PHILADELPHIA	LOS ANGELES
CHICAGO	ATLANTA	PORTLAND, ORE.

AMERICAN AND NIAGARA

WATER METERS



AMERICAN NIAGARA

Freezing Weather

means running water taps, pumps working continuously, low pressure, worry for the water works superintendent. American and Niagara Meters on each service correct this evil—they save water, save money, save worry. Catalog and prices sent on request.

BUFFALO METER CO.

2917 MAIN ST. EST. 1892 BUFFALO, N.Y.

When water freezes one or more frost bolts give way, relieving the pressure and protecting the meter from damage. Cost of new parts, 5 to 20 cents.

Write for Bulletin W-205-42

WORTHINGTON PUMP AND MACHINERY CORPORATION

New York Office: 115 Broadway Works: Harrison, N. J.

Branch Offices in all Principal Cities W 306.2

NEW YORK CHICAGO

Keystone and Eureka

Water Meters

Pittsburgh Meter Co.

East Pittsburgh, Pa.

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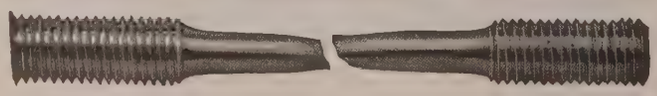

HIGH TEST

VALVE STEMS *of* MANGANESE BRONZE

American Manganese Bronze Co., Holmesburg, Philadelphia, Pa.

SEE the preceding and following issues of the Engineering Record for our advertisements describing

VENTURI METER

installations. Full story of the Venturi Meter in Bulletin 84-R sent on request.

BUILDERS IRON FOUNDRY, Providence, R. I.

"Builders of the Venturi"

New York Pittsburgh Chicago San Francisco Portland Seattle Los Angeles

You Can Save Money

on your contracts for supplies or construction by advertising for bids in the ENGINEERING RECORD.

The RECORD carries more of this class of advertising than any other paper in the world.

Municipal authorities everywhere recognize that a Proposal Announcement in the ENGINEERING RECORD offers the best means for reaching the largest number of men who are prepared to compete on their work.

Over 2,000 of these Official Proposals are published in the ENGINEERING RECORD each year.

This nation-wide competition compels local bidders to figure closer and invariably brings down the bids to figures that save large sums on the contract prices.

The best investment you can make for those you represent will be to advertise in the Proposal columns of ENGINEERING RECORD whenever you have work to be done or need supplies, equipment or machinery of any kind. The cost will be slight; the results satisfactory.

Plans and specifications for work advertised in ENGINEERING RECORD may be filed, without extra cost, at any of our offices.

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"Underwriters' Approved" or "National Standard" Gate Valves

represent Valve insurance in case of fire, possessing features most valuable in automatic sprinkler systems and other installations where quick and positive action is necessary, and which will appeal to the practical engineer.

Write for catalogue.

The Kennedy Valve Mfg. Co.
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Branch Office and Warehouse, 81 John St., New York City.
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415 French Savings Bank Bldg., San Francisco, Cal.
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PURE WATER AT LOW COST

Pittsburgh filters develop the lowest operating costs consistent with thorough purification.

Each plant is installed after a study of local conditions.

Write us fully what your requirements are, PER HOUR; what the water is to be used for. Give a description of the arrangement of your plant and space, and as complete information as possible as to the character of water to be purified.

We will advise you.

Pittsburgh Filter Mfg. Co.
Pittsburgh, Penna.

Chicago **Kansas City**

Sluice Gates
Gate Valves
Butterfly Valves
Fire Hydrants

Coffin Valve Co.

BOSTON, MASS.
Makers of the Largest Sluice and Gate Valves in America.

Check Valves
Flap Valves
Foot Valves
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Hydraulically, Electrically and Hand Operated Gate Valves and Sluice Gates

For Waterworks, Power Plants and Filtration Systems
Write for Catalog

SLUICE GATES

Shear, Flap and Butterfly Valves

FLEXIBLE JOINTS

COLDWELL WILCOX CO

P. O. BOX 745 NEWBURGH N.Y.

Sluice Gates, Check Valves Indicator Posts, Etc.

OUR LINE

GATE VALVES **EDDY** FIRE HYDRANTS

Hydraulically and electrically operated valves and sluice gates
Valves designed for all kinds of service

EDDY VALVE COMPANY, Waterford, N. Y.
NEW YORK CHICAGO BOSTON SAN FRANCISCO PHILADELPHIA

Our Regulating Valves

Control the High Pressure Fire Service in New York, Brooklyn, Baltimore, Jacksonville, San Francisco, Cleveland, Cincinnati.
Pressure Regulating Valves for Water, Steam, Air.

Ross Valve Manufacturing Co., Troy, N. Y.

The brain of the SIMPLEX Water Meter

It is the **Simplex Float** that has solved the problem of metering water with Pitot or Venturi Tube, or Weirs.

A bell-shaped float, with its interior tapered to such a curve that **the vertical movement of the float is exactly proportional to the flow** through pipe or weir.

99% ACCURACY ON FLOWS AS LOW AS 1 FT. PER SECOND. Total flow, and rate of flow, can be read at any time—and are permanently recorded.

No springs, no cams or complicated gearing. **Write for a full description of the Simplex Meter.**

SIMPLEX VALVE & METER CO.

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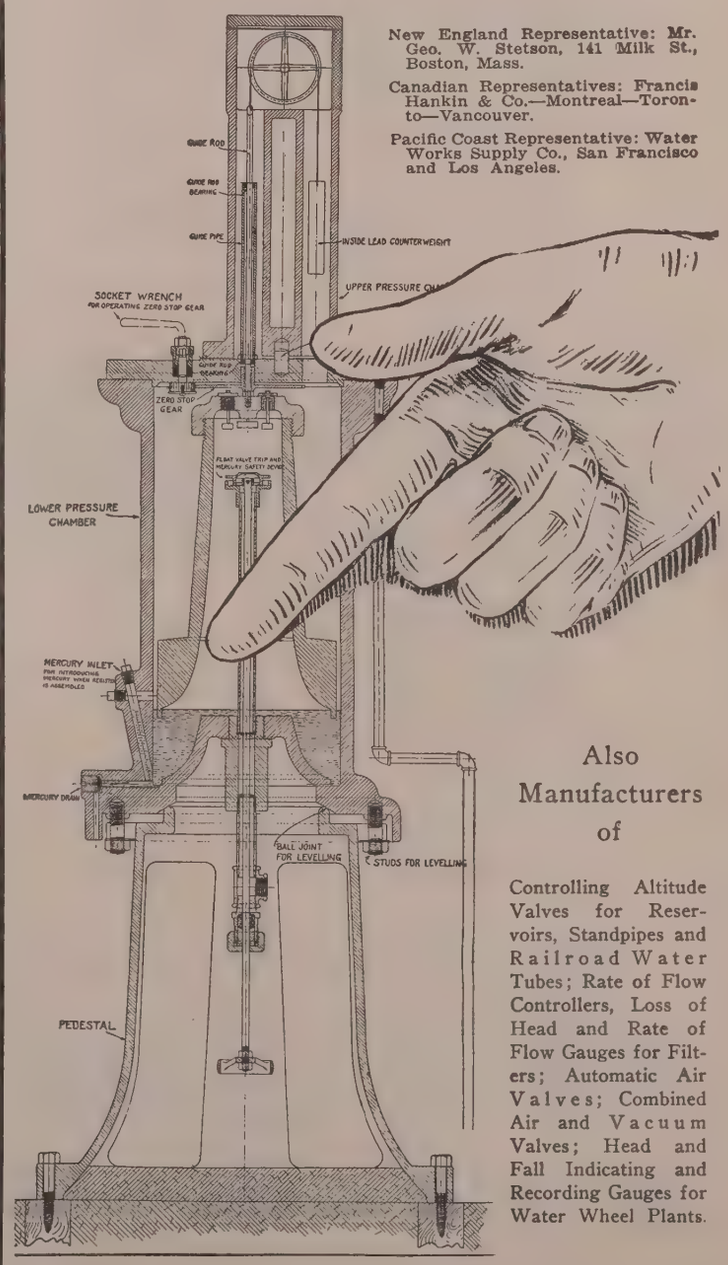
Canadian Representatives: Francis Hankin & Co.—Montreal—Toronto—Vancouver.

Pacific Coast Representative: Water Works Supply Co., San Francisco and Los Angeles.



Also Manufacturers of

Controlling Altitude Valves for Reservoirs, Standpipes and Railroad Water Tubes; Rate of Flow Controllers, Loss of Head and Rate of Flow Gauges for Filters; Automatic Air Valves; Combined Air and Vacuum Valves; Head and Fall Indicating and Recording Gauges for Water Wheel Plants.

GRAVITY PRESSURE

FILTERS

Water Softening Plants
Hypochlorite Apparatus

and all Sorts of Chemical Feeding Devices

Over 350 Municipal Filtration Plants Installed—Total Daily Capacity 900,000,000 Gallons

Write for Bulletin 15-1

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Inter-State Building, Kansas City, Mo. 111 W. Monroe St., Chicago, Ill. New Birks Building, Montreal.

Originators of Mechanical Filtration

Mechanical Filtration Plants

Municipal and Industrial Purposes
Gravity and Pressure Types

Re-filtration Systems for Natatoriums

The "Holyoke" Fire Hydrant

For Towns, Cities and Factories

One of the Oldest
One of the Best

In Use Over 35 Years

It will pay you to send us your inquiries

Norwood Engineering Company
Florence, Mass., U. S. A.

Automatic Chlorinators *worthy* the name!

"W & T" Chlorinators are *actually* automatic

and have

No moving parts—no float to stick—you can SEE the Chlorine flowing

When we say a certain type of "W & T" Apparatus is **"automatically controlled,"** remember this—it **is** automatic in every sense of that overworked word. It operates (as does all "W & T" Apparatus) **without moving parts.** Not connected to any secondary recording device—**no lost motion.** All "W & T" Apparatus is hydraulic in principle—if it operates at all it **must** operate **correctly.** Learn **all** about the "almost-human" operation of "W & T" Automatics. Write today for Technical Publication No. 1R. Now over 425 installations of "W & T" Chlorinators.

Wallace & Tiernan Co., Inc.
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Roberts Filter Manufacturing Company
Darby (Suburb of Philadelphia) Pa.
Contractors for
Municipal and industrial filtration plants
Chemical feeding devices

WATER FILTRATION AND SOFTENING PLANTS

For Municipal and Industrial Supplies
Send for Bulletins
INTERNATIONAL FILTER CO. 30 South Dearborn St. **Chicago**
New York Office: Woolworth Building

CHLORIDE OF LIME

For Purifying Water

PENNSYLVANIA SALT MFG. CO.

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WATER SOFTENING OR FILTRATION

FOR BOILER FEED AND ALL INDUSTRIAL USES

WM. B. SCAIFE & SONS CO., PITTSBURGH, PA

Wood pipe of *ANY* strength with MARION Pipe Shoes

Wood pipe will carry any desired pressure, if provided with the right kind of pipe shoes.

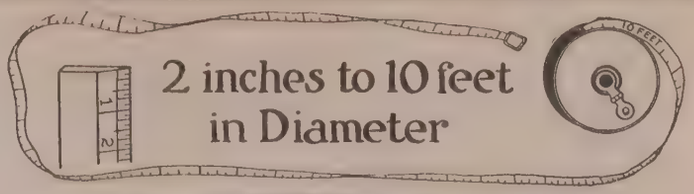
For economy, the shoe must be suited to the special conditions that are to be met.

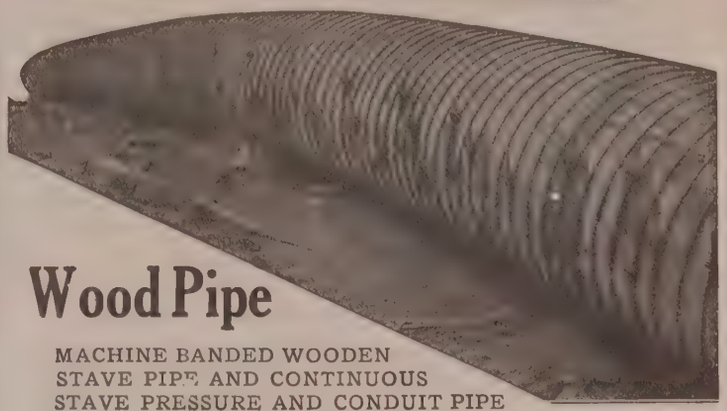
Marion Pipe Shoes are made in a wide variety of patterns, and when desired we will be glad to advise the best type for your requirements. Our long experience specializing on pipe shoes makes our advice of some value to you.

If standard shoes are not best for your needs, a special pattern will be designed and submitted for your approval.

Write for the Marion Handbook.

The Marion Malleable Iron Works
Marion, Ind.





Wood Pipe

MACHINE BANDED WOODEN
STAVE PIPE AND CONTINUOUS
STAVE PRESSURE AND CONDUIT PIPE

made from the **best selected** Douglas Fir, thus giving great strength and durability. **Only perfect lumber used.** The steel for banding machine banded pipe is heavily galvanized and for continuous wood stave pipe, the specifications cover special tensile strength.

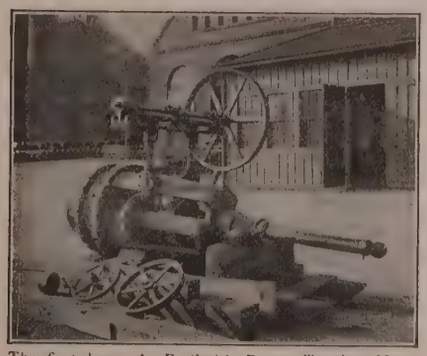
The perfect piping for high and low pressure for waterworks systems, irrigation, industrial service and all kinds of mining conditions.

We are builders of wood water pipe in any size as required, no matter how large, and in any part of the United States or foreign countries.

Our catalogue, prepared by well-known engineers, sent on request. Write for it.

Washington Pipe & Foundry Co.
1612 to 1620 Center St., and 3001 to 3019 Asotin St
TACOMA, WASHINGTON, U. S. A.

Makes Connections in Mains Under Pressure



The first large A. P. Smith Power Tapping Machine shipped years ago to Baltimore—shown ready to make a 30x30 connection in 1912.

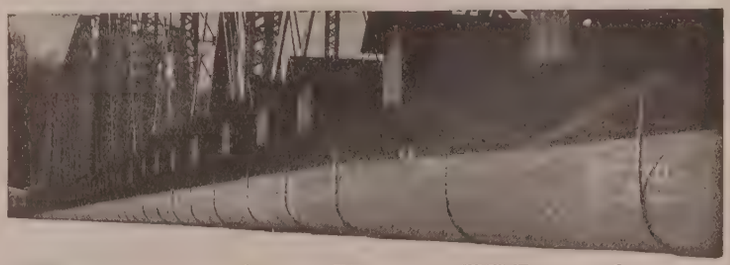
without shutting off water—the

Smith Tapping Apparatus

Never fails. Fire protection need not be interrupted. In setting Hydrants the Ratchet is worked from *side* instead of *end*—no wide cut in ditch needed. No risk of injuring mains.

We also make a complete line of Fire Hydrants, Pipe Cutters, Valves, Valve Inserting Machines and general Waterworks Supplies. Send for the circular.

The A.P. Smith Mfg. Co.
East Orange, N. J.



Exposed to Zero Weather

Here is a Wyckoff water pipe line which is in daily use in Maine. The exceptional heat insulating value of Wyckoff Machine Banded Pipe makes this sort of service possible.

Write for the Wyckoff book.

A. Wyckoff & Son Co.
ELMIRA, N. Y.

Pittsburgh, Pittsburgh Terminal Warehouse

Chicago, 551 West 14th Place

PORTLAND Wood Pipe

Portland Wood Pipe is made of Oregon or Douglas Fir. In Machine Banded type, 2" to 24", inside diameter. In continuous Stave Pipe, in all practical sizes up to 12 ft.

For all uses. Write for data.

PORTLAND WOOD PIPE CO. Box 1183 Portland, Ore.

NATIONAL

WOOD TANKS and PIPE
For OIL and WATER

SPECIFY "NATIONAL QUALITY" WOOD TANKS AND PIPES
—for Municipal Water Systems, Mine Work, Irrigation Projects, Culverts, etc. Low installation and maintenance costs. Does not rust nor corrode.

Write for Catalog and Information. Department C.

NATIONAL TANK & PIPE CO., 275 Oak St., Portland, Ore.

Clean Water Mains
Deliver Full Capacity

We are glad to confer with municipal officials or Water Companies.

National Methods are patented

National Water Main Cleaning Company, Fulton Bldg., New York

Wood Water Pipe

We build machine banded and with individual rods and lugs stave water pipe, from 2" up to 48" for various pressures. Write for our catalogue. It tells you all.

Standard Wood Pipe Co.
Williamsport, Penna.

Chicago Bridge & Iron Works

We Specialize in the Design—Manufacture and Erection of

ELEVATED STEEL TANKS AND STANDPIPES

For Municipal, Railroad and Factory Service

We also build Oil Tanks, Coaling Stations, Bridges, Turntables, Buildings and Structural Material

Our catalogue No. 12 gladly mailed to you upon request. Write our nearest sales office for prices, plans and specifications.

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SHOPS

Eastern: GREENVILLE, PA. (Pittsburgh District)
Central: CHICAGO, ILL.
Canadian: BRIDGEBURG, ONT.

Elevated Steel Tanks

Hemispherical and Segmental Bottoms

Manufactured at Pittsburgh, Pa.
Erected anywhere.
We have special designs for Municipal, Railway and Industrial service.

Catalog No. 8 sent upon request.

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Havana, Cuba, Room 25, Nova Scotia Bank Bldg.

DES MOINES BRIDGE & IRON CO.

Des Moines, Iowa, 934 Tuttle St.

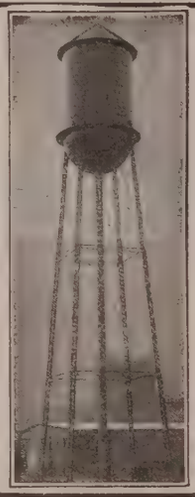
Long Successful Experience

can best solve the problems of Water Tower, Standpipe, Stack and Tank selection and detail. Ours is at your service. We make Special Designs for Unusual Requirements, and regularly manufacture all sizes and capacities for water, oil, gas, gasoline, petroleum, etc.

Illustrated Catalog on request

TIPPETT & WOOD

PHILLIPSBURG, N. J. New York, 135 William St.



"The Tank with a Reputation"

A reputation for strength, durability and correct design stands back of all Caldwell Tanks.

The accompanying illustration shows a Caldwell Galvanized Tank.

There are many other styles for many purposes in galvanized iron, steel and wood.

There's a Caldwell Tank For Every Purpose. Write Today For Illustrated Catalogue.

W. E. CALDWELL CO.
Incorporated
Louisville, Kentucky

Caldwell TANKS AND TOWERS

TRADE **"LEADITE"** MARK

Registered U. S. Patent Office

Requires No Caulking For Jointing Cast-Iron Water Mains

Leadite lessens labor. It fills every crevice from the yarn out to face of bell. Saves 50% to 65%. The efficient water main joint. Write for information. Specify Leadite.

"Leadite Joints Increase in Strength With Age"

THE LEADITE COMPANY, Inc.
LAND TITLE BUILDING PHILADELPHIA, PA.

STANDARD RE-INFORCED SPIRAL PIPE
Continuous Interlocking Seam Smooth Inside

For Water, Dredging and Sluicing, Exhaust Steam and Air

STANDARD SPIRAL PIPE WORKS Rockwell and W. 48th Sts. CHICAGO

DREDGE PIPE

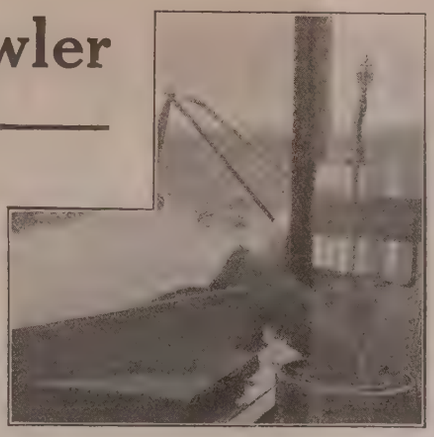
PONTOON AND SHORE

ELBOWS, BRANCHES, BALL JOINTS, VALVES, STEEL PONTOONS

MACHOLD & RIDDELL, STEPHEN GIRARD BUILDING PHILADELPHIA, PA.

Layne & Bowler —Company—

Ground Water Well Specialists



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Our Consulting Hydraulic Engineers will, on request and without expense to you, make a personal inspection and report the practicability of your project. Write today for full information and free literature. Address

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CAST IRON PIPE
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MORE THAN 250 YEARS OLD

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Spiral Riveted Pipe. Large Diameter. Lap Welded Pipe. Forged Steel Pipe Flanges. Flexible Ball Joints. Send for Catalog.

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lined and covered with pure cement
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The Only Non-corrosive Pipe on the Market Good for any Pressure

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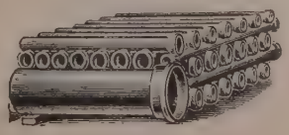

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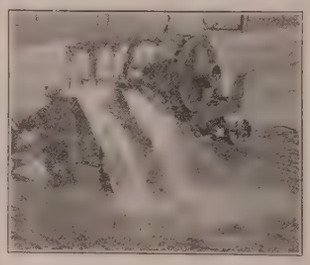

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In July, 1913, we sold one of our 3½ x 3½ Atlantic Diaphragm Pumping Engines to the city of Skagway, Alaska, where the engine was to do very hard work.

We have just received a letter from the city clerk of Skagway stating that three years afterwards, "The pumping engine is on the job all the time, and has never failed to give entire satisfaction, notwithstanding the fact that the work is in sand and gravel at all times."

Certainly this is a wonderful tribute to American built machinery, and it is little wonder that until war conditions made shipments impossible, **Atlantic Pumping Engines** were being used in Russia, England, France, Germany, the Philippines and many other foreign countries.

ATLANTIC PUMPING ENGINES

Easily moved from place to place
Economical—Reliable—Unequalled

We carry Diaphragm Trench, Cesspool and Force Pumps; also Centrifugal Pumps.
Telegraph or write for net prices and full description

HAROLD L. BOND COMPANY, 383 Atlantic Ave., Boston

Manufacturers of Ross Concrete Spade, Andrews' Concrete Tamper, Safety Trench Braces, Felton's Sewer and Conduit Rods and Pearl Brand Suction Hose

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We Satisfy Our Customers

in delivery, material, and workmanship on penstocks, tanks, smoke stacks, draft tubes, and all kinds of plate and structural steel.

WALSH'S HOLYOKE STEAM BOILER WORKS

Branch: Drummondville, Quebec HOLYOKE, MASS.

The JOHNSON
Well Screen
All sizes. Brass. Large Capacity.
Non-choking. Used everywhere.
WRITE FOR BOOKLET "ER"
E. E. JOHNSON, St. Paul, Minn.

"AMERICAN" Contractors' pump used on bridge work near Maple Park, Ill., by W. E. Cummings, Contractor, Geneva, Ill.

American Contractors' Pumps

mounted on all-steel trucks with gasoline engine, mounted on skids with gasoline engine or mounted on cast base with pulley for belt power, in a full line of sizes, are carried in stock for *immediate shipment.*

"American" Contractors' Pumps Are Always On The Job

Make any kind of a comparison you wish, the ability to get into action when it arrives on the job, the time required to pump out a trench, pumping muddy, sandy or gritty water, any condition to 25 per cent. solids; durability, reliability or economy, the "American" Contractors' Pump is ready to compare performance with any other pump used by the contractor.

The "American" Contractors' Pump is not a makeshift, intermittent, flickering stream pump, but the highest development of the centrifugal pump, having bearings entirely removed from the volute chamber and impossible for grit to get into them. It is direct connected to a high speed gasoline engine mounted on a heavy all-steel truck, ready to commence work in any location in a minute's time after it arrives on the job.

The design and construction of this pump are precisely the same as our highest duty pumps designed for handling gritty water, and the pump is backed by the most rigid guaranty ever placed on a pump for this purpose by the manufacturers.

If you are interested in Contractors' Pumps of REAL quality, get our catalog and a copy of our guaranty.

The American Well Works

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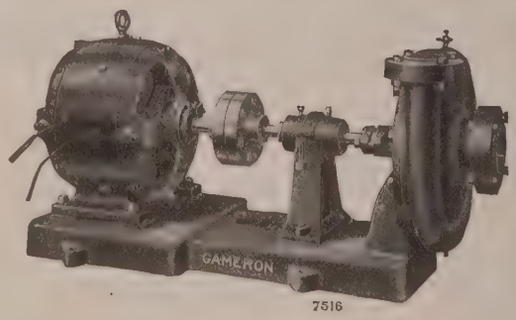
The Slogan of the Cameron—"Character: The Grandest Thing"

Get the Economical Pump

Cameron Centrifugals



Contractors will find no surer way to secure pumping economy than with "CAMERON" Centrifugals.

They have been designed and built with the special aim to produce a combination of high working value and low operating cost.

Every element in them is given the most careful attention during manufacture. There is no skimping of small details. Every part has strength beyond the utmost load that can fall upon it.

The Cameron Single Suction Open Impeller type (illustrated) is especially suitable for low head service. It is very simple, strong and rugged all the way through. It may be direct connected to electric motor or driven by belt.

Bulletin No. 152 gives the details. Shall we send it?

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Offices the World Over

90% Saving

in pump operating cost if you use

The Contractor's Pump

It has double the capacity of the ordinary hand-power pump in present use, and can be operated at one-tenth the cost. It will raise and force from 6000 to 8000 gallons of water per hour on less than one quart of gasoline. The engine is thoroughly tested, and made specially; the truck is solid, and at the same time affords ease of transportation around the job. Let us tell you more in our Booklet.

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Operated by Man or Gasoline Power

will handle Sand, Mud, Gravel, Sanitary Deposits and anything limpid enough to flow, without clogging or injury.

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New NYE Model High Pressure PUMPS

Highly efficient steam vacuum pumps for caisson and trench work. Built in five sizes for silt-filled water; three sizes for sand, fine coal, crushed rock, etc. Send for Catalog.

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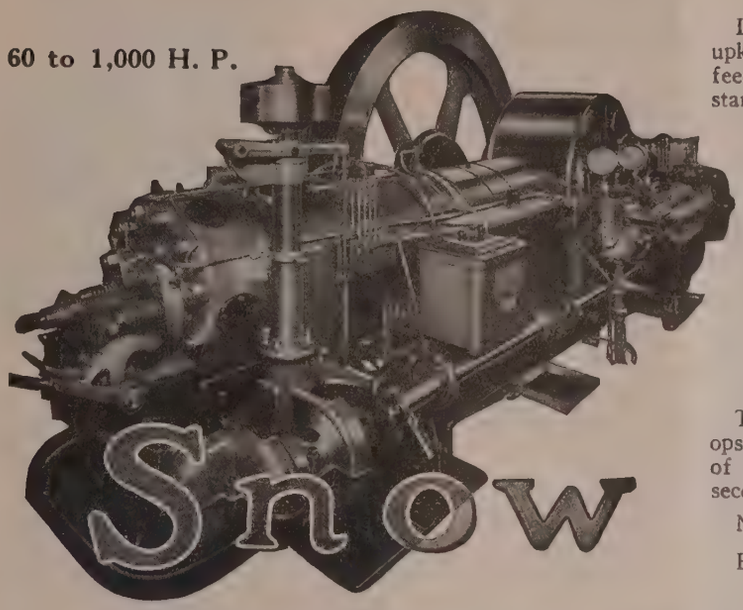
No stand-by loss can sap efficiency here—

60 to 1,000 H. P.



If your power requirements are intermittent, why pay fuel and upkeep charges for a steam plant with boilers, stokers, superheaters, feed pumps, circulating pumps? Auxiliaries kept "alive" during stand-by periods boost your power bill with nothing to show for it.

To economically operate generators, hoists, pumps, compressors, mining machinery, etc., to do away with auxiliaries and cut down fuel costs, install a

SNOW OIL ENGINE

The Snow Oil Engine is a self-contained power plant. It develops great power on low fuel consumption; operates on lowest grades of cheap crude oil; starts instantly and picks up full load in 11 seconds; high compression type, requiring no ignition apparatus.

No smoke—no explosive shocks, no vibration.

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S204.4

Made in 9 sizes in capacities from 100 to 3000 gallons per minute.

Immediate shipments from stock and consignment.

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at Panama Canal

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The Improved Type Emerson

now on the market, has all the old reliable features, but the new oscillating steam valve gives a 20% increase of capacity with a decrease of steam consumption, weight and cost.

Emerson Pumps now require

NO LUBRICATION

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The City of Middletown, Ohio, employs direct pumping, no reservoir being used in its waterworks system. A 14x12 Deane vertical triplex pump supplies 1,050 G.P.M. at 76-lb. pressure for domestic service, and 680 G.P.M. at 117-lb. pressure for fire service, through a 24′ suction lift.

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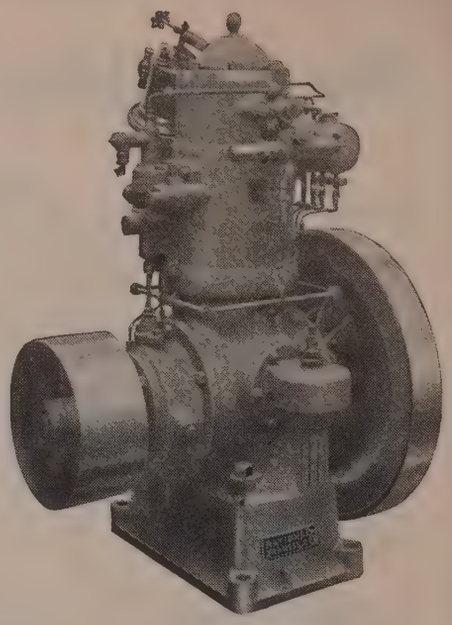
Burn Crude Oil!

While gasoline prices are soaring, get the *powerful—efficient*

National Transit Engine



on the job. Burns crude oil or kerosene. Perfect combustion—high power. A size for every service (with or without NATIONAL TRANSIT PUMPS) carried in stock for immediate delivery.

Write for Bulletins containing ALL the facts.

National Transit Pump & Machine Co.

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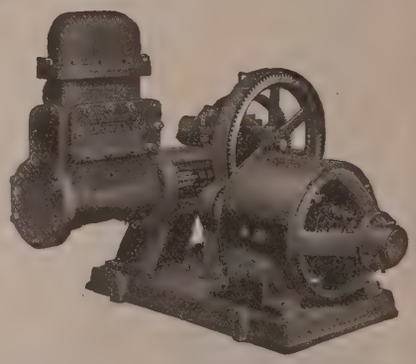
"More Than a Thousand Styles and Sizes"

Illustration represents Fig. 716, double acting power pump for operation by any power. Made in seven sizes; capacities from 1800 to 13,000 gallons per hour. 192-page Power Pump Catalogue "J," sent on request.



The Deming Company
Salem, Ohio
Hand and Power Pumps for all uses
AGENCIES:
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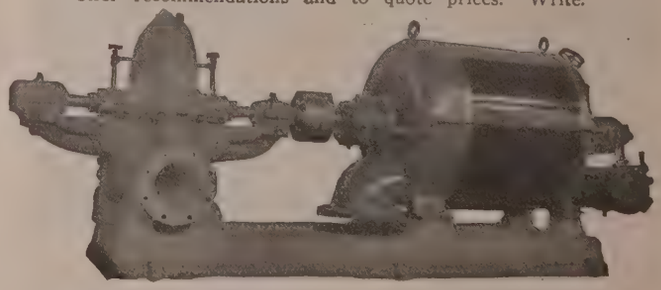
Agencies in all principal cities.

"Lawrence" Centrifugal Pumps

are designed to meet every condition. Our engineering force is always at your command. Allow us to offer recommendations and to quote prices. Write.



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VIKING
THE UNIVERSAL PUMP

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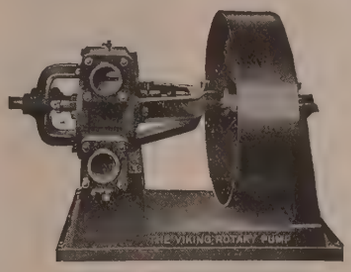
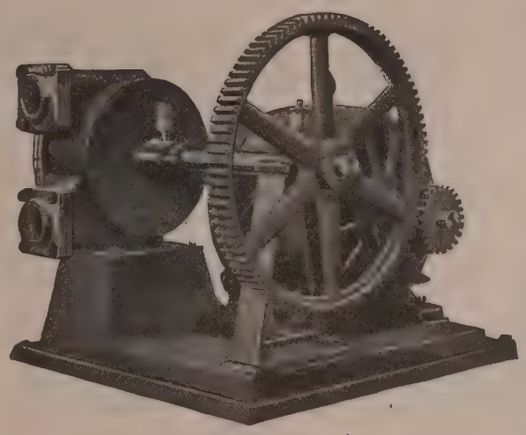


HIGH PRESSURE TYPE



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SUPERIOR TO A CENTRIFUGAL

SELF-PRIMING UP TO 20 FOOT SUCTION LIFTS

Versatile Handles varying back-pressures *without need of speed changes.*

Simple Only two moving parts which are self-supporting. Maintenance expense practically nil.

Durable No cams, valves, springs or leathers. Ample running clearances.

Efficient AVERAGE mechanical efficiency of 65% under any rated loadings.

Outside Bearings Lubricants cannot contaminate liquid being pumped.

Will handle lifts equivalent to 25" vacuum when sealed.
Compact and silent—easily installed.
Maintains *constant* discharge volume.
More reasonable in prices than *triplex* or *multi-stage centrifugals* it is capable of replacing.
Full details on application—just request them.

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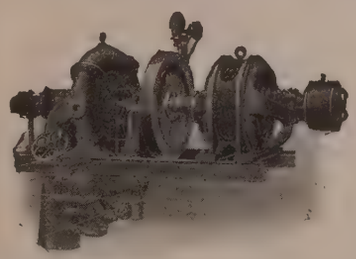

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of the

High Speed—High Power Type

Have all the qualifications imposed by a rigorous and exacting service.

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State your problem to our engineers. They may have solved one just like it. If not, their experience and knowledge of the game will assure you a practical and economical solution.

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Electric or Steam Driven

Capacity Per Minute	Sq. Ft. of Heating Surface It Will Drain	Size Pump
12 Gallons	5,000	3 x2 x 3
20 Gallons	10 000	4½x2¾x 4
35 Gallons	20,000	5¼x3½x 5
60 Gallons	40,000	6 x4 x 6
100 Gallons	80,000	7 x4½x10

DIMENSIONS

Length	Width	Height
42 in.	26½ in.	34½ in.
42 in.	31 in.	35 in.
53 in.	36 in.	41 in.
53 in.	38 in.	42 in.
70 in.	52 in.	43 in.

Standard Pumps for Every Service

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Sales Representatives in Principal Cities

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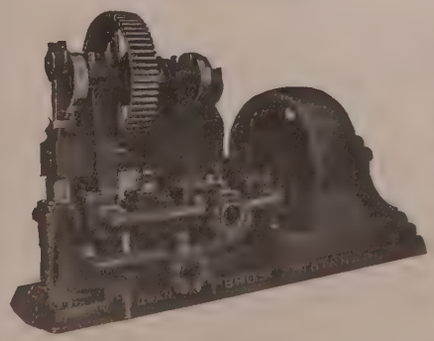

We build triplex power pumps for all purposes and in all sizes. All bearings are liberally proportioned, and all parts are easily accessible without disturbing piping.

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It adheres to metals under water

Its purpose is the dependable lubrication of under water turbine gate mechanisms. TURBOGLIO was developed for this especially. It remains stable even in the presence of strongly acidulous or alkaline waters. It protects gate mechanisms against corrosion. It makes them sensitive to control.

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It makes WATER the chief part of governor fluid

Two per cent HYDROGLIO and 98 per cent water form the oily emulsion that acts in turbine governor systems with the same dependability and nicety as the most expensive governor oils.

But the difference in cost between this small quantity of HYDROGLIO and the large quantity of high-grade governor oils—otherwise necessary—is obvious.

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"The Self-Equalizing Expansion Joint"

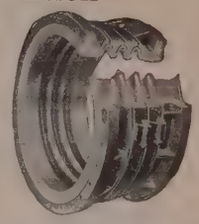
A joint that requires no attention

No packing to be renewed—and no leaks. You can forget about the expansion joints in your steam line, if you use the

BADGER Self-Equalizing Expansion Joints

The perfect ONE-PIECE joint. Deep corrugations of the most durable copper, surrounded by patented equalizing rings, which distribute the expansion equally on all corrugations.

Made for high or low pressure. They meet expansion or vibration with equal efficiency. Write for new catalog.



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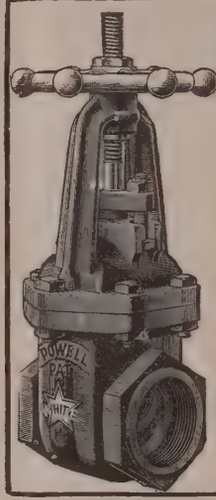
New York Office: 101 Park Avenue



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DEPENDABLE ENGINEERING SPECIALTIES
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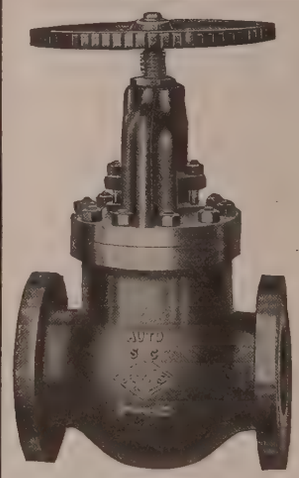

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prevent one boiler working at a lower pressure than another

Insure against accidents in the boiler room because if a tube bursts suddenly or other internal rupture occurs these valves at once shut off the flow of steam from the header into the boiler. Cushioned to prevent hammering and chattering.

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Steel Tanks—Prompt Delivery

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Are the Fastest Jacks Made

They lower the full load with absolute safety by pressing the button—you do not have to pump or crank them down as with other Jacks.

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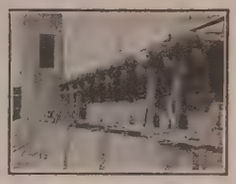

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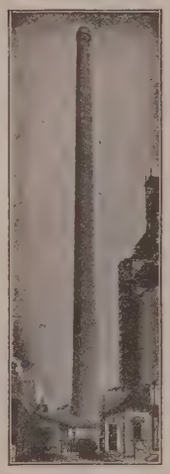

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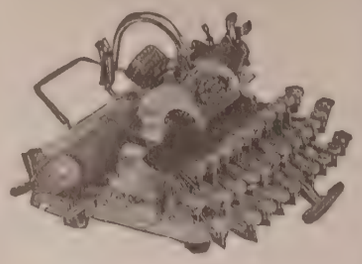

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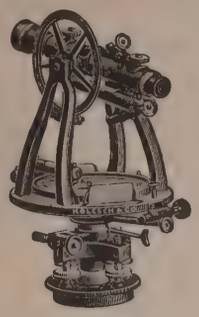

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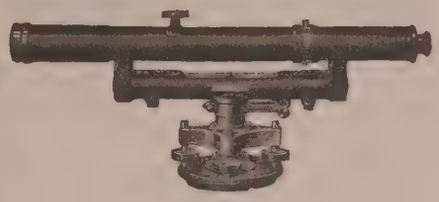

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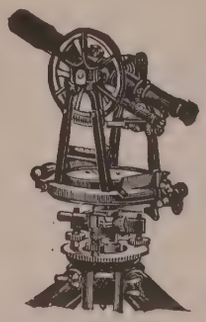

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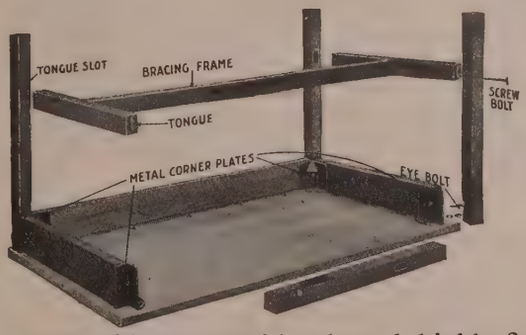

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Schramm & Son, Chas. D.
Westinghouse Electric & Mfg. Co.
Worthington Pump & Machry. Corp.

Engines, High Duty Pumping
Allis-Chalmers Mfg. Co.
Wood & Co., R. D.
Worthington Pump & Mchry. Corp.

Engines, Hoisting
Allis-Chalmers Mfg. Co.
Bond Co., Harold L.
Byers Mach. Co., John F.
Clyde Iron Works
Dobbie Foundry & Mach. Co.
Economy Excavator Co.
Lidgerwood Mfg. Co
Schramm & Son, Chris. D.
Thomas Elevator Co.

Engines, Incline Cableway
Lidgerwood Mfg. Co
Vulcan Iron Works, Wilkes-Barre

Engines, Portable
Ideal Engine Co.

Engines, Steam
Ball Engine Co.
Erie Steam Shovel Co
Minneapolis St. & Mach. Co

Excavating Machinery
Austin Dr. & Ex. Mchy. Co.
Ball Engine Co.
Bay City Dredge Works
Blaw Steel Construction Co.
Carson Trench Mch. Co.
Clyde Iron Works
Economy Excavator Co.
Erie Steam Shovel Co.
Hayward Co.
Lidgerwood Mfg. Co.
Marion Steam Shovel Co.
Municipal Engrg. & Contr. Co.
Orton & Steinbrenner Co.
Osgood Co.
Parsons Co., The
Rochester Exc. Machy. Co.
Ruddock Bucket Co.
Sauerman Bros.
Terry Mfg. Co., Edw. F.
Thew Auto Shovel Co.
Union Iron Wks.
Vulcan Iron Wks., Jersey City
Western Wheel Co.
Williams Co., G H.

Expanded Metal
Consolidated Expanded Metal Cos.

Fans
Raymond Bros. I. P. Co.

Feed-Water Heaters
(See Heaters, Feed-Water)

Fence, Railing and Posts
(See also Bridges; also Structural Steel)
American Steel & Wire Co.
Berlin Construction Co.

Fillers
(See Joint Fillers)

Filters, Apparatus for Water
Builders Iron Foundry
Electro Bleaching Gas Co.
International Filter Co.
N. Y. Cont. Jewell Filt. Co.
Norwood Engineering Co.
Pittsburgh Filter Mfg. Co.
Roberts Filter Mfg. Co.
Scaife & Sons, Wm. B.
Simplex Valve & Meter Co.
Wallace & Tiernan Co., Inc.

Filters, Feed-Water
N. Y. Cont. Jewell Filt. Co.
Norwood Engineering Co.
Roberts Filter Mfg. Co.
Ross Valve Mfg. Co.
Scaife & Sons, Wm. B.

Filters for City Water Works
N. Y. Cont. Jewell Filt. Co.
Norwood Engineering Co.
Pittsburgh Filter Mfg. Co.
Roberts Filter Mfg. Co.
Wallace & Tiernan Co., Inc.

Fire Escapes, Steel
(See also Structural Steel)
Berlin Construction Co.

Fireproof Material and Construction
(See also Reinforcing Metal for Concrete Work)
Asbestos Prot. Metal Co.
Mitchell-Tappen Co.

Fittings, Pipe
American Spiral Pipe Works
Lynchburg Foundry Co.

Flat Wire
Roebling's Sons Co., J. A.

Floors, Wood Block
Barrett Co., The
Jennison-Wright Co.

Flumes, Iron and Steel
Des Moines Br. & Ir. Co.
Minneapolis St. & Mach. Co.
Pittsburgh-Des Moines Steel Co.

Flush Tanks
(See Tanks, Flush)

Forgings, Bronze
American Manganese Bronze Co.

Forgings, Steel
American Bridge Co
Carnegie Steel Co.
Union Iron Works

Form-Clamps
Insley Mfg. Co.
Marion Malleable Iron Works
Universal Form Clamp Co.

Forms, Road
Blaw Steel Constr. Co.

Forms, Special Wire
Roebling's Sons Co., J. A.

Forms for Curb and Sidewalk
Blaw Steel Constr. Co.

Forms for Sewers, Conduits, Culverts, Etc.
Blaw Steel Constr. Co.
Foote Concrete Machy. Co.

Forms for Wall Building, Construction, Etc.
Blaw Steel Constr. Co.
Deslauriers Column Mould Co.
Hydraulic Pressed Steel Co.

Foundations
Foundation Co., The
Raymond Concrete Pile Co.
MacArthur C. Pile & Foundation Co.
Smith, Hauser & MacIsaac, Inc.
Substructure Co.
Underpinning Found. Co.

Foundry Supplies
(See Blast Furnace and Fittings)

Frogs and Switches, Railway
Orenstein-Arthur Koppel Co.

Fuel Economizers
Westinghouse Electric & Mfg. Co

Furnaces, Garbage and Refuse
Bartlett & Snow Co., C. O.
Power Specialty Co.

Furnaces, Lead
(See Pipe Line Supplies)

Garbage Crematories
(See Furnaces, Garbage and Refuse)

Gas Holders
Des Moines Br. & Ir. Co.
Graver Tank Works, Wm.
Pittsburgh-Des Moines Steel Co.
Riter-Conley Co.
Wood & Co., R. D.

Gas Producers
Riter-Conley Co.
Wood & Co., R. D.
Worthington Pump & Mchry. Corp.

Gaskets
(See also Steam Specialties)

Gates and Valves
Chapman Valve Mfg. Co.
Coffin Valve Co.
Coldwell-Wilcox Co.
Ross Valve Mfg. Co.
Smith Mfg. Co., A. P.
Vulcan Iron Wks., Jersey City
Wood & Co., R. D.

Gates, Ore Bin
Insley Mfg. Co.

Governors, Water Wheel
Pelton Water Wheel Co.
Woodward Governor Co.

Graders, Elevating
Austin Mfg. Co.
Western Wheeled Scraper Co.

Granite
Rockport Granite Co.
Winnsboro Granite Corp.

Graphite
Detroit Graphite Co.
Dixon Crucible Co., Jos.
National Lead Co.

Gravel Washing Plants
Bonney Supply Co.
Dull Co., R. W.

Grinding Machinery
(See Crushers and Pulverizers)

Gypsum
U. S. Gypsum Co.

Hammers, Pile Driving
(See Pile Driving Machinery)

Hammers, Pneumatic
(See Tools, Pneumatic)

Headgates
Coffin Valve Co.

Heaters, Feed Water
Minneapolis St. & Mch. Co.
Worthington Pump & Mchry. Corp.

Heating & Ventilating Apparatus
Kernchen Co.

Heaters, Water Concrete and Motor
Londelius & Sons Co., C. A.

Hoists, Concrete
Insley Mfg. Co.
Lakewood Engineering Co.

Hoists, Electric, Gasoline and Steam
Buffalo Contrs. Plant Corp.
Byers Machine Co., J. F.
Clyde Iron Works
Dobbie Fdry. & Mach. Co.
General Electric Co.
Lakewood Engineering Co.
Lidgerwood Mfg. Co.
Minneapolis St. & Mach. Co.
National Hoisting Engine Co.
O. K. Clutch & Mchry. Co.
Orton & Steinbrenner Co.
Pawling & Harnischfeger Co.
Smith Co., T. L.
Standard Scale & Supply Co.
Thomas Elevator Co.
Westinghouse Electric & Mfg. Co.

Hoists, Hand
Dobbie Fdry. & Mach Co.
National Hoisting Engine Co.
Thomas Elevator Co.

Hoists, Headgate
Coldwell-Wilcox Co.

Hoists, Pneumatic
Ingersoll-Rand Co.

Hooks, Hoists and Wire Rope
Leschen & Sons Rope Co.
Wright Wire Co.

Hose
Edson Mfg. Co.

Hose, Metallic
Pennsylvania Flexible Metallic Tubing Co.

Hydrants
Chapman Valve Mfg. Co.
Eddy Valve Co.
Fox & Co., John
Kennedy Valve Mfg. Co.
Norwood Engineering Co.
Pittsburgh Filter Mfg. Co.
Ross Valve Mfg. Co.
Smith Mfg. Co., A. P.
Wood & Co., R. D.

Indicator Posts
Builders Iron Fdry.
Chapman Valve Mfg. Co.
Simplex Valve Mfg. Co.
Wood & Co., R. D.

Inserts, Concrete
Security Insert Co.
Trussed Con. Steel Co.

Injectors
Powell Co., Wm.

Instruments, Engineers'
(See Engineers' and Draftsmen's Instruments)

Ironwork, Architectural and Ornamental
(See also Structural Steel)
Belmont Iron Works
Berlin Construction Co.
Boston Bridge Works
Phoenix Bridge Co.

Jacks
Gemco Mfg. Co.
McKiernan-Terry Drill Co.
Norton, A. O., Inc.

Joint Filler, Paving
Barrett Co., The
Carey Co., Philip
Sturtevant Co., B. F.
Waring-Underwood Co.

Joints, Expansion Paving
Carey Co., Philip.
Trussed Concrete Steel Co.
Waring-Underwood Co.

Joints, Expansion Pipe
Crane Co.
Trussed Concrete Steel Co.

Joints, Flexible
Coldwell-Wilcox Co.

Kettles, Melting
(See Asphalt Plants and Tools; also Pipe Line Supplies)

Kilns, Drying
Riter-Conley Co.
Vulcan Iron Works, Wilkes-Barre, Pa.

Kilns, Lime
Riter-Conley Co.
Vulcan Iron Works, Wilkes-Barre
Worthington Pump & Mchy. Corp.

Laboratories
(See Testing Laboratories)

Lamps, Arc and Incandescent
General Electric Co.
Westinghouse Elec. & Mfg. Co.

Lamp Posts
Belmont Iron Works
Fox & Co., John

Lath, Metal
American Rolling Mill Co.
Consolidated Expanded Metal Cos.
Mitchell-Tappen Co.
Trussed Con. Steel Co.

Lead
National Lead Co.

Lead Pencils
(See also Engineers' and Draftsmen's Instruments and Supplies)
Dixon Crucible Co., Jos.

Leadite
Leadite Co., Inc.

Lights, Portable
Carbic Mfg. Co.
Milburn Co., Alexander
Westinghouse Electric & Mfg. Co.

Lime, Hydrated
Hydrated Lime Bureau
Natl. Lime Mfrs. Assn.

Loaders, Wagon
Bonney Supply Co., Inc.
Haiss Mfg. Co., Geo.
Link-Belt Co.

Locomotives, Contractors
Porter Company, H. K.
Vulcan Iron Works, Wilkes-Barre

Locomotives
American Locomotive Co.
Bell Locomotive Works
Goodman Mfg. Co.
Porter Company, H. K.
Vulcan Iron Works, Wilkes-Barre, Pa.
Westinghouse Elec. & Mfg. Co.

Locomotives, Electric
American Locomotive Co.
Bell Locomotive Works
General Electric Co.
Goodman Mfg. Co.

Locomotives, Gasoline
Bell Locomotive Works

Locomotives, Industrial and Light
American Locomotive Co.
Bell Locomotive Works
Porter Company, H. K.
Vulcan Iron Works, Wilkes-Barre

Locomotives, Steam
American Locomotive Co.
Bell Locomotive Works
Porter Company, H. K.
Vulcan Iron Works, Wilkes-Barre

Logging Outfits
Clyde Iron Works.
Detroit Graphite Co.
Lidgerwood Mfg. Co.
Parsons Co., The

Lubricants
Crew Levick Co.
Dixon Crucible Co., Jos.
Greene, Tweed & Co.

Lumber
Associated Calcasieu Long Leaf Mills
Pearson-Ludascher Lumber Co.

Machinery and Equipment, Second Hand
(See Advts. in Searchlight Section)

Manganese, Bronze
American Manganese Bronze Co.

Manhole Covers
(See also Castings, Iron)
Fox & Co., John
Lynchburg Foundry Co.

Marine Hardware & Equipment
Boston & Lockport Blk. Co.

Mechanical Rubber Goods
Jenkins Bros.

Metaline
Metaline Co.

Metallic Doors and Sashes
(See Window Frames, Fireproof)

Metals, Perforated
Chicago Perforating Co.

Meter Box Covers
Builders Iron Foundry
Buffalo Meter Co.
Cast Iron Pipe Publicity Bureau
Pittsburgh Meter Co.

Meter Boxes, Curb
Cast Iron Pipe Publicity Bureau

Meter Provers
Builders Iron Foundry
Hersey Mfg. Co.
Pittsburgh Meter Co.

Meter Testing Machines
Smith Mfg. Co., A. P.

Meters, Water, Oil and Gas
Badger Meter Mfg. Co.
Buffalo Meter Co.
Builders Iron Foundry
General Electric Co.
Hersey Mfg. Co.
National Meter Co.
Neptune Meter Co.
Pittsburgh Meter Co.
Simplex Valve & Meter Co.
Worthington Pump & Mchry. Corp.

Mining Machinery
Allis-Chalmers Mfg. Co.
Ingersoll-Rand Co.
McKiernan-Terry Drill Co.
Thew Automatic Shovel Co.
Worthington Pump & Machry. Corp.

Machinery, Trenching
Thew Automatic Shovel Co.

Mixers, Asphalt
Lansing Co.
Milwaukee Concrete Mixer Co.
Ransome Concrete Machy. Co.
Smith Co., T. L.
Worthington Pump & Mchry. Corp.

Mixers, Cement and Concrete
Automatic Concrete Mixer Co.
Bond Co., Harold L.
Cement Gun Co.
Foote Concrete Machy. Co.
Kent Machine Co.
Knickerbocker Co.
Lakewood Engineering Co.
Lansing Co.
Milwaukee Concrete Mixer Co.
Municipal Engrg. & Cont. Co.
Ransome Concrete Machy. Co.
Smith Co., T. L.
Standard Scale & Supply Co.
Waterloo Cement Mchy. Corp.
Worthington Pump & Mchry. Corp.

Mixers, Mortar
Kent Machine Co.
Lakewood Engineering Co.
Milwaukee Concrete Mixer Co.
Ransome Concrete Machy. Co.
Schaefer Mfg. Co.
Smith Co., T. L.
Waterloo Cement Mchy. Corp.

Molds, Pipe and Culvert
Blaw Steel Constr. Co.
Foote Concrete Machy. Co.

Motors, Electric
General Electric Co.
Westinghouse Elec. & Mfg. Co.

Motor Trucks
Watson Wagon Co.

Nails
American Steel and Wire Co.

Netting, Wire
(See Wire Netting)

Nuts, Clevis
American Bridge Co.
Merrill Bros.

Oil, Road
(See Road Oils)

Packing
Jenkins Bros.

Packing, Water-Pipe
Greene, Tweed & Co.
Leadite Co., Inc.

Paints and Metal Coatings
Barrett Co., The
Detroit Graphite Co.
Dixon Crucible Co., Jos.
Minwax Co.
National Lead Co.
Toch Bros.

Paper, Drafting and Tracing
Kolesch & Co.

Pavements
Barrett Co., The
Dunn Wire-Cut Lug Brick Co.
Jennison-Wright Co.
National Paving Brick Mfrs. Assn.
Sturtevant Co., B. F.

Paving Blocks, Granite
Rockport Granite Co.
Winnsboro Granite Corp.

Paving Blocks, Wood
Barber Asphalt Paving Co.
Jennison-Wright Co.
Southern Wood Preserv. Co.
Wyckoff Pipe & Creo. Co.

Paving Joint Filler
(See Joint Filler, Paving)

Penstocks
(See Steel Plate Construction; also Pipe, Riveted Steel; also Pipe, Wood)

Pile Driving Machinery
Clyde Iron Works
Edson Mfg. Co.
Industrial Works
Lidgerwood Mfg. Co.
McKiernan-Terry Drill Co.
National Hoisting Engine Co.
Union Iron Works
Vulcan Iron Works, Chicago

Pile Shoes
Janney, Steinmetz & Co.
Vulcan Iron Works

Piles, Concrete
Foundation Co., The
MacArthur C. Pile & F. Co.
Raymond Concrete Pile Co.
Smith, Hauser & MacIsaac, Inc.
Underpinning & Found. Co.

Piles, Creosoted
Barber Asphalt Paving Co.
Jennison-Wright Co.
Underpinning & Found. Co.
Wyckoff Pipe & Creo. Co.

Piling, Interlocking Steel
Carnegie Steel Co.
Lackawanna Steel Co.
Mitchell-Tappen Co.

Pipe, Cast Iron
American Cast Iron Pipe Co.
Cast Iron Pipe Publicity Bureau
Clow & Sons, Jas. B.
Donaldson Iron Co.
Fox & Co., John
Glamorgan Pipe & Fdry. Co.
Lynchburg Foundry Co.
Massillon Iron & Steel Co.
Standard Cast Iron Pipe & Fdry. Co.
Wood & Co., R. D.

Pipe, Culvert
(See Culverts)

Pipe Dredge
Machold & Riddell

Pipe, Galvanized Iron
American Rolling Mill Co.
Lupton's Sons Co., David

Pipe, Lap Welded
American Spiral Pipe Works

Pipe Line Supplies
Union Iron Works

Pipe, Lock Bar
East Jersey Pipe Co.

Pipe, Reinforced Concrete
Lock Joint Pipe Co.
Trussed Con. Steel Co.

Pipe, Steel
Graver Tank Works

Pipe, Riveted Steel
American Bridge Co.
Chicago Br. & Ir. Co.
Des Moines Br. & Ir. Co.
East Jersey Pipe Co.
Machold & Riddell.
Mitchell-Tappen Co.
Pittsburgh-Des Moines Steel Co.
Riter-Conley Co.
Scaife & Sons, Wm. B.
Standard Spiral Pipe Works

Pipe, Segmental
Robinson Clay Product Co.

Pipe Shoes
Marion Malleable Iron Wks.

Pipe, Spiral, Riveted
American Spiral Pipe Works

Pipe, Steel
Graver Tank Works
Standard Spiral Pipe Works

Pipe Tapping Machines
Smith Mfg. Co., A. P.

Pipe, Vitrified Clay and Sewer
Robinson Clay Product Co.

Pipe, Wood
Michigan Pipe Co.
National Tank & Pipe Co.
Portland Wood Pipe Co.
Standard Wood Pipe Co.
Washington Pipe & Fdry. Co.
Wyckoff & Sons Co., A.
Wyckoff Pipe & Creo. Co.

Pipe, Wrought Iron
Amer. Pipe & Const. Co.

Piping, Power Plant, Bend Flanges, Fittings, Etc.
East Jersey Pipe Co.
Fox & Co., John
Kellogg Co., W. M.

Plates, Steel
(See also Steel Plate Construction)
Carnegie Steel Co.
Chicago Br. & Ir. Works
Lackawanna Steel Co.

Plates, Tin and Terne
Amer. Sheet & Tin Plate Co.

Pneumatic Tools
(See Tools, Pneumatic)

Power Transmission Machinery
General Electric Co.
Westinghouse Elec. & Mfg. Co.

Pulverizers
(See Crushers and Pulverizers)

Pumping Engines
(See Engines, High Duty Pumping)

Pumps, Air-Lift
Ingersoll-Rand Co.
Schirmer & Frensdorf Co.
Worthington Pump & Machry. Corp.

Equipment and Materials Sold by Advertisers in This Issue

Pumps, Boiler Feed
American Well Works, The
Cameron Steam Pump Works, A. S.
Worthington Pump & Mchry. Corp.

Pumps, Centrifugal & Turbine
Allis-Chalmers Mfg .Co.
American Well Works, The
Cameron St. Pump Works
Deming Co.
Lawrence Machine Co.
Layne & Bowler Co.
Pelton Water Wheel Co.
Platt Iron Works
Wood & Co., R. D.
Worthington Pump & Mchry. Corp.
Zin-Ho Mfg. Co.

Pumps, Contractors'
American Well Works, The
Bond Co., Harold L.
Cameron Steam Pump Works, A. S.
Edson Mfg. Co.
National Transit Pump & Machine Co.
Nye Steam Pump & Mchry. Co.
Standard Scale & Supply Co.
Worthington Pump & Mchry. Corp.
Zin-Ho Mfg. Co.

Pumps, Deep Well
American Well Works, The
Cameron Steam Pump Works, A. S.
Deane Bros. St'm Pump Wks.
Deming Co.
Keystone Driller Co.
Pelton Water Wheel Co.
Schirmer & Frensdorf Co.
Worthington Pump & Mchry. Corp.

Pumps, Diaphragm
American Well Works, The
Edson Mfg. Co.

Pumps, Electric
Cameron Steam Pump Works, A. S.

Pumps, Elevator
Bond Co., H. L.
Parker, A. A.
Worthington Pump & Mchry. Corp.

Pumps, Fire
Worthington Pump & Mchry. Corp.

Pumps, Gasoline, Portable
Bond Co., Harold L.
Edson Mfg. Co.
Parker, A. A.
Schramm & Son, Chris. D.
Worthington Pump & Mchry. Corp.
Zin-Ho Mfg. Co.

Pumps, Hydraulic and Mine
Cameron Steam Pump Works, A. S.

Pumps, Mine
American Well Works, The
Cameron Steam Pump Works, A. S.
Layne & Bowler Co.
National Transit Pump & Machine Co.
Nye Steam Pump & Mchry. Co.
Worthington Pump & Mchry. Corp.

Pumps, Power
American Well Works, The
Cameron Steam Pump Works, A. S.
Deane Bros. Stm. Pump Wks.
Layne & Bowler Co.
National Transit Pump & Machine Co.
Platt Iron Works
Schirmer & Frensdorf Co.
Worthington Pump & Mchry. Corp.

Pumps, Sand
Allis-Chalmers Mfg. Co.
American Well Works, The
Nye Steam Pump & Mchry. Co.
Parker, A. A.
Worthington Pump & Mchry. Corp.

Pumps, Steam
Cameron Steam Pump Works, A. S.
Deane Bros. Stm. Pump Wks.
Deming Co.
National Transit Pump & Machine Co.
Nye Steam Pump & Mchry. Co.
Parker, A. A.
Worthington Pump & Mchry. Corp.

Pumps, Trench
Worthington Pump & Mchry. Corp.

Pumps, Underwriters' Fire
Worthington Pump & Mchry. Corp.

Pumps, Vacuum
Deming Co.
Nye Steam Pump & Machry. Co.
Worthington Pump & Mchry. Corp.

Pumps, Water Works
Cameron Steam Pump Works, A. S.
Layne & Bowler Co.
Pelton Water Wheel Co.
Schirmer & Frensdorf Co.
Wood Co., R. D.
Worthington Pump & Mchry. Corp.

Pump, Wind Mill
Deming Co.

Quarry Machinery
Bond Co., Harold L.
Ingersoll-Rand Co.
Worthington Pump & Mchry. Corp.

Rails and Rail Joints, Fastenings and Specialties
Carnegie Steel Co.
Lackawanna Steel Co.
Orenstein-Arthur Koppel Co.

Railways, Industrial
Hunt Co., C. W.
Lakewood Engineering Co.
Orenstein-Arthur Koppel Co.
Union Iron Works

Rams, Hydraulic
Deming Co.

Reinforced and Concrete Works
(See Concrete Construction)

Reinforcing Metal for Concrete Work
American Steel & Wire Co.
Brown Hoisting Mchry. Co.
Consolidated Expanded Metal Cos.
Electric Welding Co.
Laclede Steel Co.
Mitchell-Tappen Co.
Trussed Con. Steel Co.
Wright Wire Co.

River and Harbor Work
Raymond Con. Pile Co.
Rhodes & Manvel, Inc.

Riveters, Pneumatic
(See Tools, Pneumatic)

Riveting Machines
Allen Co., John F.

Road Machinery
Austin Mfg. Co.
Buffalo Steam Roller Co.
Erie Machine Shops
Thew Automatic Shovel Co.
Western Wheeled Scraper Co.

Road Oils and Preservatives
Barrett Co., The
Jennison-Wright Co.

Rock Crushers
(See Crushers and Pulverizers)

Rods, Sewer
Bissell Co., F.
Bond Co., Harold L.

Rollers, Road
Austin Mfg. Co.
Buffalo Steam Roller Co.
Erie Machine Shops

Roofing
Am. Cement Tile Mfg. Co.
Am. Sheet & Tin Plate Co.
Barrett Co., The
Federal Cement Tile Co.
Ludowici-Celadon Co.
U. S. Gypsum Co.

Roofing, Asphalt
Pioneer Asphalt Co.

Roofing, Gravel
Barrett Co., The

Roofing, Metal
(See Sheets, Roofing and Siding)

Rope, Manila, Transmission
Leschen & Sons Rope Co.
Plymouth Cordage Co.
Waterbury Co.

Rope, Wire
American Steel & Wire Co.
Leschen & Sons Rope Co.
Waterbury Co.
Wright Wire Co.

Rope, Wire, Transmission Hoisting or Haulage
Roebling's Sons Co., J. A.

Rules and Tapes
(See also Engineers' and Draftsmen's Instruments)
Ainsworth & Sons, Wm.
Dietzgen Co., Eugene
Keuffel & Esser Co.
Kolesch & Co.
Lufkin Rule Co.

Sand & Gravel Washing Plants
(See Gravel Washing Plants)

Sash
Solar Metal Products Co.

Sash Operating Apparatus
Lord & Burnham Co.
Lupton's Sons Co., David

Saw Rigs
Insley Mfg. Co.
Worthington Pump & Mchry. Corp.

Scales
(See Weighing Machinery)

Schools and Colleges
Lafayette College
Clarkson School of Tech.
New York University
Norwich University
Ohio Northern University
Penn Military College
Polytechnic Inst. of Bklyn.
Rensselaer Polytechnic Inst.
Rose Polytechnic Institute
Sheffield Scientific School
University of Pennsylvania

Schools, Correspondence
American Technical Society

Scrapers, Drag Line
(See also Excavating Machinery)
Brown Hoisting Mchy. Co.
Clyde Iron Works
Economy Excavator Co.
Hayward Co.
Lidgerwood Mfg. Co.
Sauerman Bros.

Scrapers, Graders, Plows, Etc.
(See also Road Machinery)
Austin Mfg. Co.
Kilbourne & Jacobs Mfg. Co.

Screens, Sand, Gravel, Coal and Water
Austin Mfg. Co.
Chicago Perforating Co.
Link-Belt Co.
Raymond Bros., I. P. Co.
Union Iron Works
Worthington Pump & Mchry. Corp.

Separators, Air
Raymond Bros., I. P. Co.

Sewage Disposal
Pacific Flush Tank Co.

Sewer Cleaning Machinery
Turbine Screw Mach. Renovating Co.

Sewer Flushers, Automatic
Pacific Flush Tank Co.

Sewer Rods
Turbine Sewer Mach. Renovating Co.

Shafting
American Steel & Wire Co.

Sheet Metal Work
Lupton's Sons Co., David

Sheets, Black and Galvanized
Amer. Sheet & Tin Plate Co.

Sheets, Galvanized
American Rolling Mill Co.

Sheets, Iron and Steel
American Rolling Mill Co.
Amer. Sheet & Tin Plate Co.
Canton Culvert & Silo Co.
Lackawanna Steel Co.

Sheets, Roofing and Siding
American Rolling Mill Co.
Amer. Sheet & Tin Plate Co.

Shores, Adjustable
Roos Co., H. W.

Shovels, Gasoline, Electric and Power
Thew Automatic Shovel Co.

Shovels, Steam
American Clay Machinery Co.
Ball Engine Co.
Erie Steam Shovel Co.
Keystone Driller Co.
Marion Steam Shovel Co.
Osgood Co.
Thew Auto Shovel Co.

Skylights
Detroit Steel Products Co.
Lupton's Sons Co., David

Sluice Gates
(See Valves, Sluices)

Smokestacks
(See Chimneys, Steel)

Spikes
American Steel & Wire Co.

Sprinklers, Street
(See Street Sprinklers)

Standpipes, Tanks and Towers
American Bridge Co.
Belmont Iron Works
Chicago Br. & Iron Works
Des Moines Br. & Iron Co.
Graver Tank Works
Minneapolis St. & Mach. Co.
National Tank & Pipe Co.
Pittsburgh-Des Moines Stl. Co.
Riter-Conley Co.
Tippett & Wood
Walsh's Holyoke Steam Boiler Works

Steam Shovels
(See Shovels, Steam)

Steam Specialties
Jenkins Bros.

Steel Plate Construction
American Bridge Co.
Berlin Construction Co.
Blaw Steel Constr. Co.
Chicago Br. & Ir. Co.
Coatesville Boiler Works
East Jersey Pipe Co.
Graver Tank Works
Lackawanna Bridge Co.
Minneapolis St. & Mch. Co.
Mitchell-Tappen Co.
Riter-Conley Co.
Tippett & Woods
Vulcan Iron Works, Jersey City
Walsh's Holyoke Steam Boiler Works
Waterbury Co.
Worden-Allen Co.

Stokers, Mechanical
Babcock & Wilcox Co.

Stone, Broken and Quarried
Rockport Granite Co.

Stone Skips
Insley Mfg. Co.
Lakewood Engineering Co.

Storage Yards
Industrial Service Co.

Strand, Common and Special
Roebling's Sons Co., J. A.

Street Sprinklers and Wagons
Austin Mfg. Co.

Structural Steel
American Bridge Co.
Belmont Iron Works
Bellefontaine Bridge & Steel Co.
Berlin Construction Co.
Bethlehem Steel Bridge Corp.
Blaw Steel Constr. Co.
Boston Bridge Works
Carnegie Steel Co.
Des Moines Br. & Ir. Co.
Eastern Bridge & Struc. Co.
Eichleay, Jr., Co., John
Kalamazoo Fdry. & Mach. Co.
Kenwood Bridge Co.
King Bridge Co.
Lackawanna Bridge Co.
Lackawanna Steel Co.
McClintic-Marshall Co.
Minneapolis St. & Mch. Co.
Morava Construction Co.
Phoenix Bridge Co.
Pittsburgh-Des Moines St. Co.
Riter-Conley Co.
Scaife & Sons, Wm. B.
Shoemaker & Co., Lewis F.
Terry & Tench Co.
Tippett & Wood
Virginia Bridge & Iron Co.
Worden-Allen Co.

Submarine Work
Foundation Co., The
Smith, Hauser & Mac Isaac, Inc.

Superheaters
Babcock & Wilcox Co.

Switchboards
Allis-Chalmers Mfg. Co.
General Electric Co.
Westinghouse Elec. & Mfg. Co.

Tank Lugs
Marion Malleable Iron Co.

Tanks, Air Compressor
Bartlett & Snow Co., C. O.
East Jersey Pipe Co.
Riter-Conley Co.
Scaife & Sons, Wm. B.
Tippett & Wood

Tanks, Creosoted
(See Steel Plate Construction)

Tanks, Flush
Pacific Flush Tank Co.

Tanks, Gas Pressure
Graver Tank Works
Scaife & Sons, Wm. B.

Tanks, Wood
National Tank & Pipe Co.
Portland Wood Pipe Co.

Tar
Barrett Co., The

Telegraph and Telephone Wires
Roebling's Sons Co., J. A.

Testing Laboratories
Allentown Testing Co.
Chicago Paving Laboratory
Gulick-Henderson Co.
Hill, Nicholas S.
Hunt & Co., Robert W.
Pittsburgh Testing Lab.
Underwriters' Lab., Inc.

Tires, Creosoted
Jennison-Wright Co.
Wyckoff P. & Creo. Co.

Thermometers
Taylor Instrument Cos.

Ties, Steel
Carnegie Steel Co

Tile, Cement
Amer. Cement Tile Mfg. Co.
Federal Cement Tile Co.

Tile, Terra Cotta
Ludowici-Celadon Co.

Tools, Pneumatic
Ingersoll-Rand Co.

Towers and Tanks
(See Standpipe)

Towers, Transmission
American Bridge Co.
Blaw Steel Cons. Co.

Tracks and Switches
(See Frogs and Switches)

Traction Engines
Minneapolis Steel & Mach. Co.

Trailers
Watson Wagon Co.

Tramways, Wire Rope
(See Cableways)

Transits and Levels
(See also Engineers' and Draftsmen's Instruments)
Ainsworth & Sons, Wm.
Bausch & Lomb Optical Co.
Berger & Sons, C. L.
Brandis & Sons Mfg. Co.
Buff & Buff Mfg. Co.
Dietzgen Co., Eugene
Heller & Brightly
Keuffel & Esser Co.
Kolesch & Co.

Traps, Steam
Jenkins Bros.

Trench Braces, Extension
(See Braces, Extension)

Trench Excavating Machinery
(See also Excavating Machinery)
Austin Drainage & Exc. Co.
Ball Engine Co.
Carson Trench Machine Co.
Erie Steam Shovel Co.
Hayward Co.
Keystone Driller Co.
Municipal Engrg. & Contr Co.
Osgood Co.
Parsons Co., The
Rochester Exc. Macy Co.
Thew Auto Shovel Co.

Tunnel Lining Plates
Blaw Steel Constr. Co.

Turbines, Hydraulic
(See Water Wheels, Turbine and Impulse)

Turbines, Steam
General Electric Co.

Turnbuckles
American Bridge Co.
Merrill Bros.

Turntables
American Bridge Co.
Boston Bridge Works
Chicago Bridge & Iron Wks.
Easton Car & Construction Co.
Ornstein-Arthur Koppel Co.
Phoenix Bridge Co.

Typewriters
Blickensderfer Mfg. Co.

Underpinning
Foundation Co., The
Smith, Hauser & Mac Isaac, Inc.
Substructure Co.
Underpinning & Foundat'n Co.

Unloaders
Bonney Supply Co.

Valve Inserting Machines
Smith Mfg. Co., A. P.

Valve Stems
American Manganese Bronze Co.

Valves, Air
Chapman Volve Mfg. Co.
Coffin Valve Co.
Jenkins Bros.
Kennedy Valve Mfg. Co.
Powell Co., Wm.
Ross Valve Mfg. Co.
Simplex Valve & Meter Co.

Valves, Angle, Check, Gate and Globe
Chapman Valve Mfg. Co.
Coffin Valve Co.
Coldwell-Wilcox Co.
Eddy Valve Co.
Jenkins Bros.
Kennedy Valve Mfg. Co.
Powell Co., Wm.
Simplex Valve & Meter Co.
Wood & Co., R. D.

Valves, Blow-Off
Coffin Valve Co.
Coldwell-Wilcox Co.
Jenkins Bros.
Powell Co., Wm.

Valves, Foot
Bell Locomotive Works
Coffin Valve Co.
Wood & Co., R. D.

Valves, Pump
Jenkins Bros.

Valves, Regulating
Jenkins Bros.
Powell Co., Wm.
Simplex Valve & Meter Co.

Valves, Sluice
Chapman Valve Mfg. Co.
Coffin Valve Co.
Coldwell-Wilcox Co.
Eddy Valve Co.
Jenkins Bros.
Kennedy Valve Mfg. Co.
Powell Co., Wm.
Ross Valve Mfg. Co.

Ventilating Apparatus
(See also Blowers; also Fans; also Heating and Ventilating Apparatus)
General Electric Co.
Lord & Burnham Co.
Lupton's Sons Co., David

Ventilators
Kernchen Co.

Wagons, Asphalt
Watson Wagon Co.

Wagons, Dumping
Austin Mfg. Co.
Watson Wagon Co.

Wagons, Reversible
Watson Wagon Co.

Wagons, Sprinkling
(See Street Sprinklers)

Washing Sand and Gravel
(See Gravel Washing Plants)

Water Main Cleaners
National Water Main Cl'r Co.

Water Softeners
Graver Tank Works, Wm.
International Filter Co.
N. Y. Cont. Jewell Filt. Co.
Scaife & Sons, Wm. B.
Wallace & Tiernan Co., Inc.

Water Sterilization
Electro Bleaching Gas Co.
Pennsylvania Salt Co.
Wallace & Tiernan Co., Inc.

Waterproofing
Barrett Co., The
Minwax Co.
Toch Bros.
Trussed Con. Steel Co.

Water Wheels, Turbine and Impulse
Allis-Chalmers Mfg. Co.
Pelton Water Wheel Co.
Platt Iron Works
Smith Co., S. Morgan
Wood & Co., R. D.

Water Works Supplies, General
Chapman Valve Mfg. Co.
Coffin Valve Co.
Coldwell-Wilcox Co.
Smith Mfg. Co., A. R.

Welding Apparatus
Davis-Bournonville Co.
General Electric Co.
K-G Welding & Cutting Co.
Milburn Co., Alex. P.
Oxweld Acetylene Co.
Vulcan Process Co.

Well-Drilling Machinery
American Well Works, The
Keystone Driller Co.

Well Screens
Johnson, E. E.

Wheelbarrows
Bond Co., Harold L.
Kilbourne & Jacobs Mfg. Co.
Lakewood Engineering Co.
Ransome Concrete Mchy. Co.
Smith Co., T. L.
Stuebner, G. L., Iron Works
Union Iron Works

Winches
Brown Hoisting Mchry. Co.
Thomas Elevator Co.

Window Frames, Fireproof
Detroit Steel Products Co.
Lupton's Sons Co., David
Trussed Con. Steel Co.

Windows, Fireproof
Detroit Steel Products Co.

Wire
(See also Rope, Wire)
Roebling's Sons Co., J. A.

Wire, Flat, Round and Special Shaped
Roebling's Sons Co., J. A.

Wire Mattresses, Brooms, Etc.
Americal Steel & Wire Co.

Wire Netting
Americal Steel & Wire Co.

Wire Rope
(See also Rope, Wire)
Roebling's Sons Co., J. A.

Wire Rope Fittings
Roebling's Sons Co., J. A.

Wire Rope Slings
Roebling's Sons Co., J. A.

Wood Pipe
(See Pipe, Wood)

Wood Preservatives
Barber Asphalt Paving Co.
Barrett Co., The
Jennison-Wright Co.
Ohio Wood Preserving Co.
Pittsburgh Wood Pres. Co.
South. Wood Preserver Co.
S.P.F. Wood Preserving Co.

Wrenches
Greene, Tweed & Co.

Wrenches, Alligator
Roebling's Sons Co., J. A.

ALPHABETICAL INDEX TO ADVERTISEMENTS IN THIS ISSUE

Printing begins at 10 A. M. on Saturday preceding week of issue.

Changes of Copy for standing advertisements should be received not later than Friday morning preceding week of issue, but no proofs can be submitted.

New Advertisements (not changes in copy) received on Wednesday can usually appear in the issue of that week.

If Proofs Are Required before printing, changes of copy and copy for new advertisements must be in our hands two weeks in advance of the date of publication. The paper is dated Saturday but is out Friday.

A

Ainsworth Sons, Wm. 95
Allen Co., John F. 36
Allis-Chalmers Mfg. Co. 70
Alsen's Am. Port. Cement Wks. 68
American Bridge Co. 35
American Cast Iron Pipe Co. 87
American Cement Tile Mfg. Co. 66
American Clay Mchry. Co. 75
American Locomotive Co. 61
American Manganese Bronze Co. 82
American Pipe & Cons. Co. 87
American Rolling Mill Co. 63
American Sheet & Tin Plate Co. 67
American Spiral Pipe Works 87
American Steel & Wire Co. 77
American Well Works, The 88
Andresen-Evans Co. 75
Armco Iron Culvert & Flume Mfrs. Assn. 63
Arnett, Lee 63
Asbestos Protected Metal Co. 66
Associated Calcasieu Long Leaf Mills 24
Austin Drainage Ex. Co., F. C. 74
Austin Mfg. Co. 59
Austin-Western Road Mchy. Co. 59
Automatic Concrete Mixer Co., Inc. 32

B

Babcock & Wilcox Co. 39
Badger & Sons Co., E. B. 92
Baker, W. M. 63
Ball Engine Co. 38
Barber Asphalt Co., Maurer 62
Bark River Bridge & Culvert Co. 62
Barrett Co., The 62
Bartlett & Snow Co., C. O. 60
Bausch & Lomb Optical Co. 95
Bay City Dredge Works 78
Bell Locomotive Works 61
Belmont Iron Works 36
Bergen & Lindeman, Inc. 93
Berger & Sons, C. L. 95
Berlin Construction Co. 36
Bethlehem Steel Bridge Corp. 37
Bissel Co., The F. 65
Blaw Steel Construction Co. 17, 36
Blickensderfer Mfg. Co. 94
Bond Co., Harold L. 65, 87
Bonney Supply Co., Inc. 60
Boston Bridge Works, Inc. 36
Boston & Lockport Block Co. 37
Brown Hoisting Mchy. Co. 70
Buchanan Co., Inc., C. G. 95
Buff & Buff Mfg. Co. 95
Buffalo Contractors' Plant Corporation 14
Buffalo Meter Co. 81
Buffalo Springfield Roller Co. 64
Builders Iron Foundry 82
Byers Machine Co., John F. 72

C

Caldwell Co., Inc., W. E. 86
California Corrugated Culvert Co. 63
Cameron Steam Pump Works, A. S. 88
Canton Culvert & Silo Co. 64
Carbic Manufacturing Co. 75
Carey Co., Philip 62
Carnegie Steel Co. 79
Carson Trench Machine Co. 64
Cast Iron Pipe Publicity Bureau. 87
Cement Gun Co. 34
Chapman Valve Mfg. Co. 7
Chicago Bridge & Iron Works 86
Chicago Perforating Co. 67
Chicago Pneumatic Tool Co. 70
Cleveland Crane & Eng. Co. 39
Clow & Sons, James B. 87
Clyde Iron Works 73
Coal & Iron National Bank 94
Coast Culvert & Flume Co. 63
Coatesville Boiler Works 92
Coffin Valve Co. 83
Coldwell-Wilcox Co. 83
Concrete Engineering Co. 69
Consolidated Expanded Metal Companes 67
Continental Car Co. 60
Corrugated Culvert Co. 63
Crew Levick Co. 92
Custodis Chimney Construction Co., Alphons 93

D

Davis-Bournonville Co. 35
Dean Bros. Steam Pump Wks. 91
Defiance Mfg. Co. 96
Delaware Metal Culvert Co. 63
Deming Co. 90
Deslauriers Column Mould Co. 69
Des Moines Bridge & Iron Co. 86
Detroit Graphite Co. 33
Detroit Steel Products Co. 4
Dexter Portland Cement Co. 68
Dietzgen Co., Eugene 95
Dixie Culvert & Metal Co. 63
Dixon Crucible Co., Joseph 92
Dobbie Fdry. & Mch. Co. 72
Donaldson Iron Co. 87
Dull Co., R. W. 70
Dunn Wire-Cut Lug Brick Co. 20

E

Eastern Bridge & Struc. Co. 36
East Jersey Pipe Corp. 13
Easton Car & Const. Co. 60
Economy Excavator Co. 74
Eddy Valve Co. 83
Edson Mfg. Co. 88
Eichleay Co., John, Jr. 37
Electric Welding Co. 67
Electro Bleaching Gas Co. 18
Emerson Pump & Valve Co. 89
Engineering Schools & Colleges 96
Engineers' Directory 97, 98
Erie Machine Shovel Co. 64
Erie Steam Shovel Co. 38

F

Federal Cement Tile Co. 27
Fibre Conduit Co. 64
Foote Concrete Machy. Co. 32
For Sale 50-58
Foundation Co., The 16
Fox & Co., John 87
French & Co., Samuel H. 68
Fuller Engineering Co. 68

G

Gemco Mfg. Co. 68
General Concrete Constr. Co. 93
General Electric Co. 23
Goodman Mfg. Co. 60
Graver Tank Works, Wm. 86
Greene, Tweed & Co. 72

H

Haberly Products Co. 96
Haiss Mfg. Co., Inc., Geo. 76
Hardesty Mfg. Co., R. 63
Hayward Co. 76
Heinicke, H. R. 93
Heller & Brightly 95
Hersey Mfg. Co. 81
Higgins & Co., Chas. M. 96
Hunt Co., Inc., C. W. 93
Hydrated Lime Bureau 34

I

Illinois Corrug. Metal Co. 63
Independence Culvert Co. 63
Industrial Works 72
Ingersoll-Rand Co. 71
Insley Mfg. Co. 33
International Filter Co. 84
Iowa Pure Iron Culvert Co. 63

J

Janney-Steinmetz Co. 78
Jenkins Bros. 92
Jennison-Wright Co. 2d Cover
Johnson, E. L. 87
Johnston, J. O. 94

K

K-G Welding & Cutting Co., Inc. 35
Kalamazoo Foundry & Mch. Co. 64
Kellogg Co., M. W. 93
Kennedy Valve Mfg. Co. 83
Kent Machine Co. 26
Kentucky Culvert Mfg. Co. 63
Kenwood Bridge Co. 37
Kernchen Co. 66
Keuffel & Esser Co. 95
Keystone Driller Co. 74
Kilbourne & Jacobs Mfg. Co. 75
King, George & William B. 94
King Bridge Co. 36
Knickerbocker Co. 26
Kolesch & Co. 95

L

Lackawanna Bridge Co. 36
Lackawanna Steel Co. 22
Laclede Steel Co. 67
Lakewood Engineering Co. 10, 11
Lansing = Co. 31
Lawrence Cement Co. 68
Lawrence Machine Co. 90
Layne & Bowler Co. 87
Leadite Co., Inc. 86
Lehigh Portland Cement Co. 9
Leschen & Sons Rope Co., A. 77
Lidgerwood Mfg. Co. 73
Link-Belt Co. 72
Lock Joint Pipe Co. 65
Londelius & Sons Co., C. A. 32
Lone Star Culvert Co. 63
Lord & Burnham Co. 66
Ludowici-Celadon Co. 66
Lufkin Rule Co. 94
Lupton's Sons Co., David 25
Lyle Corrugated Culvert Co. 63
Lynchburg Foundry Co. 87

M

MacArthur Con. P. & Found. Co. 78
Machold & Riddell 86
Marion Malleable Iron Works 85
Marion Steam Shovel Co. 75
Massillon Iron & Steel Co. 87
McClintic-Marshall Co. 37
McGraw-Hill Book Co., Inc. 19
McKiernan-Terry Drill Co. 79
Merrill Bros. 37
Metaline Co. 37
Michigan Bridge & Pipe Co. 63
Michigan Pipe Co. 12
Milburn Co., Alexander 74
Milwaukee Concrete Mixer Co., 28, 29
Minneapolis Steel & Mchry. Co. 36
Minwax Co., Inc. 34
Mitchell-Tappen Co. 67
Montana Culvert Co. 63
Morava Construction Co. 37
Municipal Eng. & Contracting Co. 32

N

National Hoisting Engine Co. 79
National Lead Co. 35
National Lime Mfrs. Assn. 34
National Meter Co. 81
National Tank & Pipe Co. 85
National Transit Pump & Mach. Co. 90
Natl. Water Main Cleaning Co. 85
Nebraska-Culvert & Mfg. Co. 63
Neptune Meter Co. 80
Nevada Metal Mfg. Co. 63
New England Metal Culvert Co. 63
New York Cont. Jewell Filt. Co. 84
North East Metal Culvert Co. 63
Northwestern Sheet & Iron Wks. 63
Norton, Inc., A. O. 93
Norwalk Iron Works Co. 70
Norwood Engineering Co. 84
Nye Steam Pump & Machy. Co. 88

O

O. K. Clutch & Mchry. Co. 73
Ohio Corrugated Culvert Co. 63
Ohio Locomotive Crane Co. 72
Ohio Wood Preserving Co. 62
O'Neill Co., W. O. 63
Orenstein-Arthur Koppel Co. 60
Orton & Steinbrenner Co. 76
Osgood Co., The 75
Oxweld Acetylene Co. 35

P

Pacific Flush-Tank Co. 65
Parker, A. A. 88
Parsons Co. 74
Pawling & Harnischfeger Co. 74
Pearson & Ludascher Lumber Co. 66
Pelton Water Wheel Co. 91
Pennsylvania Cement Co. Insert
Pennsylvania Flexible Metallic Tubing Co. 70
Pennsylvania Metal Culvert Co. 63
Pennsylvania Salt Mfg. Co. 84
Phoenix Bridge Co. 36
Pittsburgh-Des Moines Steel Co. 86
Pittsburgh Filter Mfg. Co. 83
Pittsburgh Meter Co. 82
Platt Iron Works 91
Plymouth Cordage Co. 77
Porter Co., H. K. 61
Portland Wood Pipe Co. 85
Positions Vacant 41
Positions Wanted 50
Powell Co., Wm. 92
Power Specialty Co. 93
Proposals 48 & 49

Q

Quincy Engine Co. 71

R

Ransome Concrete Machy. Co. 26
Raymond Bros. Imp. Pulv. Co. 93
Raymond Concrete Pile Co. 5
Rhodes & Manvel, Inc. 78
Ridgeway & Sons Co., Craige 39
Riter-Conley Co. 36
Road Supply & Metal Co. 63
Roberts Filter Mfg. Co. 84
Robins Conveying Belt Co. 93
Robinson Clay Products Co. 64
Rochester Excavating Mchy. Co. 75
Rockport Granite Co. 64
Roebling's Sons Co., John A. 77
Roos Company, H. W. 69
Ross Valve Mfg. Co. 83
Ruddock Bucket Co. 75
Ruggles-Coles Eng'g Co. 34
Rust Engineering Co. 93

S

S. P. F. Wood Preserving Co. 62
Sauerman Bros. 74
Scaife & Sons Co., William B. 84
Scherzer Rolling Lift Bridge Co. 36
Schirmer-Frensdorf Co. 91
Schramm & Sons, Chris D. 71
Searchlight Section 40A-51
Security Insert Co. 66
Shoemaker & Co., Lewis F. 37
Simplex Valve & Meter Co. 83
Sioux Falls Metal Culvert Co. 63
Smith Co., S. Morgan 91
Smith, Hauser & MacIsaac, Inc. 6
Smith Mfg. Co., A. P. 85
Smith Co., T. L. 30
Solar Metal Products Co. 67
Southern-Rome Co. 72
Southern Wood Preserving Co. 62
Standard Cast Iron Pipe & Fdy. Co. 87
Standard Scale & Supply Co. 32
Standard Spiral Pipe Works 86
Standard Wood Pipe Co. 85
Strauss Bascule Bridge Co. 37
Stuebner Iron Works, G. L. 76
Substructure Co., Inc. 78

T

Taylor Instrument Cos. 94
Tennessee Metal Culvert Co. 63
Terry Mfg. Co., Edw. F. 72
Terry & Tench Co. 37
Testing Laboratories 96
Thew Auto. Shovel Co. 75
Thomas Elevator Co. 73
Tippett & Wood 86
Toch Bros. 34
Trussed Concrete Steel Co. 8
Turbine Sewer Mach. Renov. Co. 65

U

Underpinning & Foundation Co. 78
Union Iron Works 78
U. S. Cast Iron Pipe & Fdy. Co. 87
U. S. Gypsum Co. 3d Cover
Universal Form Clamp Co. 67
Universal Road Machinery Co. 70
Utah Corr. Culvert & Flume Co. 63

V

Virginia Bridge & Iron Co. 36
Virginia Metal Culvert Co. 63
Vulcan Iron Works, Chicago 78
Vulcan Iron Works, Jersey City. 78
Vulcan Iron Wks., Wilkes-Barre 61
Vulcanite Portland Cement Co. 68
Vulcan Process Co. 35

W

Walace & Tiernan Co., Inc. 84
Walsh's Holyoke Steam Boiler Works 87
Want Advertisements 41
Waring-Underwood Co. 62
Washington Pipe & Fdry. Co. 85
Waterbury Co. 77
Waterloo Cement Machy. Corp. 33
Watson Wagon Co. 21
Weber Chimney Co. 93
Western Block Co. 37
Western Metal Mfg. Co. 63
Western Wheled Scraper Co. 60
Westinghouse Elec. & Mfg. Co. 40
Wiley & Sons, Inc., John 15
Williams Co., G. H. 76
Winsboro Granite Corp. 64
Wood Co., R. D. 87
Wood Drill Works 70
Woodward Governor Co. 91
Worden-Allen Co. 36
Worthington Pump & Mchy. Corp. 26, 82, 89, 90
Wright Wire Co. 77
Wyatt Metal Works 63
Wyckoff & Son Co., A. 85
Wyckoff Pipe & Creosoting Co. 62

Z

Zin-Ho Mfg. Co. 71

Searchlight Department

Albert & Davidson.
American Italian Exchange.
Architects & Engrs. Supply Co.
Astoria Light, Heat & Power Co.
Beckwith Machy. Co.
Bailey, R. W.
Braden, James T.
Briggs, Marvin.
Buff, W. J.
Campbell, G. W.
Carlin Machine Co., John H.
Carmichael Gravel Co., The.
Chicago Builders' Specialties Co.
Contractors' Machy. & Supply Co.
Contractors' Service Co.
Clapp, Nostrom & Riley Equip. Co.
Culbertson & Culbertson.
Craven, The Frank T. Co.
Dallett & Co.
Dickover & Son, Geo. T.
Doran, Jr., Thos.
Eagle Pipe & Supply Co.
Easton Mach. Co.
Ehrbar, E. H.
Empire Eng. & Equipment Co.
Engineering Agency.
Factory Products Co.
Fath & Co., Charles.
Forsythe, C. E.
Frank, M. K.
Gibbons Bros., Reed & Roache.
Githens, Geo. S.
Givin Co., Herbert.
Graham, John M.
Greene, John M.
Gregory Electric Co.
Griffith, James F.
Haiss Mfg. Co., George.
Harris Bros. Co.
Harris Machinery Co.
Heyworth, James O.
Hirsch Rolling Mill Co.
Hitners Sons Co., Henry A.
Hobbs, Lewter F.
Hoisting Engine Sales Co.
Hunt, M. J.
Johnson & Sons Mach. Co., Wm. C.
Industrial Service Co.
Irwin & Leightons.
Joseph Iron Co., Isaac.
Knapp Machy. Supply Co.
Kleinhans Co., H.
Lane, Thos. J.
Louer Co., W. B.
Long, F. R.—W. G. Broadhurst Co.
Levis & Co., Henry.
Lewis, Ralph R.
Lines, Flynn Co.
Lupfer & Remick.
MacGovern & Co.
McLane & Co., John B.
Marine Metal & Supply Co.
Marsh-Bothe Machy. Co.
Miami Construction Co.
Morris County Crushed Stone Co.
Morrison, Hackley.
Patton, L. J.
Pipe & Contractors Supply Co.
Perry Buxton Doane Co.
Philadelphia Second Hand Pipe & Supply.
Powley, A. R.
Price & Pratt.
Pringle, Jas. A.
Pruden Co., D.
Racine Stone Co.
Read, Howard, W. Co.
Reinhardt, C. W.
Ross, N. C.
Schmidt, C. G. A., Jr.
Service Equipment Co.
Seyfert's Sons, L. F.
Scully, A. A.
Shaw, Willis.
Southern Iron & Equip. Co.
Sproul Supply Co.
Stipp, Mathias.
Taylor Co., N. G.
Trueblood & Co., V. G.
United States Equip. Co.
Universal Road Machinery Co.
Ward Equip. Co.
Wells, F. H.
Wemlinger Steel Piling Co.
Whayne Supply Co., Roy C.
Wilson, Francis W.
Winter, G. W.
Zelnicker Supply Co., W. A.

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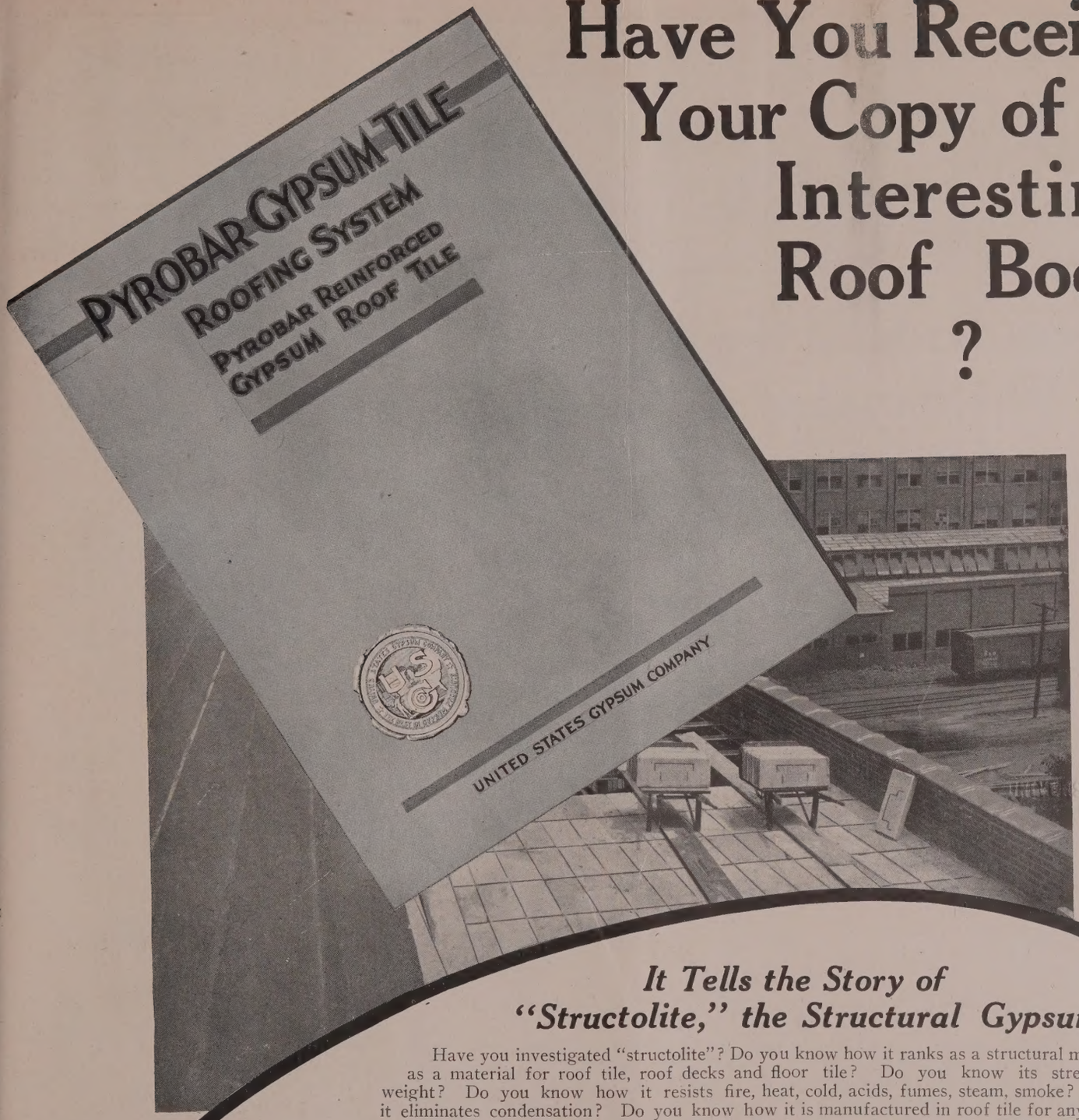

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Send your new Pyrobar Roof Deck Booklet
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Barrett Specification Roofs

Guaranteed for 20 Years

We standardized the Roofs — Now We Standardize the Guarantee!

A DOZEN years ago the introduction of The Barrett Specification standardized roofing practice throughout the country and gave to the old "tar-and-gravel roof" a definite character and reliability.

Local contractors, in the past, have been accustomed to guaranteeing roofs of this type, free of repairs for from five to ten years.

To good reliable roofers such guarantees were no burden because the roof they constructed would last much longer than the guaranteed period.

The fly-by-night roofer, however, did a poor and cheap job, gave his guarantee recklessly —and was generally out of business when the roof leaked or trouble came.

As manufacturers of the materials used in Barrett Specification Roofs we, therefore, determined a short time ago to standardize these guarantees and *make them of real value to users of Barrett Specification Roofs.*

We, therefore, arranged with the U. S. Fidelity & Guaranty Company to issue a 20-Year Guaranty Bond covering every Barrett Specification Roof of 50 squares and over *wherever our inspection service was available.*

Today this Guaranty and Inspection Service covers all towns of 25,000 population and over and most of the smaller places in the thickly populated parts of the United States and Canada. This means that only 5% of the population is outside the radius of our Guaranty.

This bond takes the place of short-term guarantees formerly issued by the local roofer, and obviously is far better because:

—it is for 20 years (instead of the usual five or ten)

—it is backed by a $15,000,000 Corporation

—it has the further backing of a great Surety Company

—it provides for an *impartial expert inspection of the job.*

How to Get the 20-Year Guaranty

When you are writing your roofing specification say:

> "The roof shall be a Barrett Specification Roof laid in accordance with The Barrett Specification, dated May 1, 1916, by a roofing contractor approved by The Barrett Company. The roofing contractor shall furnish The Barrett Company's Surety Bond Guaranty for twenty years, in accordance with Note 1 of said Specification."

On this solid and honest basis as many contractors as you desire may estimate on the job.

The winning contractor notifies us that he wishes the 20-Year Surety Bond and requests our Inspection Service.

One of our inspectors supervises the construction of the roof, tests it by cutting a cross-section, checks up the quantity and the quality of the materials used and certifies that The Barrett Specification has been strictly followed.

On the basis of the inspector's report the 20-Year Guaranty Bond is issued by the U. S. Fidelity & Guaranty Company, and the Bond exempts the owner from all expense for repairs or maintenance for the next 20 years.

The Guaranty Bond costs you nothing. The service is free *in the interest of good workmanship and the good repute of our materials.*

While we guarantee Barrett Specification Roofs for only 20 years the chances are that they will last much longer. We know of many instances where this type of roof has lasted twice as long without any expense.

Barrett Specification Roofs are recognized today as the standard covering for permanent buildings of all kinds. The cost, per year of service, is less than any other roof covering. They take the base rate of insurance and are approved as "Class A" construction by the Underwriters' Laboratories, Inc.

If you are interested in the proposition we shall be glad to send you further details on request.

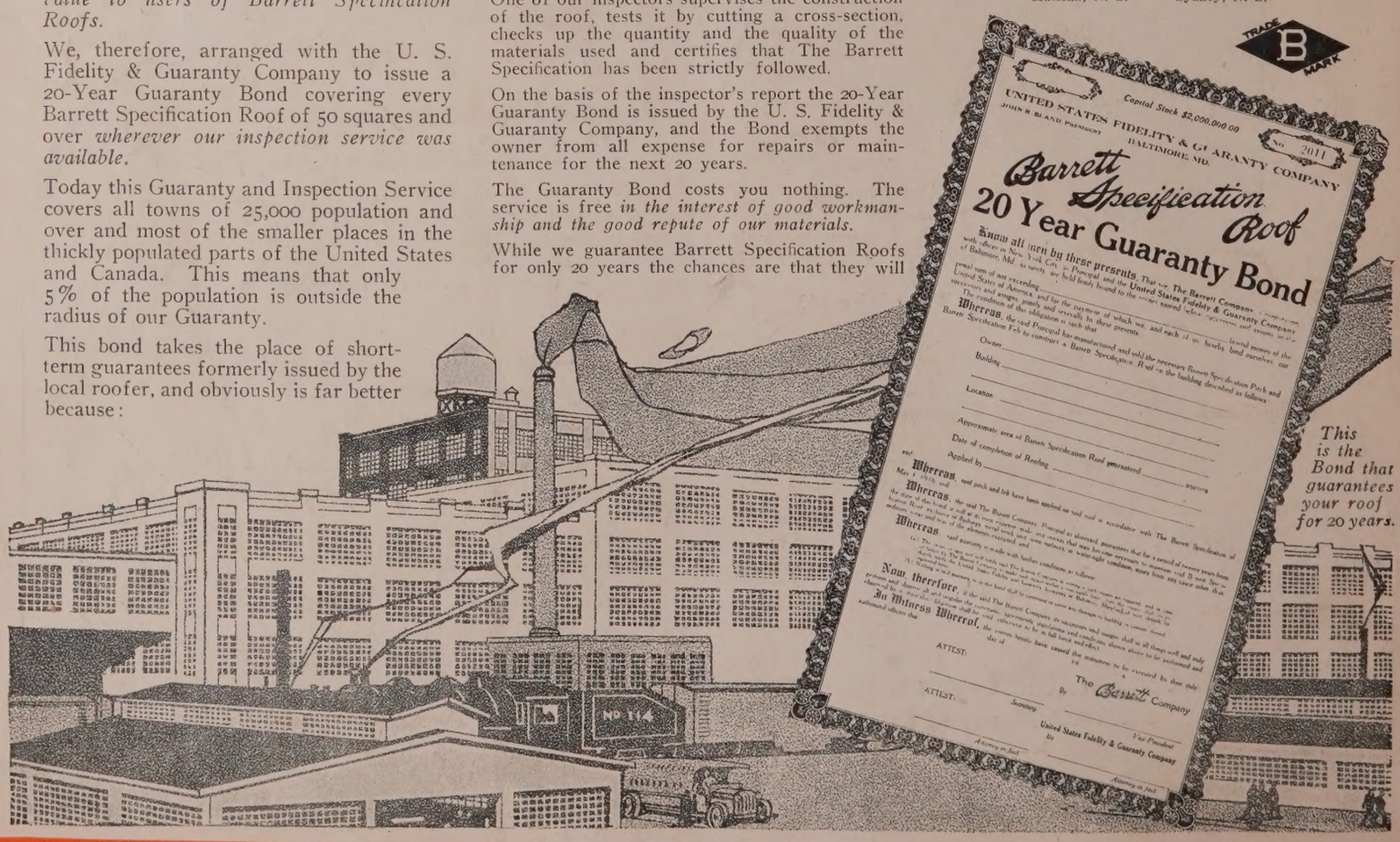
A copy of The Barrett Specification with roofing diagrams sent free on request.

The Barrett Company

Largest Manufacturers in the World of Roofing and Roofing Materials

New York, Chicago, Philadelphia, Boston, St. Louis, Cleveland, Cincinnati, Pittsburgh, Detroit, Birmingham, Kansas City, Minneapolis, Nashville, Salt Lake City, Seattle, Peoria

THE PATERSON MFG. CO., Limited: Montreal, Toronto, Winnipeg, Vancouver, St. John, N. B., Halifax, N. S., Sydney, N. S.



This is the Bond that guarantees your roof for 20 years.